

Digitized by the Internet Archive  
in 2009 with funding from  
Ontario Council of University Libraries















Med.  
B.

THE

# British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

EDITED BY

DAWSON WILLIAMS, M.D., D.Sc.(Hon.),

ASSISTED BY

NORMAN GERALD HORNER, M.B.

VOLUME II, 1918.

150835-

2 / 6 / 19

JULY TO DECEMBER.

London :

PRINTED AND PUBLISHED AT THE OFFICE OF THE BRITISH MEDICAL ASSOCIATION,  
429, STRAND, W.C.

R  
31  
B93  
1918  
v. 2  
cop. 2

1908 33

2/1/18



# INDEX TO VOLUME II FOR 1918.

READERS in search of a particular subject will find it useful to bear in mind that the references are in several cases distributed under two or more separate but nearly synonymous headings—such, for instance, as Brain and Cerebral; Heart and Cardiac; Liver and Hepatic; Renal and Kidney; Cancer and Carcinoma, Epithelioma, Malignant Disease, New Growth, Sarcoma, etc.; Child and Infant; Bronchocele, Goitre, and Thyroid; Diabetes, Glycosuria and Sugar; Light, Roentgen, Radium, X Rays; Status Lymphaticus and Thymus; Eye, Ophthalmia and Vision; Bicycle and Cycle; Motor and Automobile; Association, Institution, and Society; Paris, France; Berlin, Prussia, Germany; Vienna, Austria, etc. Subjects dealt with under various main headings in the JOURNAL have been set out in alphabetical order under their respective headings—for example, "Correspondence," "Leading Articles," "Reviews," etc. Original Articles are indicated by the letter (O).

## A.

Al and C3, 424

AARON, Charles D.: *Diseases of the Digestive Organs, with special reference to their Diagnosis and Treatment*, rev., 88

ABADIE: Meningitis due to *B. pyocyaneus*, 134

Abdominal hydrocele. *See* Hydrocele

Abdominal surgery, review of books on, 407

Abortion in Lorraine in the eighteenth century, 454

ABT, I. A.: Congenital defects of the skin, 168

ACADEMY, ROYAL OF MEDICINE IN IRELAND: *Section of Medicine*.—G. Peacocke: *Influenza in Ireland*, 717

*Section of Obstetrics*.—Sir William Smyly: *Accidental haemorrhage*, 630—Discussion, 630

Acidosis, 48—(K. J. Dougall), 655

"Acidosis" and hydrogen-ion concentration (W. M. Bayliss), 375. (O)

Acidosis and shock (leading article), 662—Correspondence on, 700

ACKERLEY, R.: Coal for invalids, 704

Acne rosacea, 454

ADAIR, E. S. B.: dies on service, 555

ADAM, Lieut. Walter, dies on service, 586

ADAMSON, Rhoda H. R. (and H. PALMER-JONES): Work of a department for employing expectant mothers in a munition factory, 309. (O)

ADAMS, A. C.: Cause and cure of constipation, 315

ADAMS, John: Treatment of ante-natal and post-natal syphilis, 541. (O)

ADAMS, Lieut. Joseph, Military Cross conferred upon, 329

ADDERLEY, Lieut.-Col. Arthur C., D.S.O. conferred upon, 121

ADDISON, Joseph B., M.B.E. conferred upon, 417

Adenoma of small intestine in an infant, with resulting volvulus (J. S. Manson), 432. (O)

ADIE, Captain W. J.: Gunshot wounds of head, 167

Admiralty surgeons and agents, 534

ADSHED, Staff Surgeon G. P.: Treatment of cerebro-spinal meningitis by antimeningococcus serum, 382

Aeroplane a surgical, 561

Africa, Army Medical Service in, 141

AGASSIZ, Captain Cuthbert Delaval Shafte, bar to Military Cross, 44

Agriculture, the wounded in, 195

AINSLY, Captain Alan Colpitts, Military Cross conferred upon, 268

Air Force, Royal: Transfers to medical service of, 333—Conditions of service, 360—Note on conditions of service, 351—Note on, 524

Air plane. *See* Aeroplane

AIYAR, T. A. R.: Intestinal obstruction due to ascaris, 208

AEERMAN, Conrad, M.B.E. conferred upon, 417

ALBANO, Domenico: Vaseline as a skin protection against mosquitos, 592

Albuminuria appearances produced by malingerers, 393

ALCINDOR, John: General practitioners and venereal disease, 176

Alcohol and glycerin, 644

ALDRIDGE, Lieut.-Col. Arthur R., Greek Order of the Redeemer conferred upon, 447

ALDRIDGE, Captain Edward Arthur, Military Cross conferred upon, 171

ALEXANDER, Captain Douglas Reid, Military Cross conferred upon, 329

ALEXANDER, Major G. F.: Variations in the activity of the ciliary muscles, 571. (O)

"All out," 412

ALLAN, Captain Noel James, dies on service, 527

ALLBUTT, Sir T. Clifford: Medical education in England, 113—Renal dropsy, 395. (O)

ALLEN, R. H.: Appreciation of John Biernacki, 532

ALLEY, Captain George Oliver Fairclough, bar to Military Cross, 328

Allied surgical mission in America, 525

ALLISON, Major T. M.: Cardiac infections in childhood, 421

ALMOND, Captain George Hely Hutchinson, killed in action, 201

Aloes as a local sedative (F. William Cock), 256

Aluminium acetate for burns, 424

Alvarenga prize, 644

"Ambrine," application of, 644

Ambulance train, a naval, 96

Ambulance work, the organization of, 644, 674

America. *See* United States

American and British doctors, 64

American Zionist medical unit, 103

Amino-acid content of nutrient media (I. Walker Hall, A. Campbell, and I. Hiles), 398. (O)

Amoebic dysentery. *See* Dysentery

Amputation of lower limb, temporary pegs for (Major W. A. Chapple), 597. (O). *See also* Pegs, temporary

Amputation shield retractor, 11

Amputation, Stokes-Gritti, modification of (Major W. A. Chapple), 158. (O)

Amputation stumps, painful (Edred M. Corner), 345

Amputation stumps, review of books on, 11

A.M.S. and S.M.S. (leading article), 579—Correspondence on, 616, 671

Anaemia, pernicious, cerebral changes in (Wolfman), 119

Anaemia, pernicious, treatment of (leading article), 63

Anaerobic bacteria. *See* Bacteria

Anaesthesia, chloroform, physiology of (George A. Buckmaster), 345

Anaesthesia, spinal, discussion at Royal Society of Medicine, 688

Anaesthetics, administration of, to soldiers (Captain Arthur Mills), 343. (O)—Correspondence on, 406, 478—(H. S. Gabbett), 515

Anaphylaxis and influenza, 530

Anatomy, review of books on, 287

Anderson College of Medicine, information concerning, 235

ANDERSON, Major G. G., dies on service, 613

ANDERSON, Captain J., dies on service, 43, 69

ANDREWS, Lieut. Edward Norman, dies of wounds, 354

Aneurysm of left subclavian artery, traumatic (Lieut.-Col. J. Sinclair White), 131. (O)

Anglo-French Drug Company, notes on drugs supplied by them, 644

*Anglo-Italian Review*, 472

ANGUS, J. Angus, parliamentary representation of the University of Wales, 332

ANGUS, Captain William Brodie Gurney, Military Cross conferred upon, 171

Aniline dyes in sterilization of the skin, 100

Animals, experiments on, in 1917, 295

Ankylosis of elbow-joint, treatment of (J. F. Steedman), 433

ANNESLEY, Captain Francis D., Croix de Guerre conferred upon, 71—Military Cross conferred upon, 329

*Annual Charities Register and Digest*, rev., 516

Anopheline mosquito. *See* Mosquitos

Anthrax, precautions against, report of Departmental Committee, 517

Anthrax treated by normal ox serum, 611

Anti-anaphylactic treatment of infections (leading article), 323

Anti-beri-beri vitamin (Vedder), 93

Anti-endotoxin, meningococcus, production of (Lieut.-Col. M. H. Gordon), 335. (O)

Antimonium tartaratum in bilharziosis, intravenous injections of (J. B. Christopherson), 652. (O)—(Major C. J. Wiley), 716

Antipneumococcal vaccination, prophylactic, 265

Antistreptococcus serum in influenza (F. H. Edgeworth), 515

Antityphoid lipovaccine, 41

Antityphoid inoculation offered free in America, 281

Antityphoid vaccination, gratuitous and voluntary, bureau established in Milan for, 576

Antivenereal action: In Edinburgh, 173—In the American army, 584. *See also* Venereal

Antivermin underclothing, 334

Antivivisectionists and the Red Cross, 197

Antrum disease maxillary (W. Barrie Brownlie), 403. (O)

Anuria, puerperal, kidney removed during nephrotomy on patients suffering from (Clifford White), 688

Apothecaries' Hall of Ireland, information concerning, 224

Apothecaries' Society of London: Degrees and pass lists, 21, 273, 561, 643—Information concerning the study of medicine, 219

Appendicitis and intestinal obstruction (John O'Connor), 573

Appendix, radiography of (Edmund Spriggs), 657

APPE, Lieut. V. K., Military Cross conferred upon, 268

ARBuckle, Hugh Wight, obituary notice of, 643

ARCHBald, Captain John Webster, Military Cross conferred upon, 171



Arctic, winter campaign in, 477  
 ARDAGH, Captain Patrick Augustine, Military Cross conferred upon, 640  
 Argentine Republic: Radium institute to be created in Buenos Aires, 448—New medical school established at La Plata, 654—Committee formed at Buenos Aires to provide relief for French medical men who have suffered from the war, 728  
 ARGO, Captain Galvin Alexander Elmslie, Military Cross conferred upon, 477  
 Argyll County Insurance Committee and a Ministry of Health, 668  
 ARJUNLAI GAGABBAI JOTANIA, Subassistent Surgeon, Médaille Militaire conferred upon, 557  
 ARKWRIGHT, J. A. (and others): Association of rickettsia bodies in lice with trench fever, 307. (O)  
 ARMOUR, Major R. S., dies on service, 728  
 ARMSTRONG-JONES, Sir Robert: Medicine in Parliament, 448  
 ARMY, BRITISH:  
 Army Dental Service: New regulations, 244  
 Attendance of R.A.M.C. officers at scientific congresses, 357  
 Auxiliary R.A.M.C. funds, 75  
 Exchanges, 75, 147, 273  
 Front line education, recent development in R.A.M.C., 141  
 Good-bye! Take care of yourself! 671  
 Gratuities to temporary R.A.M.C. officers, 67  
 Information concerning the Medical Service of, 242  
 Need for doctors in the army, 411, 417, 479  
 Ordering of decorations, 273  
 Parliamentary questions, 67, 498  
 Pay allowances and gratuities, R.A.M.C.(T.), 498  
 Promotions, R.A.M.C.(T.), 498  
 Rank in the R.A.M.C., 123, 422  
 Seniority list and establishment for Territorial medical officers, 147  
 Territorial Decoration, 273  
 Volunteer Force medical officers, 293  
 Army Council Instruction: Fees to civilian medical practitioners, 45—Unqualified treatment for soldiers, 71—Army voters abroad, 140—Seniority list and establishment for Territorial medical officers, 147—Disposal of soldiers after nerve amputation, 447—Service members of Parliament, 702  
 Army Dental Service, new regulations, 244  
 Army, Indian: Indian Medical Service, future of (leading article), 13, 38—Note on, 16—Correspondence on, 72—Information concerning, 242—Additional administrative appointments, 272—Indian army pensions, 272—Parliamentary questions, 474, 498—R.A.M.C. officers in, 498—Promotion, 702  
 Army medical establishments in France (parliamentary question), 95  
 Army Medical Service, early history of (Arnold Chaplin), 675. (O)  
 Army Medical Service in Africa, 141  
 Army medical workers and the income tax, 441  
 Army, United States: Army school of nursing for training women for service in military hospitals, 21—Increase in the Medical Department, 207—Medical department appoints a division surgeon to each camp to be responsible for its health, 273—Clinical laboratories for, 331—New Surgeon-General appointed, 525—Number of doctors serving, 529—Nutrition officers for, 529—Laboratory Methods of the U.S. Army, rev. 575—Antivenereal measures in, 584—Statistics of the medical service, 698  
 Army Veterinary Corps, 694  
 Army voters abroad, 140  
 ARNOLD, Captain Geoffrey Penrose, Military Cross conferred upon, 355  
 ARNOTT, Lieut. Robert Louis Irving, killed in action, 416  
 Artery, femoral, in war surgery (James H. Nicoll), 569. (O)  
 Artery, left subclavian traumatic aneurysm of (Lieut.-Col. J. Sinclair White), 131. (O)  
 Arthritis, rheumatoid. *See* Rheumatoid  
 Arthrometer, 659  
 Artificial limbs: Utilization of stump muscles to actuate, 83—For discharged service men (parliamentary question), 474  
 Artificial pneumothorax. *See* Pneumothorax  
 Ascari causing intestinal obstruction, 208—*Ascaris lumbricoides* life-history of (Mabel Pantin), 287  
 ASCOLI, Vittorio: *La Malaria*, rev. 631  
 ASH, Captain Robert Vacy Clifford, Military Cross conferred upon, 44  
 ASHURST, Astley P. C. (editor): *Episcopal Hospital Reports*, vol. 4, rev., 379  
 ASKIN, T. Cuming: Remuneration of rural practice, 422  
 Asphyxiating gas. *See* Gas  
 Aspirator for paracentaesis thoracis (J. M. Fortescue-Brickdale), 286  
 Assam, kala-azar in, 418  
 Association, American, of Clinical Psychologists, 207  
 Association, American National Tuberculosis, urges pressing need for more tuberculosis hospitals, 518  
 Association, American Surgical, annual meeting, 30

Association, American, of Thoracic Surgery, annual meeting, 207  
 Association, British Hospitals: Conference on Voluntary Hospitals and a Ministry of Health, 468  
 Association, British Medical: Annual meeting, 1918 (leading article), 116  
 Association, British Medical: Council, work of (leading article), 493

ASSOCIATION, BRITISH MEDICAL:  
 Lancashire and Cheshire Branch.—The Medical Secretary on coming changes in medical affairs, 698  
 Leinster Branch.—Annual meeting, 20—Remuneration of Poor Law medical officers in Ireland, 20  
 South Wales and Monmouthshire Branch.—Presidential address: The doctor's problem (Lieut.-Col. A. Lloyd Jones), 85. (O)

Association, British Orthopaedic: Annual meeting, 604—Muirhead Little: Orthopaedics and general surgery, 604—Discussions, 605—Theses, 605—Other contributions, 605  
 Association, British Waterworks, 501  
 Association, Certifying Factory Surgeons, and the sixpenny fee, 161  
 Association, Bellent, 207  
 Association, Irish Medical Schools' and Graduates', 533  
 Association of Medical Women, the London: Discussion on Regulation 40 D, 561  
 Association, Medico-Psychological of Great Britain and Ireland: Annual meeting, 121—Inaugural address, 121—Papers read, 121—Interdependence of the sympathetic and central nervous systems (David Orr and Lieut.-Col. R. G. Rowe), 657  
 Association, National, for Supplying Female Medical Aid to Women of India: Report, 295  
 Association, Poor Law Medical Officers': Annual meeting, 103  
 Association, St. John Ambulance: Annual meeting of Indian Council, 418  
 Association, Sanitary, of Scotland: Report, 298  
 Association, Tuberculosis Officers' (North-Eastern): Tuberculosis classification (Dr. Ellis), 40  
 Asthenia in aviators, 663  
 Asthma and idiosyncrasy to horses, 304  
 Asthma treated by peptone (A. G. Auld), 49. (O)  
 Asylum, James Murray's Royal, Perth: Report, 418  
*Athenaeum Subject Index to Periodicals*, 103  
 Athens, Greek Academy of Medicine founded at, 665  
 ATKINSON, Captain Charles Francis, Military Cross conferred upon, 640  
 ATKINSON, Lieut. Frederick Batty, killed in action, 416  
 ATKINSON, F. P.: Some uses of menthol, 433—Carbolized oil inunction in scarlatina, 732  
 ATKINSON, T. Revell: Passage of spoon by the bowel, 48—Auto-wheels, 178—Clinical features of the present epidemic of influenza, 562  
 Atropine poisoning in ophthalmic practice, 644  
 Atrophy, acute yellow, case of (Surgeon A. C. Roxburgh), 430. (O)  
 AULD, A. G.: Treatment of asthma by peptone 49. (O)  
 AUSTEN, Surgeon Commander Thomas, dies on service, 527  
 AUSTIN, J. H.: Prophylactic antipneumococcal vaccination, 265  
 Australian troops, filariasis among (Captain R. Rimmer), 405. (O)—(Captain A. T. H. Nisbet) 573—(Captain A. M. Lilley), 573  
 Austria, control of venereal disease in, 717  
 Austria-Hungary, number of doctors and chemists serving, 606  
 Austrian Ministry of Health, 290  
 Autogenous vaccine. *See* Vaccine  
 Auto-wheels, 178  
 Auxiliary R.A.M.C. Funds. *See* Funds  
 AVERILL, Colonel C. (and others): The influenza epidemic in a camp, 111. (O)  
 Aviator's asthenia, 663  
 Aviators, cardiac hypertrophy in, 263  
 Aviators, medical supervision of (Fleet Surgeon St. John Murphy), 66. *See also* Flying  
 Aviators, ocular conditions affecting the efficiency of, 694  
 AXMER, Lieut. Alfred Ireland, dies of wounds, 416  
 AYRE, Captain Frederick John, dies on service, 297

## B.

Babies of the Empire Society, issues leaflets, 533  
 BABY, Captain George Raymond, Military Cross conferred upon, 640  
 Baby Week Council, the National, 303—Conference, 363

Bacillary dysentery. *See* Dysentery  
 Bacillus, an acid-fast, obtained from a pustular eruption (Louis Cobbett), 158. (O)  
 B. *aertrycke* infection, three fatal cases of (Major A. J. Jex-Blake and Major W. James Wilson), 310. (O)  
 B. *influenzae* vaccine, preparation of, 533  
*Bacillus pyocyaneus* causing meningitis (Abadie and Laroche), 134  
 Back, bent, of soldiers (Lieut.-Col. A. F. Hurst), 621. (O)  
 Back, gunshot wounds of, bed and some appliances for (Major Maurice G. Pearson), 186. (O)  
 BACOT, A. (and others): Association of rickettsia bodies in lice with trench fever, 307. (O)—Unreliability of sulphur for destruction of lice in clothing, 464. (O)  
 Bacteria, anaerobic technique employed in the isolation and cultivation of (Major W. James Wilson and Sergeant P. Steer), 568. (O)  
 BADCOCK, Lieut. Benjamin Morley, killed in action, 70  
 Baghdad, public health in, 610  
 BAILEY, T. Ridley: Medical representation in Parliament, 300  
 BAINES, Arthur E.: *Studies in Electro-Physiology (Animal and Vegetable)*, rev. 160  
 BAIRD, Captain Harvey: Dosage of urotropine, 424  
 BAKER, Surgeon S. L.: Cerebro-spinal fever in the navy at Portsmouth, 382  
*Balantidium coli* causing intestinal infection not infrequent in the Philippines (Manlove), 404  
 BALDWIN, F. B. Judge: Burden of costly remedies, 20—Supraorbital zone, 543  
 BALDWIN, Sir Harry, appointed surgeon-dentist to the King, 95  
 BALFOUR, Lieut.-Col. Andrew: Egyptian Public Health Commission, 454  
 BALLANTYNE, J. W.: Neonatal life and death, 32. (O)  
 BALLARD, Captain Richard P.: Croix de Guerre conferred upon, 614  
 BALMAIN, Captain Roy Frederick, killed in action, 446  
 Bandages, crepe paper, 364  
 Bangour Military Orthopaedic Hospital, 19  
 BANKS, Captain H. Stanley (and Major Basil Hughes): *War Surgery from the Firing Line to Base*, rev. 606  
 BARBER, Captain H. W. (and Captain H. C. SEMON): Etiology and treatment of seborrhoeic eruptions, 245. (O)  
 Barcelona, foundation of a biological society at, 719  
 BARKER, Arthur H.: *Fuel Economy in Cooking Apparatus*, rev. 466—Relative value of domestic fuels, 695  
 BARKER, Lewis F.: Diabetes insipidus and the pituitary, 197  
 BARKER, Lieut. Thomas Chesman, killed in action, 586  
 BARLING, Gilbert: Appreciation of Robert Saunders, 272  
 BARNES, Captain Frank M., Military Cross conferred upon, 121  
 BARNES, Henry: Central liquor control in Carlisle, 557  
 BARNETT, H. O.: *Canon Barnett: His Life, Work, and Friends*, rev., 718  
 BARR, Sir James: Nephrotomy in treatment of suppression of urine, 46—Appreciation of Colonel Damer Harrison, 302—Future of the medical profession, 318  
 BARRATT, Colonel Herbert James, C.I.E. conferred upon, 728  
 BARRIE, T. Stewart: Inequality of the pupils, 514. (O)  
 BARRON, M.: Meningitis in the newborn and in early infancy, 413  
 BARROW, Captain Isaac Manley, Military Cross conferred upon, 477  
 BARRY, Captain James Everett, Military Cross conferred upon, 640  
 BARTLETT, Captain Bertram Friend, bar to Military Cross, 328  
 BARTLETT, George Frederick, not to be allowed to sell cocaine and opium, 732  
 BARTON, Captain E. B. (and Lieut.-Col. H. H. C. DENT): Pyloric stenosis with accompanying spasmodic dysphagia, 514. (O)  
 BARTON, G. A. H.: Administration of anaesthetics to soldiers, 478  
 BASKETT, B. G. M.: Insurance Act and tuberculosis, 523, 558  
 BASSETT, Lieut. R. J., reported drowned, 499  
 BATEMAN, A. G.: Burden of costly remedies, 20  
 BATTAMS, J. Scott: Medical certificates and tribunals, 100  
 BATTEN, Frederick Eustace, obituary notice of, 148  
 BAXTER, Lieut. Claude Wells Woolleton, Military Cross conferred upon, 268  
 BAXTER, S. E., elected a member of the Northamptonshire County Council, 103  
 BAYLISS, William Madcock: The "Buffer-salts" of the blood, 78. (O)—*Principles of General Physiology*, rev. 316—"Acidosis" and hydrogen-ion concentration, 375. (O)—Function of the cardiac vagus, 421  
 BEACH, Captain Lionel F. H., dies on service, 667, 728  
 BEADLES, John N.: *Defluvium capillorum* after influenza, 515



- BEAL, Major or Howard**, dies of wounds, 355.
- BEALE, Captain Stanley James Annett**, bar to Military Cross, 328.
- BEALE-BROWN, Thomas Richard**, lost at sea, *See Baratta*, 476, obituary notice of, 673.
- BEATTIE, Captain James Walker**, dies on service, 145.
- BELCHON, Captain John J. H.**, Italian bronze medal "della Salute Publica" conferred upon, 331.
- BELWITH, Surgeon H. E.**, dies on service, 170.
- Bed and some appliances for gunshot wounds of femur and back** (Major Maurice G. Pearson), 186 (O).
- BEDLIE, Captain Frederick Stanley**, Military Cross conferred upon, 329.
- BEDDARD, A. P.**, Rheumatoid arthritis, 505.
- BEDFORD, Major-General W. G. A.**, appointed additional member of the Second Class, or Knights Commanders of the Order of St. Michael and St. George, 297.
- BEESELY, Lieut. Anthony Blayton**, dies on service, 667.
- Beggar cripple**. *See Cripple*.
- BEHLINGER, Captain Philippe Bernard**, bar to Military Cross, 144.
- Belgian doctors in England**, 726.
- Belgian Doctors' and Pharmacists' Relief Fund**, 12, 36, 89, 150, 208, 304, 364, 454, 480, 504, 534, 562, 590, 672.
- BELL, Captain John Arthur**, bar to Military Cross, 328.
- BELL, J. H.**, Fund for his legal expenses, 150. *See also Fund*.
- BELL, Captain Robert Daniels**, Military Cross conferred upon, 202.
- BENNETT, Captain Francis Lionel Percy Gannett**, Military Cross conferred upon, 329.
- BENNETT, Captain P. L. T.**, Military Cross conferred upon, 297.
- BENNETT, Lieut. Risdon M.**, killed in action, 476.
- BENSON, Major W.**, promoted Brevet Lieut.-Colonel, 121.
- BENSLIED, Captain L.**, Treatment of influenza, 644.
- Bent back**. *See Back*.
- Requests to hospitals and medical charities**, 76, 99, 197.
- BERKELEY, Conyns**, The maternity hospital and ante-natal clinics, 35 (O).
- Berlin, juvenile smoking in**, 104.
- BERRY, F. May Dickinson**, *Austria Hungary and her Star Subverts*, rev., 435.
- BERRY, Mrs. Croix de Guerre with Star** conferred upon, 698.
- BERRY, Richard**, Detection of the feeble-minded, 634.
- BEST, Major William H. G. H.**, French Military Order of Avis conferred upon, 447.
- BEVERIDGE, Captain Arthur Joseph**, Military Cross conferred upon, 44.
- Bicycle, auto-wheel attachment for**, 76, 178.
- Bicycle puttees**, 304.
- BIERNACKI, John**, obituary notice of, 531.
- BIEGER, Captain William Kenneth**, Military Cross conferred upon, 268.
- BIGGS, M. G.**, Clinical organization of the profession from a general practitioner's point of view, 26 (O).
- Bilharziosis, intravenous injections of anti-bismuth tartarum in** (J. B. Christopher-son), 652. (O) (Major C. J. Wiles), 716.
- Bilharziosis, investigation of**, 418.
- BILLINGTON, Captain William** and others, Bone grafting in gunshot fractures of the jaw, 679. (O).
- BINYON, Laurence**, *For Dawnless France, An Account of Britain's Aid to the French Wounded and Victims of the War*, rev., 134.
- Biological Society of Barcelona**, foundation of, 719.
- BIRDWOOD, Sir George**, Memorial lecture to be delivered annually, 533.
- Birmingham: Hospital for pensioners at**, 19—Care and training of disabled men in, 258.
- BIRRELL, Major-General William George**, dies on service, 267.
- Birth-rate, decline of**, the, 178.
- BLACK, Captain Charles Stuart Peddie**, bar to Military Cross, 640.
- BLACK, Malcolm**, obituary notice of, 703.
- BLACKBURN, Captain John Holliday**, Military Cross conferred upon, 44.
- "Blackguard nation"**, 202.
- BLACKHAM, Colonel R. J.**, honorary M.D. conferred upon by National University of Ireland, 22; Croix de Guerre conferred upon, 557.
- Blackwater fever**. *See Fever*.
- BLACKWOOD, Captain William**, bar to D.S.O., 328.
- BLAKE, Captain Arthur Joseph**, bar to Military Cross, 44.
- BLAKE, Lieut. Cecil**, dies on service, 528.
- BLAKE, Captain Leo**, Military Cross conferred upon, 556.
- BLAKE, Valentine H.**, Amputation shield retractor, 11.
- BLAND-STIRTON, Sir John**, *Voyage with a Convoy*, rev., 316—*Spolia opima*, 595. (O).
- BLASHEP, Captain Eric Phillip**, Military Cross conferred upon, 97.
- BLETHLY, George P.**, Case of pyorrhea alveolaris treated by emetine, 188.
- Blood agglutinin in meningococcal attacks** (J. Walker Hall), 681. (O).
- Blood, "butter-salts" of** (W. M. Bayliss), 78. (O).
- Blood pressure in pulmonary tuberculosis** (Richard J. Cyriax), 572. (O).
- Blood pressure test (exercise) of myocardial efficiency** (Gordon Lambert), 305 (O)—A correction, 424.
- Blood pressure in war traumas** (Edgar F. Cyriax), 132. (O)—(S. Russell Wells), 286.
- Blood, reactivity of** (Benjamin Moore), 251. (O).
- Blood transfusion and resuscitation** (Captain E. T. C. Milham and Captain Fred. L. Napier), 603.
- BLOOMFIELD, A.**, Treatment of venereal diseases, 63.
- BLOUNT, Captain George Albert**, Military Cross conferred upon, 477.
- BOAG, Lieut. John Hamilton**, Military Cross conferred upon, 329.
- Boat, Central Midwives (England)**, 146, 417, 415. *See proximity with Sea Land*, 146.
- Boat, Central Midwives (Ireland): Election of members**, 122, 357—Meeting, 480, 533.
- Board, Central Midwives (Scotland): Annual report**, 121—Cases heard, 699.
- Board of Control on Lunacy and Mental Deficiency, report**, 607—Correspondence on, 670.
- Board of Education: Revised rules re grants to day nurseries**, 178—Regulations re schools for mothers, 363—Annual report of Medical Department, 636, 659.
- BOARD, LOCAL GOVERNMENT:**
- Consumptive soldier, circular on the care of the, 75.
  - Dietaries for tuberculous persons in sanatoriums and hospitals, 518.
  - Dried milk and, 289.
  - Epidemic catarrh and influenza, memorandum on, 475.
  - Excision applications, 425.
  - Housing question, circular re, 620.
  - Influenza prevention regulations, 620.
  - Loans for schemes of public utility, circular re, 72.
  - "Local authority" order re, 260.
  - Medical grading of older men, memorandum, 75.
  - New President (Sir Auckland Geddes), 525.
  - Notifiable diseases 1917, statistics, 15.
  - Pharmaceutical Society report on, by the late Dr. Balfour, 14.
  - Public Health (Tuberculosis) Regulations, 1912, amending order, 334.
  - Rat destruction regulations, 126.
  - Report of Medical Officer on Public Health in England and Wales 1917-18, 497.
- Board, Local Government (Scotland), and institutional treatment of tuberculosis** 173; and notification of ophthalmia neonatorum, 173—Examination for nursing certificates, 668.
- Board, Metropolitan Asylums, report**, 332.
- Board of Trade, re uniform for mercantile mariners**, 45.
- BODENSTADT**, Diagnosis of gall bladder disease, 195.
- BODLEY, Captain Alfred Lang**, Military Cross conferred upon, 356.
- BOLLE, Lieut.**, Tender spot in the lumbar region pathognomonic of influenza, 659.
- BOERMA, J. J.**, Wound treatment, 394.
- Boils and colossal manganese**, 274.
- Bolivia, new hospital opened at La Paz**, 727.
- Bombay, influenza in**, 418—*University Calendar*, 484-48, 592.
- Bombing of hospitals** (parliamentary question), 120.
- BOND, Lieut. Frank Bertram**, killed in action, 528.
- BOND, Colonel C. J.**, An "in vitro" method of demonstrating the "return immigration" of leucocytes in blood clots and in wound tissues, 277. (O).
- BOND, Captain Cecil William**, killed in action, 266.
- BOND, Leslie**, dies of wounds, 389.
- BONTROP and CAENOTI**, Absorptive power of the vacuum, 374.
- BONI, William A.**, *Coal and its scientific Uses*, rev., 190—In defence of the coal fire, 664.
- Bone cavities, closure of** (Lieut.-Col. Percy Sargent), 656.
- Bone graft, the part played by** (Marcus Macdonald), 79. (O).
- Bone grafting in gunshot fractures of the jaw** (Captain William Billington, Arthur H. Parrott, and Harold Round), 679. (O).
- BONNEY, Victor**, "Rabbit gut," 188.
- BONNYMAN, Captain G. W.**, dies of wounds, 267.
- BONSER, Captain Geoffrey Alwyn Gershom**, killed in action, 445.
- BONTOR, Lieut. Lawrence Sidney**, killed in action, 667.
- Books for prisoners of war**, 334.
- Boot heels as a cause of flat-foot, soldier's heart, myalgia, etc.** (Sylvester D. Fairweather), 315 (O). *See also Flat foot*.
- BOOTH, Mary, O.B.E.** conferred upon, 417.
- BORRIE, Captain David F., O.B.E.** conferred upon, 385.
- Botulism** (Ernest C. Dickson), 693.
- Botulism from canned vegetables**, 693.
- BOENNS, Captain James Harvey**, Military Cross conferred upon, 173.
- BOETTLOW, Charles**, *Journal of an Army Surgeon*, 364.
- BOETTIER**, Cause of inflammation following penetrating wounds of brain, 186.
- BOWDEN, Captain Ellis Campbell**, Military Cross conferred upon, 640.
- Bowel, passage of spoon by**, 48.
- BOWEN, Wilbur Fenton**, *Applied Anatomy and Kinesiology: The Mechanism of Muscular Movement*, rev., 287.
- BOWMAN, Major I. B. and others**, A filtrable virus as the cause of the early stage of the present epidemic of influenza, 645. (O).
- BOYD, Captain Cecil Anderson**, Military Cross conferred upon, 329.
- BOYD, Captain James Tennant**, dies on service, 18.
- BOYD, Captain Shepherd**, recovery of, 529.
- BOYD, Lieut. Thomas Moffatt**, dies on service, 354.
- BOYERS, Captain Edwin**, dies on service, 527.
- BOYLE, Captain H. Edmund G.**, Nitrous oxide and oxygen in combination with ether or E mixture for nose and throat operations, 684. (O).
- Boys physically unfit for U.S. Students' Army Training Corps**, percentage of, 591.
- BRACKENBURY, Henry B.**, Labour party and the medical profession, 203—The Education Act and the medical profession, 259—The central pool, 392.
- BRADLEY, Lieut. Col. Frederick Hoisted**, killed in action, 416.
- BRAILLON, Leon**, obituary notice of, 703.
- Brain, cause of inflammation following penetrating wounds of Weissbach and Bonttier**, 186.
- Brail**, Sends a medical mission to France, 164, 273, 592—Eugenic Society founded at St. Paulo, 586.
- Breast, malignant disease of, value of x rays in the treatment of** (Claude Saberton), 337. (O).
- BREDECK, J. F.**, Ventricular fibrillation with cardiac recovery, 196.
- BREDON, Sir Robert**, obituary notice of, 75.
- BRENN, Major Thomas Francis Pennfather**, killed in action, 416.
- BURNSIDE, Captain Charles Philip**, Military Cross conferred upon, 171.
- BREWER, Lieut. Charles E. W.**, killed at sea, 170.
- BREWSTER, Captain R. Carrington**, Military Cross conferred upon, 44.
- BRIERLEY, Captain Harold Francis**, Military Cross conferred upon, 329.
- BRIDGE, Captain George Allman**, Military Cross conferred upon, 329.
- BRIDGES, Lieut.-Col. Roland Harley**, drowned on service, 267.
- BRINGAN, Staff Surgeon James Campbell**, appointed Officer of the Greek Order of the Redeemer, 331.
- BRISCOE, C. W. E.**, dies on service, 698.
- BRISCOE, Captain John E.**, Military Cross conferred upon, 269.
- British advance from August 8th, 1918**. Penalties of rapid success, 666.
- British Colonies, conditions of practice in**, 245.
- British Fire Prevention Committee's poster on "Fire precautions for householders"**, 394—Warning poster re Christmas festivities, 673.
- British Medical Association**. *See Association*.
- British medical literature in foreign countries**, 618, 641.
- British Orthopaedic Association**. *See Association*.
- British Red Cross**. *See Red Cross*.
- British Scientific Products Exhibition**, 167.
- British spas**, 385.
- British Spas and Health Resorts**, rev., 631.
- British Waterworks Association**. *See Association*.
- BROCK, Captain George Selby**, obituary notice of, 503.
- BROCKLEHURST, Evelyn Pierrepont**, dies of wounds, 586.
- BRODIN**, Number of leucocytes and polynuclear cells, 104.
- Bronchitis, haemorrhagic spirochaetal**, 620—(Captain J. A. Thomson), 709—Note on, 727. *See also Spirochaetosis*.
- Bronchitis, milky, camphor in** (P. L. Giuseppe), 716.
- Bronchitis, purulent, complicating measles and rubella** (Lieut.-Col. W. M. Macdonald, Major T. R. Ritchie, Lieut. J. C. Fox, and P. Bruce White), 481. (O).
- Bronchopneumonia, camphor in** (P. L. Giuseppe), 716.
- Bronchopneumonia, quinine for**, 704.
- Bronchus, perforation of left, causing surgical emphysema** (R. B. Garrett), 686.
- BROOK, Major W. F.**, Vaught's operation, 626. (O).
- BROOKS: Streptococcal empyema**, 496.
- BROWDY, M. W.**, Control of venereal diseases, 670.
- BROWN, Major Harry E., O.B.E.** conferred upon, 268.
- BROWN, Captain Henry D.**, Military Cross conferred upon, 121.
- BROWN, John**, Treatment of scarlet fever in the patient's home, 359—Future of the medical profession, 671.



- BROWN, Lieut.-Col. Percy G., Croix de Guerre conferred upon, 557
- BROWN, R. G., retirement of, 732
- BROWN, Captain Robert Cunningham, Serbian Order of St. Sava conferred upon, 331
- BROWN, Lieut.-Col. R. Tilbury, C.M.G. conferred upon, 297
- BROWN, Captain Vernon Carlisle, bar to Military Cross, 446
- BROWNE, Captain Hawtrey William, bar to Military Cross, 328
- BROWNLEE, John: Report on epidemiology of phthisis, 349—Biology of a life table, 727
- BROWNLEE, W. Barrie: Some aspects of maxillary antrum disease, 403 (O)
- BROWNSON, Captain Roger Dawson Dawson-Duffield, dies on service, 528
- BRUCE, Lieut. Andrew Moffatt, killed in action, 446
- BRUCE, J. Mitchell (and Captain W. J. DILLING): *Materia Medica and Therapeutics: an Introduction to the Rational Treatment of Disease*, rev., 690
- BRUCE, Lieut. Norman S., Military Cross conferred upon, 121
- BRUCE CLARKE, Captain W. R., dies on service, 698
- BRUNTON, Sir T. Lauder: *Collected Papers on Circulation and Respiration*, 325
- RYSON, M.: Note on epidemics, 102
- RYSON, Lieut. W. M., killed in action, 327
- RUCHANAN, J. Courtney: *Voluntary Hospitals and the Proposed Ministry of Health*, 192
- BUCK, Captain Geoffrey Sebastian, killed in action, 327, 354
- BUCKMASTER, George A.: Physiology of chloroform anaesthesia, 345
- BUND, Captain Charles Herbert, Military Cross conferred upon, 171
- Buenos Aires. See Argentine
- "Buffer-suspensions" of the blood. See Blood
- BUIST, Colonel Herbert J. M., C.M.G. conferred upon, 268
- BUIST, H. Massac: Motor notes for medical men, 576, 720
- BULL, Captain Stanley Arthur, Military Cross conferred upon, 477
- BULL, Captain William Edward Hugh, Military Cross conferred upon, 268
- Burden of costly remedies. See Costly and Insurance
- BURDETT, Sir Henry: *Burdett's Hospitals and Charities*, 1918, rev., 658
- BURKE, Captain John, Military Cross conferred upon, 640
- BURLAND, C. (editor): *Ship Captain's Medical Guide*, rev., 466
- BURNET, Lieut. Gilbert, Military Cross conferred upon, 121
- BURNFORD, Captain Julius: Note on epidemics, 50, (O)
- BURNS, Captain Digby, reported drowned, 499
- BURROW, Captain J. Le Fleming (and Lieut. H. I. CARTER): One thousand consecutive cases of peripheral nerve injury, 535 (O)
- BURROWS, Major Donald, dies on service, 555
- BURTHAELL, Lieut.-General C. H., elected Honorary Fellow of the Royal College of Physicians of Ireland, 47; appointed Knight of Grace of the Order of St. John of Jerusalem, 643
- BURTON, Captain Charles Frank, Military Cross conferred upon, 329
- BURY, George William Fleetwood, obituary notice of, 47
- BURY, Captain Raymond, M.B.E. conferred upon, 586
- BUTTAR, Charles: Labour party and the medical profession, 204—The Scottish University constituency, 672
- Butterworth's Medical Catalogue, 1918, 454
- BUZZARD, Colonel E. Farquhar: Lethargic ocephalitis, 687
- BYWATERS, H. W.: A disclaimer, 274
- CABANES, Dr.: *Legendes et curiosites de l'histoire*, rev., 516
- CABOT, R. C.: *Training and Rewards of the Physician*, rev., 689
- CADÉ, Captain H. M.: Treatment of meningitis, 208
- CADELL, Grace Ross, estate of, 76
- CAECUM, absorptive power of (Carnot and Bonodot), 374
- CAESAREAN section for eclampsia, case of successful (E. W. G. Masterman), 342 (O)
- CAESAREAN section combined with nephrectomy in treatment of a leucemia with suppression of urine (Chifford White), 4 (O)
- CALAME: Intravenous injections of salvarsan in anaebic dysentery, 71
- Calcium carbide released for public purposes, 126
- CALDWELL, Major Eugene Wilson, estate and bequests of, 406
- CALNETTE, Albert, appointed director of Pasteur Institute, Paris, 703
- Calomel in pruritus ani, 674
- CAMERON, Captain George Milne, Military Cross conferred upon, 171
- CAMPBELL, A. (and others): Amino-acid content of nutrient media, 398, (O)
- CAMPBELL, A. J.: Digressions, 601 (O)
- CAMPBELL, Captain Alexander Rae, Military Cross conferred upon, 640
- CAMPBELL, Captain Charles Montague Gordon, dies on service, 528
- CAMPBELL, Captain David, Military Cross conferred upon, 171
- CAMPBELL, Lieut. Donald Rhodes, drowned on service, 500
- CAMPBELL, Captain Dugald Stewart, Military Cross conferred upon, 171
- CAMPBELL, Lieut. Frederick William, dies on service, 728
- CAMPBELL, Harry: Facial paralysis, 359—The housing question, 450
- CAMPBELL, J. Argyll: Significance of fats in the diet, 716
- CAMPBELL, Lieut. Kenneth Turner, killed in action, 18
- CAMPBELL, Lieut.-Col. Ranald D., Croix de Guerre conferred upon, 557
- CAMPBELL, Captain Thomas Hay, Military Cross conferred upon, 171
- CAMPBELL, Lieut. William Kealty, bar to Military Cross, 328
- Camphor in acute influenzal bronchitis and bronchopneumonia (P. L. Giuseppe), 716
- CANADA:
- Admission of women students of medicine, 300
  - British Red Cross and Order of St. John, contributions to, 149
  - Demobilization: St. Andrew's College, Toronto, to be chief demobilization centre for whole of Canada, 572
  - Disabled soldiers, care of, 415
  - Medical week, 299
  - National Committee for Mental Hygiene, 299
  - Veneral diseases, control of, 203
- Canadian medical war collection, 169
- Cancer, Franco-Anglo-American league for combating, formed in France, 90
- Cancer and magnesium (Dubard), 118
- CANNON, Professor, cause of wound shock, 523
- CANTLIE, Sir James: Organization of ambulance work, 644
- Capitation fee and the Panel Conference, 588, 617
- Car. See Motor
- Carbolized oil inunction in scarlatina, 732
- Carcinoma. See Cancer
- Cardiac conditions in soldiers (R. O. Moon), 599 (O)
- Cardiac hypertrophy in aviators, 263
- Cardiac infection in childhood, nature and symptoms of (F. J. Poynton), 1, 305, (O)
- Correspondence on, 421
- Cardiac murmurs, significance of, 100
- Cardiac vagus, function of the, 302, 332, 421, 501
- Carlisle central liquor control in, 557
- CARLTON, Captain Charles Hope, Military Cross conferred upon, 329
- CARLYLE, Surgeon Sublieut. Thomas, dies on service, 498
- CARMICHAEL, Captain Norman S., Serbian Order of St. Sava conferred upon, 331
- CARNEY, Captain Philip, Military Cross conferred upon, 329; Croix de Guerre conferred upon, 614
- CARNOT (and BONDOT): Absorptive power of the caecum, 374
- CARPENTER, Captain Geoffrey D. H., M.B.E. conferred upon, 586
- CARR, Captain Donald Nevill, dies on service, 667
- CARR, Captain Gerald Francis, Military Cross conferred upon, 330
- CARREL, A. (and G. DEHTYLLY): *Treatment of Infected Wounds*, rev., 690
- CARR-HARRIS, Captain Ferguson Fitton, D.S.O. conferred upon, 44; Military Cross conferred upon, 556
- CARSON, Major Herbert William, dies on service, 527
- CARSON, Lieut. J. C., killed in action, 267
- CARSON, Captain Joseph T., Serbian Order of St. Sava conferred upon, 331
- CARTER, Major Audsley Ralph, killed in action, 297
- CARTER, Brudenell, obituary notice of, 502
- CARTER, Herbert S. (and others): *Nutrition and Clinical Dietetics*, rev., 316
- CARTER, Lieut. H. S. (and Captain J. Le Fleming BURROW): One thousand consecutive cases of peripheral nerve injury, 535 (O)
- Cartilage, position of the operation for the excision of, in military surgery (T. E. Hammond), 713, (O)
- CARON, Paul: *La cure de soleil et d'exercices chez les enfants*, rev., 191
- CASEMENT, Captain Francis, bar to D.S.O., 121
- CASGRAIN, Colonel Henry R., Legion d'Honneur conferred upon, 447
- CASSETT, Lieut. Michael Bernard, presumed killed, 327
- Casualties in the medical services, 18, 43, 69, 97, 120, 143, 170, 201, 266, 297, 327, 354, 388, 416, 445, 475, 498, 527, 555, 585, 612, 638, 667, 697, 728
- Casualties. Total British, 583—Naval, 612—Canadian, 612—American, 612
- Cattle, tubercle-immune, an attempt to breed (Colonel James Pictou), 157 (O)
- Cavell Memorial Home, Norwich, 453
- Cavendish Lecture. See Lecture
- CECIL, R. L.: Prophylactic antipneumococcal vaccination, 265—Streptococcal empyema, 496
- CELESTIN, Captain Louis Abel, Military Cross conferred upon, 171
- Celluloid solution for traction (Lieut. W. F. Cunningham), 376
- Central pool 359, 392, 421
- Cephalitis in London, 99
- Cerebellar injuries, acute, symptoms of (leading article), 194
- Cerebro-spinal fluid, reducing body in, 15—(John Turner), 60
- Certifying factory surgeons. See Factory and Association
- CHADWICK, Captain Frank, Military Cross conferred upon, 97
- CHADWICK, George Richard, obituary notice of, 393
- CHANCE, Captain Clifford Outhbert, Military Cross conferred upon, 330
- CHAPLIN, Arnold: FitzPatrick lectures on the early history of the army medical service, 675, (O)
- CHAPMAN, Major Earnest Herbert Stuart, dies on service, 555
- CHAPPLE, Phoebe, Military Medal conferred upon, 477
- CHAPPLE, Major W. A.: Modification of the Stokes-Griffith amputation, 158, (O)—Flexed knee joints in below-the-knee stumps, 545—Temporary pegs for amputation of the lower limb, 597 (O)
- CHARLES-ROBERT (and P. DESFOSSES): *La suspension dans le traitement des fractures*, rev., 516
- Chart of pathogenic bacteria, 654
- CHAUDEHURI, Tarini Charan: *Sir William Ramsay as a Scientist and Man*, rev., 517
- CHAVASSE, Captain F. B.: Method for immediate treatment of fracture of femur on the battlefield at the site of the casualty, 373, (O)
- CHÉFATLE, G. Lenthal: Sterilization of the skin by aniline dyes, 100
- Cheloid, 274
- Chelsea Hospital, a Scottish, 418
- Chemical industries, national (American), exposition of, 659
- Chemical Warfare Medical Committee in England, 207—In France, 207
- CHERRIE, Captain Bertram Walter, dies on service, 639
- Cheshire, maternity and child welfare schemes, 149
- Cheshire Local Medical and Panel Committee: Letter to President of the Local Government Board re dried milk, 289
- CHEYNE, Sir W. Watson: Medicine in Parliament—medical reconstruction, 419
- Child welfare schemes: In Edinburgh, 11—In Cheshire, 149. See also Maternity
- China, new hospital in Peking, 303
- CHIRNSIDE, Captain James Iver McIver, Military Cross conferred upon, 356
- CHISHOLM, John Merritt, obituary notice of, 362
- CHISHOLM, Lieut. John O., dies of wounds, 143
- Chloroform administration in the firing line (Captain H. M. Stephenson), 629
- Chloroform anaesthesia, physiology of (George A. Buckmaster), 345
- CHRISTISON, Sir Alexander, obituary notice of, 452
- CHRISTOPHERS, Major Samuel R., O.B.E. conferred upon, 586
- CHRISTOPHERSON, J. B.: Intravenous injections of antimony tartaratum in bilharziosis, 652, (O)
- Ciliary muscle. See Muscle
- CLILLIE, Captain Guillaume J., Military Cross conferred upon, 269
- Cinchonine salts, injection of, in malaria (Sir Leonard Rogers), 459, (O)
- CLAPPERTON, Henry Bertram, killed in action, 389
- CLARK, Captain Alfred Mackenzie, Military Cross conferred upon, 640
- CLARK, Captain Francis William, Military Cross conferred upon, 556
- CLARK, Captain Robert, killed in action, 585
- CLARK, Captain R. A. Ronaldson, accidentally killed, 698
- CLARK, Colonel Stephen Frazer, French Croix de Guerre conferred upon, 121
- CLARK, Lance-Corporal Theodore Preston, presumed killed, 614
- CLARKE, Col. Astley V. (and Captain N. I. BRIGGS): Musculo-spiral nerve disabilities, 280 (O)
- CLARKE, Captain Cecil T. I., Croix de Guerre conferred upon, 202
- CLARKE, Major Claude Fitzroy, dies on service, 44
- CLARKE, Ernest: *The Errors of Accommodation and Refraction of the Eye*, rev., 257
- CLARKE, Captain Frederick Clarence, Military Cross conferred upon, 640
- CLARKE, John Michell, memorial to, 610
- CLARKE, Captain Percy Selwyn, Military Cross conferred upon, 556



CLARKE, Lieut. Richard Stanley, killed in action, 476

CLEGG, Surgeon William Little, D.S.C. conferred upon, 97

CLEMENCEAU, Georges Benjamin, 78th birthday of, 383—Elected a member of the Académie de Médecine, 674

CLEMENS, Captain F. J.: Nasopharyngeal conditions in meningococcus carriers, 51. (O)

CLIMÉ, Captain Andrew, Croix de Guerre conferred upon, 71

Clinical hospitals. See Hospitals

Clinical laboratories. See Laboratories

CLIPPINGDALE, S. D.: London's medical shanty 178—An eighteenth century quack, 534

Club, Medical Front Line, 644

CLUNET: Torpedo shock, 140

CLUNE, Lieut. Charles, Military Cross conferred upon, 330

Coal fire, in defence of, 664

Coal rationing, dangers of, 176 For invalids, 592, 704 See also Fuel

Coal, review of book on, 190

Coal shortage, 264

COATSWORTH, Captain Richard Collier, Military Cross conferred upon, 171

COHR, Margaret, appointed to Army Medical Department at Washington, 333

COBB, Captain William Grahame, bar to D.S.O., 446—Corrected to D.S.O. conferred upon, 477

CORBETT, Louis: An acid-fast bacillus obtained from a pustular eruption, 158. (O)

Cocaine, definition of by Home Secretary, 48

COCK, F. William: Aloes as a local sedative, 256

COCKE, Captain Robert Sturgeon, dies on service, 613

COCKBURN, Robert W.: Scottish Universities constituency, 731

COCKIN, Reginald Percy, obituary notice of, 703

COCOS and milk powder, 704

COLARD (and others): Bacillary dysentery on the Belgian front, 412

COLE, Lieut.-Col. C. E. Cooper (and Col. R. D. RUDOLF): Influenza epidemic at Bramshott (September-October, 1918), 566. (O)

COLE, Lieut. Henry A. C., Military Cross conferred upon, 173

COLEMAN, Robert B.: Abdominal or bilocular hydrocele, 629

COLEY, Frederic C. (and Cecil G. R. GOODWIN): Two cases of artificial pneumothorax, 405. (O)

Collection Horizon: *L'Évolution de la Plaque de Guerre* (A. Policard), 35

College, Anderson, of Medicine, information concerning, 235

College, Epsom: Annual meeting, 16—Scholarships, 75—Correspondence on appeal for war memorial, 104—Annual appeal, 636, 641

College, King's, information concerning, 229. See also Hospital

College, North-East London Post-Graduate, information concerning, 239

College of Nursing offers three studentships, 503

College, Queen Margaret, information concerning, 235

College, Royal, of Physicians of Edinburgh: Information concerning the study of medicine, 221—*B. influenzae* vaccine prepared in laboratory, 533—Election of president, 673—Appointment of council, 673

COLLEGE, ROYAL, OF PHYSICIANS OF LONDON: Appointments, 532

Comitia, 125, 532

Communications, 532

Degrees and pass lists, 125, 532

Election of officers, 125

Influenza prevention and treatment, memorandum on, 546

Information concerning the study of medicine, 219

Moxon medal, 126

Quatercentenary of, 350, 386, 491, 497, 553

Recognition of institutions, etc., for final examination, 125

College, Royal, of Physicians of Ireland: Degrees, honorary, 47—Degrees and pass list, 47—Information concerning, 223

College, Royal, of Surgeons, of Edinburgh: Degrees and pass lists, 102, 480, 732—Information concerning the study of medicine, 221—Election of officers, 480

COLLEGE, ROYAL, OF SURGEONS OF ENGLAND: Bradshaw lecture, 453

Calendar, 532

Canadian medical war collection, 169

Council election, 74

Council meeting, 126

Degrees and pass lists, 74, 126

Diplomas, 702

Election of examiner, 702

Election of Fellows, 47

Election of president and vice-presidents, 74

Greeting to French nation, 74

Harveian oration, 702

Instrument collection at, 141

Information concerning the study of medicine, 219

Jenks scholarship, 453

Lecturers, 74

COLLEGE, ROYAL, OF SURGEONS OF ENGLAND (continued):

Ministry of Health, 453

Museum report, 64

Roll of Fellows, 453

Vote of condolence, 702

War collection, 64

College, Royal, of Surgeons in Ireland, information concerning, 223

College, St. Mungo's, information concerning, 235

College, Trinity, Dublin: Degrees and pass lists, 74—Honorary degrees, 177—Information concerning, 222, 235—Lecturers, 177—War service record of the School of Physic, 303

College, University, information concerning, 229. See also Hospital

College, University, Cork, information concerning, 236

College, University, Galway, information concerning, 236

College, University, of South Wales and Monmouth, information concerning, 230

College, West London Post-Graduate, information concerning, 238

Colleges, Royal, of Physicians and Surgeons, and a Ministry of Health, 95

Colleges, Royal, of Physicians and Surgeons, Ireland: Keuben Harvey Memorial Prize, 74

COLLIE, Lieut.-Col. Mackintosh Alexander Thomas, dies on service, 667

COLLINS, Major Archibald John, D.S.O. conferred upon, 143

COLLINS, Henry Beale, obituary notice of, 362

COLLINS, Lieut.-Col. M. A.: Medicine in Parliament, 449

COLLINS, Lieut.-Col. Reginald Thomas, killed in action, 388

COLLINS, Major Reginald T., Croix de Guerre conferred upon, 557

Colloidal manganese in seborrhoeic eczema, 76

Collosol manganese in furunculosis (W. E. Levinson), 160—Correspondence, 274—(Captain E. W. Kirk), 377

Collosol palladium in treatment of epilepsy (A. C. King-Turner), 255. (O)

COLLYNS, Acting Major Robert Henry, dies of wounds, 201

Colonial Office, information concerning appointments under, 242

Colonies, British, conditions of practice in, 243

COLSON, Surgeon Henry St. C., promoted Staff Surgeon for Zebrugge operations, 97

COLYER, Captain Claude G.: Acute ulcerative gingivitis, 396. (O)

COMLEY, Lieut. E. C., accidentally killed, 476

COMPTON, Captain William Henry, dies on service, 697

Condensation on mirrors, preparation for preventing, 273

Congress, Indian Science, 674

Congress, International Dental, *Transactions*, rev., 631

Congress of Italian Medicine, next meeting, 658

Congress, Oxford Ophthalmological: Annual meeting, 87

Congress of Surgery, French, 178, 635

Conjoint Board in England: Pass lists, 146, 589—Information concerning the study of medicine, 219, 240

Conjoint Board in Ireland: Pass lists, 47—Information concerning the study of medicine, 223

Conjoint Board in Scotland: Pass lists, 146, 480—Information concerning the study of medicine, 221

CONNOLLY, Captain James Harris, dies on service, 528

CONNOR, Captain J. I. (and others): A filtrable virus as the cause of the early stage of the present epidemic of influenza, 645. (O)

Constipation, cause and cure of (A. C. Adams), 315

Consumption in Harvey's time and to-day (Percy Kid), 455. (O). See also Tuberculosis

COOK, Captain Arthur Ruskin, Belgian Order de Leopold conferred upon, 641

Cooke's School of Anatomy, information concerning, 229

COOK, Captain Alan Gibb, Military Cross conferred upon, 171

Cooking, fireless, 207

COOLIDGE, A.: *Adenoids and Tonsils*, rev., 516

COOPER, Surgeon Henry, Croix de Guerre conferred upon, 331

COOPER, Milan Violet, Serbian Order of St. Sava conferred upon, 447

COOPER, R. J.: Early treatment of mental disorder, 559

COOPER, Captain William, Military Cross conferred upon, 356

COPE, Captain Joseph Victor, Military Cross conferred upon, 44

COPE, Captain Thomas F., O.B.E. conferred upon, 268

COPLAND, Captain Robert Ferguson, killed in action, 638

CORNER, Edred M.: Painful nerve stumps, 345

CORNWALL, Captain William Francis, Military Cross conferred upon, 171

Corrections, 48, 170, 178, 274, 297, 394, 424, 477, 534

## Correspondence:

Abstracts of medical literature, 271

Acidosis, 700

Administration of anaesthetics to soldiers, 478

A.M.S. and S.M.S., 616, 671

Attendance of R.A.M.C. officers at scientific congresses, 357

Beggar cripple, 101

Board of Control on early treatment of mental disorders, 670

Boot heels as a cause of flat-foot, 391, 479, 530, 531, 669, 701

British medical literature in foreign countries, 618, 641

Burden of costly remedies, 20, 73, 101, 145, 206, 269

Capitation fee and the Panel Conference, 588, 617

Cardiac infections in childhood, 421

Cardiac murmurs, significance of, 100

Cardiac vagus, function of the, 332, 421, 501

Central pool, 359, 392, 421

Cheap medicine, 529

Coal rationing, danger of, 176

Crusade against tuberculosis, 589

Curse of immobilization, 617, 642

Discharged tuberculous soldiers, 617

Drainage tubes, abuse of, 46, 73, 332, 393

Dublin University election, 618

Edinburgh University and anatomical nomenclature, 699

Epidemics, note on, 102

Epsom College, 641

Facial paralysis, 359

Fats in the diet, significance of, 145

Function of the cardiac vagus, 102

Functional nervous disorders in the army, treatment of, 73, 123

Future of the medical profession, 72, 99, 122, 145, 174, 358, 392, 422, 501, 529, 559, 588, 671

General practitioners and venereal disease, 176, 205, 269

Good bye! Take care of yourself! 671

Heat-stroke and malignant malaria, 479

Housing question, 450

Indian Medical Service, 72

Influenza and anaphylaxis, 530

Influenza, etiology of, 701

Influenza, toilet of the mouth in, 731

Insurance Act and tuberculosis, 558

Insurance practice in rural districts, 205

Labour party and the medical profession, 175, 203, 301, 558

Labourer and his hire, 479

London University election, 450, 672

Medical advisers of Indian Governments, 671, 730

Medical autographs, 531

Medical certificates and tribunals, 100, 123

Medical demobilization, 731

Medical education in England, 300

Medical Labour members, 558

Medical missionaries, 333

Medical representation in Parliament, 300, 419, 448, 479, 615

Meningococcus of Weichselbaum, 204, 269, 587, 617

Mental disorder, early treatment of, 357, 391, 448, 559, 670

Mileage fee, 560

Milk substitutes, 21

Ministry of Health, the proposed, 479, 589

Motor head-lights, 642

National School of Medicine for Wales, 477

Nephrectomy in treatment of suppression of urine, 46

Parliamentary representation of the University of Wales, 332: of the University of London, 450, 672

Past and future of the crusade against tuberculosis, 642, 670

Post-graduate teaching and the University of London, 609

Problems of nutrition, 530

Rank in the R.A.M.C., 123, 422

Recruits with doubtful heart conditions, 300

Remuneration of rural practice under the Insurance Act, 390, 422, 450, 670

Scarlet fever, treatment of, 300, 359

Scottish University constituency, 672, 731

Sex ratio and sex determination, 359

Sleep, broken, 146

Sterilization of the skin by aniline dyes, 100

Surgical physiology of the foot, 391

Systematic testing of urine in examination of recruits, 176

Temporary peg legs, 669

Toxaemias of pregnancy, treatment in, 145

Travelling medical board, 146

Tuberculin in pulmonary tuberculosis, value of, 20, 45, 101

Tuberculosis, notification statistics of, 46

Vaccines in influenza, 558

Vaghi's operation, 122, 204, 269

Varicose veins, operation for, 359

Venereal diseases, control of, 670

Venereal diseases, instruction in the treatment of, 302

War Emergency Fund, 480

War psycho-neuroses, treatment of, 700

Whooping cough and lymphæmia, 450, 501

COSENS, Major W. H.: Reduction of dislocation of head of humerus, 112

COSSAR, Lieut. George Carter, Military Cross conferred upon, 330



Costly remedies, burden of, 20, 75, 101, 145, 206, 269.

COSTURBIE, Hugh P. Surgical cure of uterine prolapse, 370. O—Obituary notice of, 703.

COTTS, Captain Derby Charles Batho, dies of wounds, 560.

COTTELL, Lieut. Col. A. E. Instruction in the treatment of venereal diseases, 302.

COTTELL, Captain Denis, dies on service, 571, 572.

COTTON, Lieut. Robert Hugh Alison, dies on service, 476.

Council of the British Medical Association, work of, containing article, 133.

Connell, General Medical. No election of direct representatives until December, 1919, 167. Information concerning the study of medicine, 211.

Council, London County. To ask governing bodies of various hospitals to admit as in-patients a school children suffering from serious ear trouble, 177. Desires not to provide school for general use of medical practitioners for treatment of cerebro spinal fever, 177. District medical officers' salaries to be temporarily increased, 705. Priority arrangements as to venereal diseases, 614—Schools for tuberculous children, 668. Transfer of functions of Poor Law authorities, 668—Treatment of tuberculous persons, 0.

COTTER, John, estate of, 480.

COTTER, Arthur. Point of the month in influenza, 731.

COTTELL, Lieut. Miss, Croix de Guerre with Star conferred upon, 698.

Coventry case. Pratt and others v. British Medical Association and others, 102, 123, 135, 161, 451, 472, 497, 502, 504, 531, 611—A disclaimer, 304.

COWAN, John James, obituary notice of, 102.

COVIE, Captain Graham Robertson, dies of wounds, 327, 354.

COVIE, Captain Geoffrey Moore, dies of wounds, 14.

COX, Alfred, appreciation of Colonel E. F. Harrison, 561.

COX, James Noel, dies of wounds, 630.

CRAIG, James. Dublin University election, 618.

CRAIG, Captain James Robert, Military Cross conferred upon, 171.

CRAIN, Robert: Whooping-cough and lymphadenitis, 511, 501.

CRAWFORD, Captain Thomas Maitland, Military Cross conferred upon, 7.

CRITCH, Captain H. J. P., dies of wounds, 698.

CRILLAN, Captain Douglas, Military Cross conferred upon, 330.

Cremation library in Chicago, 363.

Cripe paper bandages, 364.

CRESSWELL, A. Z. C. Future of the medical profession, 122—Successful Caesarean section for ectopic, 445.

CRESSWELL, Captain Harry Edmund, bar to Military Cross, 328.

Crichton Royal Institution, report, 322, 331.

CRILL, Captain Dennis W. Extension apparatus for fracture of femur, 284. O.

Criminal Law Amendment Bill, nominations for Joint Committee, 120.

Cripple, the beggar, 101.

CRILL, Sir Anderson, appointed Surgeon-Oculist in Ordinary to the King, 295.

CROFTON, W. M.: *Therapeutic Immunization: Theory and Practice*, rev. 62.

CROKER, Captain William P., Croix de Guerre conferred upon, 557.

CRONE, J. S., prospective parliamentary candidate for West Willesden, 35.

CROOKSHANK, F. G.: *Encephalitis lethargica*, 400.

CROSS, Captain John, dies on service, 201.

CROSS, Lieut. John, dies on service, 170.

CROSS, Captain Spencer Stowell, Military Cross conferred upon, 330.

CROUCH, Captain Harold A., Military Cross conferred upon, 121.

CROW, Captain Henry Paterson, dies on service, 613.

CROWFORTH, William Miller, bequeaths his collections to various museums, 177.

CURTIS, R. R., appointed Surgeon Oculist Extraordinary to the King, 295.

CUTZ, Oswald, the exterminator of yellow fever from Rio, 351.

Cuba: Gift to Italian Red Cross, 333—Gift to the Association Médicale de Guerre, 415. Six hundred doctors to offer their services for France, 448.

CRUP, Lieut. Cyril H.: Hernia of ovary and tube, 629.

CULHAM, Captain H. A., reported killed in action, 475.

Cult of the expert (leading article), 692.

CUMMINGS, Lieut. Roy Litton, accidentally killed, 267.

CUMMINS, Captain Nicholas Marshall, Military Cross conferred upon, 268.

CUNNINGHAM, John, obituary notice of, 103.

CUNNINGHAM, Lieut. W. F.: Celluloid solution for traction, 376.

CURRIE, Andrew, Order of the Crown of Italy conferred upon, 173.

Curse of immobilization. See Immobilization.

CURWEN, K. M.: *Simple Experimental Hygiene, Physiology, and Infant Management*, rev., 456.

CUSHNY, A. R.: *Textbook of Pharmacology and Therapeutics, or the Action of Drugs in Health and Disease*, rev., 7.

CUTHBERT, R. Howard, dies on service, 528.

CYRIAN, Edgar F. Blood pressure in war traumatism, 132. O.

CYRIAN, Richard J.: Blood pressure in pulmonary tuberculosis, 42. O.

## D

"D. A. H." See Heart.

DABELL, Thomas J., obituary notice of, 149.

DALE, Captain John, Croix de Guerre conferred upon, 557.

DALE, Captain John William, Military Cross conferred upon, 330.

DALTON, Fleet Surgeon F. J. A., Legion of Honour conferred upon, 269.

DANDRIDGE, Lieut. William Leslie, dies of wounds, 445.

DANYSZ, J.: Anti-anaphylactic treatment of infections, 325.

DARLING, H. C. Rutherford: *Elementary Hygiene for Nurses*, rev., 408.

DARWIN, Lieut. J. H. B., dies a prisoner of war, 555.

DAS, Captain Lushman, dies on service, 728.

DATTA, J. K.: Acute intestinal obstruction due to strangulation through the great omentum, 60.

DATNT, Lieut. Barry, killed in action, 476.

DATNT, Lieut. C. O'Neill, killed in action, 416.

DAVEY, Lieut. William A. Carthew, killed in action, 267.

DAVIDSON, Captain George S., Serbian Order of St. Sava conferred upon, 331.

DAVIDSON, Major Hugh Allan bar to D.S.O., 121; Croix de Guerre conferred upon, 641.

DAVIDSON, Captain John Polson, bar to Military Cross, 328.

DAVIE, Captain Thomas McNaughton, bar to Military Cross, 328.

DAVIES, A. Lloyd: Case of status epilepticus, 406.

DAVIES, Sir Alfred T.: Hooks for prisoners of war, 334.

DAVIES, Captain Charles Bromley, second bar to Military Cross, 144.

DAVIES, Lieut. David, Military Cross conferred upon, 330.

DAVIES, Captain Edward Stanley, killed in action, 354.

DAVIES, Lieut. Ernest Owen, killed in action, 354.

DAVIES, Lieut. Gwilym Charles Montague, Military Cross conferred upon, 171.

DAVIES, Captain John Edgar, Military Cross conferred upon, 330.

DAVIES, Captain Llywelyn ap Ivan, Military Cross conferred upon, 171.

DAVIS, Edwin Harry, obituary notice of, 362.

DAVIS, Captain G. M., dies on service, 698.

DAVIS, Captain Gustavus Mitchell, lost in the *Llandovery Castle*, 45, 70.

DAWSON, Sir Bertrand: Future of the Medical profession, 23, 56. O.

DAWSON, Captain Guy de, Military Cross conferred upon, 356.

Day nurseries, revised Board of Education rules for grants to, 178.

Deaths of infants under one year, number of to be supplied to medical officers of health, 120.

DE BUSCHE, Arant: Asthma and idiosyncrasy to horses, 304.

Defluvium capillorum after influenza, 465—(John N. Beadles), 515.

Degrees for practitioners, 238.

Degrees for research, 66.

DEHILLY, G. and A. CARRELL: *Treatment of Infected Wounds*, rev., 690.

DE KOCK, Lieut.-Col. Servase M., D.S.O. conferred upon, 268.

Delayed primary suture, 526.

DELÉPINE, Sheridan: A clean milk supply, 715. O.

DEMETRIADI, Lieut.-Col. Louis P., dies on service, 527.

Demobilization, medical (leading article), 439, 661, 724—Notes on, 521, 552—Correspondence on, 731—In France, 726.

DENMAN, Thomas: *The Discharged Consumptive Soldier: his Treatment in Relation to the Treatment of Consumption as a Whole*, 607.

DENNIS, Lieut.-Col. Charles E.: Simple splint for facial paralysis, 314.

DENT, Lieut.-Col. H. H. C. (and Captain E. B. BARTON): Pulvic stenosis with accompanying spinal dysplasia, 713. O.

Dental Congress, *Transactions*, rev., 631.

Dental emergency outfit, 347.

Dental surgery, information concerning the study of, 243.

DIST, H. M.: Atropine poisoning in ophthalmic practice, 644.

DISTOISSIS, P. and CHARLES-ROBERT: *La suspension dans le traitement des fractures*, rev., 516.

DE WATTEVILLE, Walter Frederick, obituary notice of, 453.

Diabetes insipidus and the pituitary, 197.

DICKEY, Captain R. G. A., dies on service, 586.

DICKINSON, Captain Elmer John, Military Cross conferred upon, 73.

DICKINSON, T. Vincent, Order of the Crown of Italy conferred upon, 173.

DICKSON, Major D. Elliot: Treatment of pneumonia, 427. O., 562.

DICKSON, Captain David McMurray, Military Cross conferred upon, 43.

DICKSON, Captain Ernest C.: Botulism from canned vegetables, 41. *Botulism: a Clinical and Experimental Study*, 103.

DICKSON, Lieut. G. Murray, killed in action, 586.

Dictionary, Italian, rev., 257.

Diet, significance of fats in (Ernest H. Starling 195. O.) *Les Hématites*, 117. Correspondence on, 110. J. Argyl Campbell, 716.

Dietaries for tuberculous persons in sanatoriums and hospitals, 518.

Diets, family, 443.

Diets, working class, "man value" of (Captain M. Greenwood and Cicely M. Thompson), 153. O.

DIMENSION, A. J. C. (Bell), 601. O.

DILLING, Captain W. J. and J. Mitchell: *Briefs: Medical and Therapeutics: An Introductory to the Rational Treatment of Disease*, rev., 690.

Diphtheria, bacterial diagnosis of, 592, 674.

Diphtheria, "chronic" W. A. Norman-Robinson, 315.

Diphtherial infection of wounds, 104.

Disclaimers, 274, 504.

Dischoured profession, 524.

DISPATCHES:—

Sir I. H. H. Alenby, names mentioned, 41.

East Africa, 121, 417, 697—Names mentioned, 144, 417, 697.

Egyptian Expeditionary Force, names mentioned, 417.

Sir Douglas Haig, names mentioned, 447, 475.

From Hejaz, 417. Names mentioned, 417.

From India (Sir Charles Muir), 612, 638—Names mentioned, 612.

From the Italian Front, 475.

From Italy (The Earl of Cavan), 666.

H.M. torpedo boat destroyers, names mentioned, 173.

Mesopotamia and the Persian Gulf, names mentioned, 173, 266.

Naval, 173, 417, 668.

Dispensary doctors' salaries (Ireland), 615.

*Dispensary of the United States of America*, rev., 61.

District medical officers' salaries under London County Council to be temporarily increased, 703.

DIXON, Captain Henry Bryan Frost, bar to Military Cross, 144.

DONOVAN, Captain M. G.: Reduction of temperature by local icebags, 87.

DONSON, Lieut.-Col. Edward Francis Horatio, lost at sea (ss. *Herring*), 476.

DONSON, Surgeon Lieutenant J. G., D.S.O. conferred upon, 668.

DOCHARD, Lieut.-Col. Alfred Archibald, dies on service, 555.

DOCKER, Captain Ernest Noel Brougham, Military Cross conferred upon, 355.

Doctors, American and British, 64.

Doctors in the army, the need for, 411, 417.

Doctors, murderous assaults on, 442.

Doctors' problem (Lieut.-Col. A. Lloyd Jones), 85. O.

Doctors serving in U.S. Army, number of, 529.

Doctors, women, honorary commissions for (parliamentary question), 498. In military employment (parliamentary question), 554.

DONSON, Edward Hughes, dies on service—a correction, 18.

Dog, the order, 45.

DONN, Captain Cedric Lewis, reported killed in action, 478.

DOBBY, Captain Robert V.: *Sketches of the East African Campaign*, rev., 88.

DONALDSON, Captain James, dies on service, 697.

DONALDSON, Robert: Etiology of influenza, 701.

DONELAN, James, Order of the Crown of Italy conferred upon, 173.

DOUGAL, Major D., Croix de Guerre with Palms conferred upon, 269, 614.

DOUGALL, K. J.: Acidosis, 655.

DOUGLAS, Captain Edgar, Military Cross conferred upon, 41.

DOUGLAS, Captain William Cloughton, Military Cross conferred upon, 97.

DOYLE, Captain James A., Croix de Guerre conferred upon, 614.

Dow, Captain John, dies on service, 613.

DOWDEN, J. W.: Abuse of drainage tubes, 73—Curse of immobilization, 370. O.

DOWLING, Captain William James, Military Cross conferred upon, 640.

DOWNIE, Captain James Maitland, dies on service, 555.

DOYLE, Lieut. Eric Douglas, dies of wounds, 416.

DOYLE, Kingsley Conan, dies on service, 528.



Drain, rubber, suggestion for a new shape of (A. W. M. Sutherland), 345  
 Drainage tubes, abuse of, 46, 73, 332, 393  
 DREW, V. N.: Increased intraspinal pressure in, 592  
 DREW, Lieut.-Commander Reginald James, killed in action, 389  
 Drop-foot appliance, 317  
 Dropsy, renal (Sir Clifford Allbutt), 395. (O)  
 Drowning in swimmers, cause of, 196  
 "Druggies' healers," admission of to the U.S. Army reported against by the Surgeon-General, 267  
 Drugs, cheap, 529  
 Drues in influenza, 76  
 Drugs, maximum price fixed in Italy, 514  
 DUBARD, Magnesium and cancer, 118  
 Dublin University election, 618  
 DUCKWORTH, Lieut. Edwin V., Croix de Guerre conferred upon, 557  
 DUDGEON, Colonel Leonard S., Serbian Order of St. Sava conferred upon, 351  
 DUFF, Captain Donald Gordon, Military Cross conferred upon, 330  
 DUGGAN, Major C. W.: Abuse of drainage tubes, 393  
 DUGGAN, Major Charles William, lost at sea, 499  
 DULIERE (and others): Bacillary dysentery on the Belgian front, 412  
 DUNBAR, Lieut. John: Case of septicaemic meningitis, 187. (O)  
 DUNCAN, F. Martin (and others): Association of rickettsia bodies in lice with trench fever, 307. (O)  
 DUNCAN, John W.: Treatment of scarlet fever in the patient's home, 359  
 DUNDONALD, Lord: His plan to kill our enemies with poison gas, 168  
 DUNLOP, Binnie: A Land O' Sea, 424  
 DUNLOP, Captain Harry, dies of wounds, 585; Military Cross conferred upon, 640  
 DUNLOP, Captain William, O.B.E. conferred upon, 586  
 DUNN, Louis Albert, estate and bequests of, 458  
 DUNSTAN, Sydney: Liquor cresol saponatus (lysol, etc.), 424  
 DURHAM, Herbert E.: Simple grip for adjusting suspension cords, 377  
 DUTT, Lieut. S.: Military Cross conferred upon, 44  
 DUVAL, Pierre: *War Wounds of the Lung*, rev., 658  
 Dyes, aniline, sterilization of the skin by, 100  
 Dysentery, amoebic, epidemiology of (H. M. Woodcock), 710. (O)  
 Dysentery, amoebic, intravenous injections of salvarsan in, 71  
 Dysentery, bacillary, on the Belgian front, 412  
 Dystrophy, muscular, endocrine origin of, 412

E.

EAGAR, Captain Joseph (Culloden, Military Cross conferred upon, 640)  
 EALDES, G. Young: Rank in the R.A.M.C., 123  
 Ear, review of books on, 346  
 Ear speculum and mirror, extemporized (Captain A. R. Rendle), 603  
 Earlswood Institution, the Royal, report, 546  
 EASON, Assistant-Surgeon Arthur Randolph, dies on service, 667  
 EASTERBROOK, C. C.: Early treatment of mental diseases, 322, 351  
 East Midlands University. See University  
 ECCLES, Lieut. A. J. T. dies on service, 667  
 ECCLES, Captain George Dunluc, Military Cross conferred upon, 330  
 Eclampsia successfully treated by Caesarean section (E. W. G. Masterman), 342. (O) (A. Z. C. Cressy), 433 -Correspondence on, 454  
 Eclampsia with suppression of urine, nephrotomy combined with Caesarean section in treatment of (Clifford White), 4. (O) -Correspondence on, 46—See also Nephrotomy  
 Eclampsia treatment of, 454  
 Ecuador, American Sanitary Commission to study prevention of yellow fever in, 303  
 Eczema, seborrhoeic, colloidal manganese in, 76  
 EDGELOW, Percy: Treatment of acute septic ginitis, 86  
 EDGEWORTH, F. H.: Antistreptococcus serum in influenza, 515  
 EDINBURGH:  
 Antivenereal action in, 173  
 Associate professors in, 729  
 Child welfare scheme, 11, 173  
 Ministry of Health, 173  
 November 11th in, 587  
 Reminiscences of a Student's Life at Edinburgh in the Seventies, rev., 379  
 Scottish Chelsea Hospital, 418  
 EDINGTON, Captain Alexander D., Croix de Guerre conferred upon, 269  
 EDMISTON, Lieut. Allan John, dies from gas poisoning, 268

EDRIDGE-GREEN, F. W.: Appreciation of Charles Devereux Marshall, 362  
 EDRIDGE-GREEN, Lieut. Henry Allen, dies on service, 555  
 Education Act and the medical profession (H. B. Brackenbury), 259  
 Education Bill (parliamentary questions), 42—Medical inspection and treatment, 42  
 Education and brain development (W. Ainslie Hollis), 179. (O)  
 Education, medical. See Medical  
 EDWARDS, Mary Lee, decorated and given commission in medical corps of French army, 519  
 EDWARDS, Lieut. Robert Amos, dies of wounds, 120, 267  
 Egyptian Public Health Commission, 454  
 Elbow, splint for dislocation and fracture of, 659  
 Elbow-joint, treatment of ankylosis of (J. F. Steadman), 433  
 Election, the General, 580  
 Electric quilt, 347  
 ELIASON, E. L.: *First Aid in Emergencies*, rev., 11  
 ELLIOT, Lieut.-Col. R. H.: Medical advisers of Indian Governments, 730  
 ELLIOT, Captain Thomas Stokoe, Military Cross conferred upon, 330  
 ELLIOT, Captain Walter Elliot, bar to Military Cross, 144  
 ELLIOTT, Surgeon Charles, D.S.C. conferred upon, 417  
 ELLIOTT, Lieut. F. P. killed in action, 268  
 ELLIOTT, Lieut. G. Keith, killed in action, 351  
 ELLIOTT, Captain William H., M.B.E. conferred upon, 586  
 ELLIS, Dr.: Tuberculosis classification, 40  
 ELLIS, Captain Fred., bar to Military Cross, 328  
 ELLIS, Captain George Reginald, dies on service, 43  
 ELLIS, Mrs. Haylock James Hutton: *A Sketch*, rev., 288  
 ELLIS, T. S.: Surgical physiology of the foot, 391—Boot heels as a cause of flat-foot, 531, 701  
 ELMES—Captain King, reported killed in action, 475  
 ELMO, Frank: An early sign of heart incompetence, 543  
 ELWOOD, Lieut. Frederick Barnes, Military Cross conferred upon, 97  
 Embolism, pulmonary fat, and its relation to traumatic shock (Captain George E. Sutton), 565. (O)  
 Emergency substitutes the call for, 120  
 EMERSON, Major Henry H. A., Légion d'Honneur conferred upon, 446  
 Emphysema, surgical, due to perforation of the left bronchus (R. R. Garrett), 686  
 Emphysema, streptococcal, 495  
 Encephalitis, epidemic (Arthur J. Hall), 461. (O)  
 Encephalitis lethargica, discussion at Royal Society of Medicine, 489 (Colonel E. Farquhar Buzzard), 687  
 End crowns all, 550  
 Endocarditis, subacute bacterial (Lieut. H. J. Starling), 154. (O)  
 Endocarditis, subacute infective (Major Bernard Hudson), 512. (O)  
 Endocrine origin of muscular dystrophy, 412  
 England and Wales, public health in, 497  
 ENRIQUEZ, Captain William James, lost in the *Landrovers* Castle, 43, 70  
 Epidemics, note on (Captain Julius Burnford), 50. (O) -Correspondence on, 102  
 Epilepsy treated by collosol palladium (A. C. King Turner), 255. (O)  
 Epilepsy, case of status epilepticus (A. Lloyd Davies), 406  
 Epson College. See College  
 Errata. See Corrections  
 ERRINGTON, Captain Roger, bar to Military Cross, 265  
 Erskine Hospital. See Hospital  
 ETIENNE: Cardiac hypertrophy in aviators, 255  
 Eugenic Society founded at Sao Paulo, 586  
 EVANS, Captain R. C. T.: *Apprenticeship V. Conscription*, rev., 317  
 EVANS, Sir Vincent: Appreciation of Frederick T. Roberts, 147  
 EVANS, Major W. Owen, appointed J.P. for county of Glamorgan, 643  
 EVATT, Major-General George J. H.: Attendance of R.A.M.C. officers at scientific congresses, 357  
 EVE, Frank C.: Medical demobilization, 731  
 EVERIDGE, Major John: Primary suture of gunshot wounds, 9—(and Colonel A. FULLERTON: Restoration of function after penetrating gunshot wounds of knee-joint, 182. (O)  
 EVES, Captain Thomas Swan, bar to D.S.O., 121  
 EWART, R. J.: Sex ratio and sex determination, 358  
 EWART, William: Significance of cardiac murmurs, 100  
 Excision of a cartilage. See Cartilage

Exemption applications, Local Government Board leaflet re, 423  
 Exercise blood pressure test of myocardial efficiency (Gordon Lambert), 365. (O) A collection, 121  
 Exophthalmic goitre. See Goitre  
 Experiments on animals. See Animals  
 Expert, cult of the (leading article), 692  
 Extension apparatus for fracture of femur (Captain Dennis W. Crille), 284. (O)  
 Eye diseases and malaria (J. Kirk), 110. (O)  
 F.  
 Face mask, prophylactic, 522  
 Facial paralysis, simple splint for (Lieut.-Col. Charles E. Dennis), 314—Correspondence on, 359  
 Factory surgeons, certifying, and the six-penny fee, 161  
 "Facts for patriots," 533  
 FAIRWEATHER, Sylvester D.: Boot heels as a cause of flat foot, soldier's heart, myalgia, etc., 313 (O), 669  
 Family diets, 443  
 Farm and industrial colonies for tuberculosis: R. H. Mushens's scheme, 582  
 FARQUHARSON, Right Hon. Robert, estate of, 722  
 Fat embolism, pulmonary, and its relation to traumatic shock (Captain George E. Sutton), 368. (O)  
 Fats in the diet, significance of (Ernest H. Starling), 105. (O)—Leading article on, 117—Correspondence on, 145—(J. Argyll Campbell), 716  
 Fats, medicinal. See Medicinal  
 FAVELL, Richard, obituary notice of, 591  
 FAWCETT, Major Charles E. W. S., Croix de Guerre conferred upon, 557  
 FAWSETT, Frederick, obituary notice of, 207  
 FAY, Captain Frank William, Military Cross conferred upon, 355; bar to Military Cross, 556  
 FAZAN, Captain Eric Alfred Charles, bar to Military Cross, 44  
 FEARON, William Robert, awarded Reuben Harvey Memorial Prize, 74  
 Febris wolynica, 65  
 Fee, the sixpenny, 161  
 Feeble minded, detection of, 634  
 Fees, medical practitioner sues patient for, 149  
 Fees to civilian medical practitioners (Army Council Instruction), 45  
 Fees and prices in Germany, 364  
 Fees for medical examination for life insurance, scale of fixed by Derry practitioners, 75  
 Female ailments, treatment of some common (Frederick J. McCann), 705. (O)—See p. 32 of JOURNAL for Jan 4th, 1919, for correction  
 Femur, fracture of. See Fracture  
 Femur, gunshot wounds of, bed and other appliances for (Major Maurice G. Pearson), 166. (O)  
 FENWICK, P. C. Collingwood, method of overcoming the adherence of tendons after suturing, 542. (O)  
 FERGUSON, Captain John James Harrower, Military Cross conferred upon, 330; bar to Military Cross, 328  
 FERGUSON, Margaret, etiology of rickets, 401  
 FERGUSON, Captain William Haig, Military Cross conferred upon, 330  
 FERNALD, Mabel, appointed to Army Medical Department at Washington, 333  
 FERNANDEZ, Z. P.: Value of artificial pneumothorax in the arrest and prevention of haemoptysis in pulmonary tuberculosis, 55. (O)  
 FERRIE, Captain Archibald MacLaren, Military Cross conferred upon, 97  
 FERRIO: Meningococcal septicaemia, 295  
 Fever, blackwater, intravenous saline in (Captain Adam Patrick), 404. (O)  
 Fever, cerebro-spinal, treated with autogenous vaccine (Norman Macfadyen), 433  
 Fever, cerebro spinal, "spacing out" in the prevention of military epidemics of (Captain J. A. Glover), 509. (O)  
 Fever, enteric, in Flanders, 1914-15 (Lieut.-Col. E. W. Goodall), 717  
 Fever, enteric, in inoculated soldiers (Captain Fred. M. Meader), 604  
 Fever, scarlet, carbolized oil inunction in, 732  
 Fever, scarlet, measles and rubella, differential diagnosis of (Lieut.-Col. J. S. War-rack), 486. (O)  
 Fever, scarlet, serum treatment in (Kling and Widfeldt), 93  
 Fever, scarlet, treatment of, circular letter from the medical officer of health, 195—Correspondence on, 300, 359  
 Fever, trench. See Trench  
 Fever, typhus, and vermin in the eighteenth century, 104  
 Fever, yellow American Sanitary Commission to study prevention of in Ecuador, 303  
 Fever, yellow, the exterminator of from Rio, 351  
 FFENNEL, E. B.: Drugs in influenza, 76



- Fibroid of trachea (James B. Horgan), 653. (O)
- Fibroids, uterine, review of books on, 160
- FINDEN, Captain James Douglas, bar to Military Cross, 144
- FINDEN, Captain John Douglas, Military Cross conferred upon, 41
- FINDIAN, Surgeon Eric Alfred, awarded bronze medal for gallantry, 149
- Fifth year of war (leading article), 137
- Filaria in amongst Australian troops (Captain R. Rimmer), 105 (O) (Captain A. T. H. Nisbet), 57 (O) (Captain A. M. Lilley), 573
- FILDES, P.: Sterilization of skin by aniline dye, 100 Cerebro-spinal fever in the navy at Portsmouth, 382
- FINCH, Captain George, dies on service, 476
- FINCH, Captain Eric Elgin, Military Cross conferred upon, 610
- FINDLAY, Leonard: Etiology of rickets, 410—(and others) Observations on the cause of rickets, 625 (O)
- FINGER, E.: Control of venereal disease in Austria, 727
- FINLAND, Dr., obituary notice of, 177
- FINLAISON, Surgeon Hilton Evans Bear, dies on service, 170
- FINLAYSON, Captain Christopher Matheson, bar to Military Cross, 640
- FINLEY, Caroline S., decorated and given commission in medical corps of French army, 519
- Fire, liquid in warfare, 394
- Fireless cooking, 207
- FISCHEL, Captain Claude Henry, dies of wounds, 389
- FITZGERALD, Lieut.-Col. FitzGerald Gabbett, bar to D.S.O., 121; Croix de Guerre conferred upon, 614
- FitzPatrick lectures. See Lectures
- Flanders, old, the medical profession in, 582
- Flat-foot, boot heels as a cause of (Captain Sylvester D. Fairweather), 313 (O), 479—Correspondence on, 391, 479, 530, 531-669, 701
- Flat-foot, surgical physiology of, 391
- Flavine, value of (H. Mearns Savory), 283. (O)
- FLEMING, Captain Geoffrey B., M.B.E. conferred upon, 586
- FLEMMING, Charles E. S.: Future of the profession, 145 Early treatment of mental disorder, 357—The Board of Control on early treatment of mental disorders, 670
- FLINT, Austin: *Manual of Physical Diagnosis*, rev., 88
- FLOOD, Surgeon J. A. Lord, reported killed in action, 120
- FLOOD, Captain Robert Alexander, Military Cross conferred upon, 330
- Flour, white, 22
- Flying, analysis of causes of breakdown in (Captain Norman S. Gilchrist), 401. (O)
- Flying. See also Aviators
- FOCH, Marshal, elected a member of the Académie des Sciences, 674
- Food Commission, Inter-Allied, 117
- Food Control, Inter-Allied, 263
- Food Controller, and the sale of milk of greater purity, 126, 197
- Food Ministry issues pamphlet, *How to Feed the Family*, 443
- Food restrictions in the French Revolution, 294
- Food supplies, the State and (parliamentary statement), 120
- Foot, flat. See Flat foot
- FOOT, Captain Alexander Boyd, dies on service, 143
- FORBES, Captain Edward, Military Cross conferred upon, 171
- FORBES, Major William Guthrie, dies of wounds, 416
- FORB, Major Arthur Vernon, dies on service, 728
- Foreign body in gravid uterus (G. Drummond Robinson), 687
- Foreign countries, conditions of practice in, 243
- FORGE, G. Baynton: Burden of costly remedies, 145
- FORSYTH, Captain Charles Colder, Military Cross conferred upon, 171
- FORSYTH, Captain James Cotton, dies of wounds, 354, 389
- FORT, Captain Charles Wainwright, Military Cross conferred upon, 171
- FORTESCUE-BRICKDALE, J. M.: An aspirator for paracentesis thoracis, 286
- FOSTER, Captain George May, Military Cross conferred upon, 97
- FOSTER, Captain Norman Kessen, dies on service, 697
- FOSTER, Captain Samuel R., Légion d'Honneur conferred upon, 446
- FOSTER, W. J.: Restoration of function after penetrating wounds of joints, 315
- FOTH-BELL, W. E.: Gonorrhoea in women, 707 (O)
- FOTHERGILL, Lieut. Wilfrid Thompson, killed in action, 267
- FOTHERINGHAM, Captain William, bar to Military Cross, 97
- FOX, Assistant Surgeon Henry Alexander, dies on service, 728
- Fox, Fortescue. *British Spas and Health Resorts*, rev., 631—An arthrometer, 669—Post-graduate teaching and the University of London, 669
- FOX, Lieut. J. C. (and others): Purulent bronchitis complicating measles and rubella, 481. (O)
- Fracture of elbow, splint for, 659
- Fracture of femur, extension apparatus for (Captain Dennis W. Crile), 284. (O)
- Fracture of femur, immediate treatment of on the battlefield at the site of the casualty (Captain F. B. Chavasse), 373. (O)
- Fracture of femur, splint for shaft of (H. E. Griffiths), 374. (O)
- Fractures of humerus, compound, triangle splint in treatment of (Major Philip Turner), 711. (O)
- Fractures of jaw, gunshot, bone grafting in (Captain William Billington, Arthur H. Parrott, and Harold Ronod), 679. (O)
- Fractures, review of book on, 516
- FRANCE:
- American Medical Department's Central Laboratory, 394
  - Army medical establishments in (parliamentary question), 95
  - Clinical professorships of tuberculosis, 673
  - Franco-Anglo-American League for Combating Cancer formed, 90
  - Future of medical teaching in Paris, 169
  - Medical demobilization in, 725
  - Medicinal plants, cultivation of, 333
  - Orthopaedic society founded, 578
  - Radium distribution, 723
  - Wounded in agriculture, 195
  - Young recruits, 194
- France's share in biology and medical science, 523
- FRASCARI, Count Giuseppe, appointed President-General of the Italian Red Cross, 333
- FRASER, Captain David Hammond, O.B.E. conferred upon, 586
- FRASER, Captain John Henry Pearson, Military Cross conferred upon, 44
- FRASER, John (and Cutbert Wallace): *Surgery at a Casualty Clearing Station*, rev., 719
- FRASER, Sir Thomas, resignation of, 447
- FRASER, Lieut. William Aldridge, Military Cross conferred upon, 556; Croix de Guerre conferred upon, 614
- FREEMAN, Captain Frank Percy, bar to Military Cross, 329
- FREER, G. D.: Temporary peg legs, 669
- French, Chair of, Mansion House meeting re, 149
- French advice on prevention of influenza mortality, 496
- French Revolution, food restrictions in, 294
- French view of international scientific relations after the war, 492
- FREW, Captain John Williamson, Military Cross conferred upon, 556; dies of wounds, 445
- Front Line Club. See Club
- Fry, Captain Augustin Pownall, Military Cross conferred upon, 330
- Fuel and Lighting Order (1918), 177—Dangers of coal rationing, 176—Fireless cooking, 207—Extra fuel for childbirth, 503—Fuel for invalids, 592, 704
- Fuels, domestic, relative value of, 695
- FULLERTON, Colonel A. (and Major John EVERIDGE): Restoration of function after penetrating gunshot wounds of knee-joint, 182. (O)
- FULLERTON, Captain Archibald, second bar to Military Cross, 97
- FULTON, A.: Burden of costly remedies, 206
- FULTON, Captain Roland A. H., Croix de Guerre conferred upon, 71
- Fund, Auxiliary R.A.M.C., 75—Annual meeting, 502
- Fund, Belgian Doctors'. See Belgian
- Fund, J. H. Bell, 150, 178, 304, 394, 480, 644
- Fund, Countess of Dufferin's, report, 295
- Fund, Hospital Sunday (Metropolitan), amount received, 177
- Fund, King Edward's Hospital, report, 587—Awards, 729
- Fund, King's, for the Disabled, 273
- Fund, the Kile, 364
- Fund, Royal Medical Benevolent, 62, 290, 435, 576, 696—War Emergency Fund, 450
- Fund, Guild, Royal Medical Benevolent, training of girls, 22, 176—Garden party, 176
- Furunculosis, colloid manganese in (W. E. Levinson), 160—Correspondence on, 274—(Captain E. W. Kirk) 377
- Future of the medical profession. See Medical
- FYFFE, Captain Eric Leigh, Belgian Ordre de la Couronne conferred upon, 641
- FYSH, M. N., treatment of meningitis, 150
- GAGE, Captain John Munro, dies on service, 728
- GARDNER, James, a billee of a medical officer to Crief Parish Council, 47—Manganese a poison, 334, 364
- Gall bladder disease, diagnosis of, 195
- GALSWORTHY, John, and the future of disabled men, 635, 665
- Galy, supply of to insured persons, 668
- GAMSON, Captain Lawrence, Croix de Guerre conferred upon, 614
- GAMM, Captain Frederick, Military Cross conferred upon, 171
- GANS, O.: Venereal disease in Germany, 41
- GANTHEINE, Patrick P. J., M.B.E. conferred upon, 417
- GARDNER, H. Willoughby: *Instruments and Apparatus Required for the Investigation and Treatment of Medical Cases*, rev., 347
- GARDNER, Captain Mark C., Military Cross conferred upon, 121
- GARDNER, Lieut. Norman, killed in action, 500
- GARRATT, G. C.: Burden of costly remedies, 102
- GARRETT, Lieut. D. G. K., killed in action, 476
- GARRETT, R. R.: Surgical emphysema due to perforation of the left bronchus, 686
- Gas, asphyxiating, early use of, 168
- Gas gangrene, pathology of, discussion at Royal Society of Medicine, 665
- Gas gangrene, preventive and curative treatment of by mixed serums (Frances Ivens), 425 (O)
- Gas gangrene, review of books on, 115
- Gas gangrene, serum for (Vincent and Stodel), 287
- Gas, oxygen, therapeutics of (leading article), 520
- Gas, poison, experimental work in the United States, 207
- Gas poisoning, irritant, report on oxygen administration in, 503
- Gas poisoning, irritant, treatment of (Captain J. M. Lazenby), 342 (O)
- Gas poisoning, war (leading article), 138
- Gas warfare, abolition of, memorandum from presidents of British colleges, Regius professors, etc., 611
- Gassed men, headache in, 76
- GASTON, Captain James, dies of wounds, 612
- Gastro-intestinal disease in German soldiers, 356
- GAULÉAC, DE: Latent septicaemia, 442
- GEAR, Surgeon-Sub-Lieut. J. D., dies on service, 612
- GEDES, Sir Auckland, appointed President of the Local Government Board, 525
- Gelatin injections followed by tetanus (F. Parkes Weber), 189
- General election, the coming (leading article), 193
- General practice, the future of (James Neal), 467
- General practitioners and venereal diseases, 119, 176, 205, 269
- GENÉBRAY: Trench fauna, 331
- GERMAN, Captain Hugh Bernard, Military Cross conferred upon, 44; bar to Military Cross, 329; killed in action, 416
- German doctors and British prisoners, 583
- German experiences of war neuroses, 695
- German medical literature in Holland, 352
- German professor on militarism (Nicolai), 325
- German soldiers, gastro-intestinal diseases in (Korach), 356
- German substitutes in war surgery, 442
- GERMANY:
- "The blackguard nation," 202
  - Disabled men, care of, 35
  - Dishonoured profession, 524
  - Fees and prices in, 364
  - Hospital ship torpedoed, 22
  - Intestinal obstruction and strangulated hernia, steady increase in, 22
  - Smoking by boys in Berlin, 104
  - Tobacco amblyopia in, 663
  - Venereal disease in, 41
- Germans and the scientific workers of Lille, 693
- GERHARD, Lieut. J. M. H., dies of wounds, 297
- Gestation, prolonged, 674
- GIBBS, C. Chapman (and others): Ten thousand recruits with doubtful heart conditions, 248. (O)
- GIBSON, Major Edward, O.B.E. conferred upon, 586
- GIBBS, Captain Stanley Rider, Military Cross conferred upon, 640
- GIBSON, Major H. Graeme (and others): A filtrable virus as a cause of the early stage of the present epidemic of influenza, 645, (O)
- GIBSON, Robert: Defluvium capillorum after influenza, 465
- GILCHRIST, Captain Norman S.: Analysis of causes of breakdown in flying, 401. (O)
- GILCHRIST, Robert Munn, obituary notice of, 453
- GILLESPIE, Captain David, Military Cross conferred upon, 171
- GILLESPIE, John R.: Value of tuberculin in pulmonary tuberculosis, 45
- Gingivitis, acute septic, treatment of (Percy Edgewell), 86



- Gingivitis, acute ulcerative (Captain Claude G. Coker), 396. (O)
- GIPPS, Lieut.-Col. A. G. P., D.S.O. conferred upon, 297
- GIRVAN, Captain Colin Bertram, dies on service, 555
- GITTENS, C. Wyndham Exophthalmic goitre in a girl, 465
- GISEPPI, P. L.: Camphor in acute influenzal bronchitis and bronchopneumonia, 716
- GIVEN, Captain William Clarke, Military Cross conferred upon, 355
- GLADSTONE, Howard: Quinine and influenza, 592
- Glands, suprarenal, in influenza (Captain E. S. Winter), 629
- Glands, Tyson's, vulvitis caused by accumulated secretion of (John D. Malcolm), 55. (O)
- GLASCOTT, Charles Edward, obituary notice of, 272—Estate of, 423
- GLASGOW:
- Epidemic nervous disease in, 19
  - Post-graduation instruction at, 699
  - Influenza in, 447
  - Shakespeare Hospital for disabled men, 418
  - Veneral diseases, clinical course, 332
- GLENNY, Captain Ernest Howard, dies on service, 476
- GLOVER, E. E. Violet: Historical account of tonsillectomy, 685. (O)
- GLOVER, Captain Edward N., O.B.E. conferred upon, 586
- GLOVER, Captain J. A.: "Spacing out" in the prevention of military epidemics of cerebrospinal fever, 509. (O)
- Glucose, local application of (F. McG. Loughnane), 574
- GLUCK, Bernard: *Studies in Forensic Psychiatry*, rev., 689
- Glycerin and alcohol, 644
- GOBLEE, Sir Rickman J.: *Lord Lister*, rev., 88
- GODSON, Captain Charles Aubrey, Military Cross conferred upon, 268
- Goitre, exophthalmic, in a girl (C. Wyndham Gittens), 465
- Goitre, in-crook ankle and stunted growth, 208
- Goitre, simple, prevention of, 326
- GOLDIE, Captain William, Military Cross conferred upon, 268
- GOLGI, Camillo, fund in honour of, 393
- Gonorrhoea, chemiotherapeutic treatment of (J. E. R. McDonagh), 31. (O)
- Gonorrhoea in women (W. E. Fothergill), 707. (O)
- GOODALL, Lieut.-Col. E. W.: Enteric fever in Flanders, 1914-15, 717
- GOODALL, J. Strickland (and others): Ten thousand recruits with doubtful heart conditions, 248. (O)
- Good-bye! take care of yourself! 671
- GOODE, Captain Henry Norman, Military Cross conferred upon, 330
- GOODELL, William C., bequest to University of Pennsylvania, 99
- GOODHART: Endocrine origin of muscular dystrophy, 412
- GOODMAN, Cyril, resignation of, 393
- GOODMAN, Lieut. Harold, Croix de Guerre conferred upon, 557
- GOODMAN, Assistant-Surgeon James Garnett, Military Cross conferred upon, 98
- GOODPASTURE: Neoplastic obstruction of the inferior vena cava, 695
- GOODWIN, Cecil G. R. (and Frederick C. COLEY): Two cases of artificial pneumothorax, 405. (O)
- GORDON, Lieut.-Col. M. H.: Production of meningococcus anti-endotoxin, 335. (O)
- Gordon Memorial College, Khartoum, annual report, 703
- GORDON, W.: Size of the heart, 256—Future of the medical profession, 358, 422—A.M.S. and S.M.S., 616
- GORGAS, Surgeon-General, retirement of, 525—Grand Officer of the Order of the Crown of Italy conferred upon, 698
- GORMAN, Captain Morley Edward, Military Cross conferred upon, 171
- Goss, Captain Francis Hennessey, Military Cross conferred upon, 330
- GOTCH, Surgeon Oliver H. (and Captain Harold E. WHITTINGHAM): Report on the "influenza" epidemic of 1918, 82. (O)
- GOULD, Surgeon A. L., estate of, 149
- GOULD, Sir Alfred Pearce, appointed to Officers' Pensions Appeal Tribunal, 22—War Emergency Fund, 450
- GOULD, Eric Pearce, Vangbetti's operation, 86, 204
- GOURDON, M. J.: The wounded in agriculture, 195
- Gout as a preventive of influenza, 620
- Government grant to universities and colleges, the meagre—deputation, 618
- GRAHAM, Lieut. George Wilson, killed in action, 120
- GRAHAM, Captain Howard Boyd, Military Cross conferred upon, 171
- GRAHAM, Captain Thomas Fleck, dies on service, 389
- GRAHAM, Major T. O.: Gunshot wounds of the head, 129. (O)
- Grand old man of France (Clemenceau), 383
- Grande Chartreuse as a base hospital, 390
- GRANGE, Captain Frank Arthur: Military Cross conferred upon, 44
- GRANT, Hope: Treatment of pneumonia, 504
- GRANT, Captain John Charles Boileau, bar to Military Cross, 446
- GRANT, Captain John Victor Livingstone, Military Cross conferred upon, 477
- GRAVES, Captain Basil, Military Cross conferred upon, 640
- GRAVES, Wm. P.: *Otolaryngology*, rev., 631
- GRAY, Albert A.: *Otosclerosis (Idiopathic Degenerative Deafness)*, rev., 256
- GRAY, Allan: Burden of costly remedies, 73
- GRAY, Allan E. L.: The Scottish University constituency, 672
- GRAY, Colonel H. M. W., associated with Sir Robert Jones in military orthopaedics, 95
- GRAY, Captain Maurice, killed in action, 268
- GRAY-MARSHALL, Dr. Philip, dies on service, 267
- Great expectations (leading article), 348
- Greek Academy of Medicine founded at Athens, 665
- GREEN, Captain A. McW., D.S.O. conferred upon, 121
- GREEN, A. Withers: Medical Sickness and Accident Society, 126
- GREEN, Captain Edwin Allan Thomas, Military Cross conferred upon, 44
- GREEN, James, obituary notice of, 75
- GREEN, Captain Philip Sydney, dies on service, 585
- GREENE, Charles Lyman: *Medical Diagnosis for the Student and Practitioner*, rev., 134
- GREENE, Captain John, D.S.O. conferred upon, 477
- GREENWOOD, Captain H. H.: Ventral hernia, 512. (O)
- GREENWOOD, Captain Major (and Cecily M. THOMPSON): "Man value" of working-class diets, 133. (O)—Epidemiology of influenza, 565. (O)
- GREENWOOD, Captain Robert Alfred, Military Cross conferred upon, 356
- GREENWOOD, Wm. Osborne: *Scopolamine-Morphine. Semi-Narcosis during Labour*, rev., 61
- GREGG, Captain Norman McAlister, Military Cross conferred upon, 356
- GREIG, E. D. W.: Injections of mercuric chloride for enlarged spleen, 304
- GREIG, Captain Frank Cyril, Military Cross conferred upon, 330
- GREIG, Captain Robert Masson, bar to Military Cross, 329; second bar to M.C., 640
- GRIFFIN, Richard Watson, dies on service, 698
- GRIFFITH, Alfred Hume, obituary notice of, 452
- GRIFFITHS, Surgeon Lieutenant-Commander C.V., D.S.O. conferred upon, 668
- GRIFFITHS, H. E.: Splint for fractured shaft of the femur, 374. (O)
- GRIFFITHS, Captain J. (and others): The influenza epidemic in a camp, 111. (O)
- Grip for adjusting suspension cords (Herbert E. Durham), 377
- GUILDING, Lieut. Sydney Cecil Lansdown, dies on service, 555
- GILFOYLE, Captain Thomas Reginald, dies on service, 555
- GILLEMARD, Henri, awarded the Montyon prize, 333
- GUNN, George: Varicella and herpes, 574
- Gunshot fractures. See Fractures
- Gunshot injury causing double rupture of urethra (Major Gordon Taylor), 9
- Gunshot wounds of femur and back, bed and some appliances for (Major Maurice G. Pearson), 186. (O)
- Gunshot wounds, primary suture of (Major John Everidge), 9
- Gunshot wounds of head (Major T. O. Graham), 129. (O) (Captains W. J. Adie and W. W. Wagstaffe), 167
- Gunshot wounds of knee-joint as seen at a base hospital (Captain H. H. Hepburn), 338. (O)
- Gunshot wounds of knee-joint, restoration of function after (Major John Everidge and Colonel A. Fullerton), 182. (O)
- GUTHRIE, A. Cowan: Lobar pneumonia complicated by pleurisy treated with polyvalent serum, 128. (O)
- GUTHRIE, Captain John: Operation for reconstruction of the urethra in cases of severe or impermeable stricture 111. (O)
- Gynaecology, review of books on, 631
- H.
- HABGOOD, William: Colloidal manganese in seborrhoeic eczema, 76
- HADDON, John: Problems of nutrition, 530
- HADDOW, Captain Charles Hope, Military Cross conferred upon, 330
- HADWEN, Lieut. Charles Eugene, killed in action, 389
- HADWEN, Surgeon Lieutenant-Commander, dies on service, 527
- Haemolysis caused by poison of Manchurian scorpion, 363
- Haemolysis in pulmonary tuberculosis, value of artificial pneumothorax in arrest and prevention of (Z. P. Fernandez), 55. (O)
- Haemorrhage, accidental (Sir William Smyly), 630
- Haemorrhage in influenza (John A. McConnochie), 515
- Haemothorax. See Paracentesis thoracis
- HAIG, Sir Douglas, home-coming of, 725
- HAIG, Major William: Soft paraffin as a wound dressing, 188—Rectal injection in wound shock, 208
- Haldane oxygen administration apparatus, 517
- HALE, Captain William Fraser, dies on service, 18
- HALFORD, Lieut. E. T., dies on service, 476
- HALL, Arthur J.: Epidemic encephalitis, 461. (O)
- HALL, Captain Basil Claude, killed in action, 268
- HALL, Captain E. Wilson: Direct sale of military motor cars, 620
- HALL, G. Rome: Note on the thyro-toxic heart, 600. (O)
- HALL, I. Walker (and others): Amino-acid content of nutrient media, 398. (O)—Blood agglutinins in meningococcal attacks, 681. (O)
- HALL, Dr. John (Shakespeare's son-in-law), 196
- HALLIBURTON, W. D.: Abstracts of medical literature, 271
- HALLINAN, Captain Alfred Ernest, Military Cross conferred upon, 330
- HALLOWES, Lieut. Arthur Collis, Military Cross conferred upon, 44
- HALPIN, Captain William Oswald, dies of wounds, 267
- HAMER, W. H.: Encephalitis lethargica, 489
- HAMIL, P. (and others): Ten thousand recruits with doubtful heart conditions, 248. (O)
- HAMILTON, Captain C. D., dies at sea, 585
- HAMILTON, Robert Jessop, obituary notice of, 362
- HAMILTON, Captain William, Military Cross conferred upon, 640
- Hamlet's father, the murder of, 353
- HAMMOND, T. E.: Position of the operation for the excision of a cartilage in military surgery, 714. (O)
- HAMMOND, Lieut. Thomas Hill, killed in action, 586
- HANDYSIDE, Surgeon Rear Admiral Patrick B.: Japanese Order of the Sacred Treasure conferred upon, 641
- HANN, Reginald G.: Acute pneumonia, with displacement of the heart to the side of the lesion, 189
- HARRISON, Alexander, obituary notice of, 103
- HARDY, Captain Edward William Dacre, Military Cross conferred upon, 171
- HARDYMAN, Lieut.-Col. John H. Maitland, killed in action, 268
- HARFORD, Captain Charles F.: Medical missionaries, 333
- HARMAN, N. Bishop: Parliamentary representation, 408, 449
- HARRIS, Captain Chester, Military Cross conferred upon, 330
- HARRISON Lieut.-Col. E. F., obituary notice of, 532, 560
- HARRISON, Captain Frank Cecil, reported killed in action, 527
- HARRISON, Surgeon James M., D.S.C. conferred upon, 331
- HARRISON, Colonel L. W.: Portable salvarsan outfit, 517
- HARRISON, Major Stanley Sextus Barrymore, dies of wounds, 499
- HARRISON, Colonel Damer, obituary notice of, 302
- HARTUNG, M. U.: German experiences of war neuroses, 695
- HARTY, Major Thomas Ernest, bar to D.S.O., 328
- Harveian Oration: Doctrine of consumption (Percy Kidd), 455. (O)
- HARVEY, Surg.-Lieut. William Fryer, Albert Medal awarded to, 529
- HARVEY, Major William J. S., Légion d'Honneur conferred upon, 446
- HATHAWAY, Frank: Abuse of drainage tubes, 332
- HATTON, John, honorary life membership of British Red Cross Society conferred upon, 643
- Havana, proposed school of clinical medicine in, 408
- HAWTHORNE, C. O.: Appreciation of John Biernacki, 532
- HAY, Captain William Stevenson Brown, killed in action, 475
- HAYCRAFT, John Berry: National School of Medicine for Wales, 477
- HAYDON, Major Leonard H., D.S.O. conferred upon, 268
- HAYDON, Nathaniel Maurice, dies on service, 555
- HEAD, Captain Raymond Evelyn, dies of wounds, 728
- Head, gunshot wounds of (Major T. O. Graham), 129. (O)—(Captains W. J. Adie and W. W. Wagstaffe), 167
- Headache in gassed men, 76
- HEALD, Lieut. W. M., dies of wounds, 327



## HEALTH, MINISTRY OF:

- Arkyl County Insurance Committee and, 658  
The bill, 42, 67, 94, 95, 550, 554  
*British Journal of Ophthalmology* and, 334  
Conference of representatives of various bodies, 525  
Correspondence on, 479, 589  
Edinburgh and, 175  
Leading article on, 550  
London Insurance Committee and, 503  
Manifesto to the Government urging early introduction of the bill, 441  
Medical profession and, 39, 139  
Meeting of the medical profession of the Home Counties, 437  
National Union of Holloway Friendly Societies and, 332  
Parliamentary questions, 42, 67, 95, 554  
Royal Colleges of Physicians and Surgeons and, 95  
Royal Sanitary Institute and, 503  
For Scotland, 175  
Voluntary hospitals and, 192, 468

## Health, Ministry of, in Austria, 290

- "Health resorts of the British Islands," 76  
Health resorts, foreign, visits to, 324  
HEARD, Colonel R., appointed Honorary Surgeon to the Viceroy of India, 22  
HEARSEY, Lieut.-Col. Herbert H. Y., O.B.E. conferred upon, 417  
Heart conditions, doubtful, ten thousand recruits with (C. Chapman Gibbs, R. O. Moon, S. Russell Wells, P. Hamill, F. W. Price, and J. Strickland Goodall), 248. (O)  
Heart conditions in soldiers (R. O. Moon), 599. (O)  
Heart, disordered action of ("D.A.H."), and valvular disease of ("V.D.H."), medical reports on soldiers discharged from the army for (Thomas Lewis), 647. (O)  
Heart, disordered action of, the common factor in (Major L. M. Murray), 650. (O)  
Heart incompetence, early sign of (Frank Elvy), 543  
Heart, irritable, of soldiers, the psycho-neurotic factor in (Captain B. S. Oppenheimer and Lieut. M. A. Rothschild), 29. (O)  
Heart, "irritable," of soldiers, the sympathetic nervous system and (Lieut. R. M. Wilson), 27. (O)  
Heart of recruits, examination of, 48  
Heart, review of books on, 346, 378  
Heart, size of (W. Gordon), 256  
Heart, thyro-toxic (G. Rome Hall), 600. (O)  
Heat-stroke and malignant malaria, 479  
Heat transmission through heavy building materials, report of Research Committee on, 545  
HEATHCOTE, Captain George Francis Palmer, Military Cross conferred upon, 171  
Hellenic Association, 207  
HELM, Captain Henry Paul Dundas, dies on service, 586  
HELOT, R.: Food restrictions in the French Revolution, 294  
HELSEBY, Lieut. Robert John, Military Cross conferred upon, 171  
HENCHLEY, Lieut.-Col. A. R., D.S.O. conferred upon, 70, 356  
HENDERSON, Captain Francis, Military Cross conferred upon, 171  
HENRY, Captain Howard, Military Cross conferred upon, 171  
HENRY, Lieut. John A. G., killed in action, 614  
HENRY, Miss, Croix de Guerre with Star conferred upon, 698  
HEPBURN, Captain H. H.: Gunshot wounds of the knee-joint as seen at a base hospital, 558. (O)  
HEPPLE, Captain Robert Alexander, Military Cross conferred upon, 171  
HERBERT, Lieut.-Col. Arthur S., O.B.E. conferred upon, 417  
Hernia of ovary and tube (Captain Cyril H. Cuff), 629  
Hernia, strangulated, steady increase of in Germany, 22  
Hernia, ventral (Captain H. H. Greenwood), 312. (O)  
Herpes zoster and varicella, 197—(George Gunn), 574  
Herring harvest, 94  
HERRINGHAM, Major General Sir W. P.: Parliamentary representation of the University of London, 450, 672—A protest, 672  
HEWETSON, Lieut.-Col., Order of the Crown of Italy conferred upon, 641  
HEWITT, Fleet Surgeon A. J., Legion of Honour conferred upon, 269  
HEWSON, Captain Falkner Melton, dies on service, 728  
HICKS, Thomas W., appointed J.P. for county of Middlesex, 30  
HIGGS, Lieut. Reginald Frank, killed in action, 446  
HILES, I. (and others): Amino-acid content of nutrient media, 398. (O)  
HILL, H. B.: Present type of pneumonia, 533  
HILLIARD, Harvey: Administration of anaesthetics to soldiers, 406  
HIME, Lieut.-Col. Henry C. R., Croix de Guerre conferred upon, 71  
HIND, Clara, obituary notice of, 362

- HINTON, M. A. C.: *Rats and Mice as Enemies of Mankind*, 384  
HIRD, Captain Frederick Waistell, Military Cross conferred upon, 556  
HIRST, Barton Cook: *Textbook of Obstetrics*, rev. 315  
HIRST, Captain William James, Military Cross conferred upon, 640  
HOARE, Alfred: *Short Italian Dictionary*, rev., 257  
HODGE, M.: Diabetes insipidus and the pituitary, 197  
HONGSON, Captain H. W., Military Cross conferred upon, 297  
HONGSON, Lieut.-Col. John Edward, dies on service, 585  
HONGSON, Captain Stewart, Military Cross conferred upon, 171  
HOGARTH, Major A. H.: Medical practitioner as an asset to preventive medicine, 519  
HOGARTH, F. W.: General practitioners and venereal disease, 205—Motor headlights, 642  
Hollenstein's picture of Henry VIII and the Barber-Surgeons Company, original studies discovered, 643  
HOLDEN, Oscar: Wound stripes, 208  
Holland, German medical literature in, 352  
—Seven medical members of the Dutch parliament, 606  
HOLLAND, Captain Jeremiah, Military Cross conferred upon, 640  
HOLLIDAY, G.: The influenzal epidemic in general practice, 159  
HOLLIS, William Ainslie: Education and brain development, 179. (O)—Future of the medical profession, 559  
HOLMES, A. Hewston: A disclaimer, 504  
HOLMES, Gordon: Symptoms of acute cerebellar injuries, 194  
HOLMES, Lieut.-Col. Mathew, dies on service, 638  
HOLMES, Captain Mervyn J., Legion d'Honneur conferred upon, 446  
Home-coming of the consumptive soldier (leading article), 607  
Home-coming of Sir Douglas Haig, 725  
Honours, 44, 70, 97, 121, 143, 171, 202, 268, 297, 328, 354, 417, 446, 477, 500, 529, 556, 586, 614, 639, 668, 698, 728  
HOPKINS, F. G.: Royal Medal of Royal Society awarded to, 583—Vitamines, 663  
HORGAN, James B.: Fibroma of trachea, 653. (O)  
HORSLEY, Captain Oswald, killed whilst flying, 268  
HORR, Edward C.: *Meningococcus of Weichselbaum*, 269, 617  
HOSKIN, Theophilus, obituary notice of, 206  
Hospital, American War, on the east coast of Scotland, 273  
Hospital, Chelsea (for Scotland), 418  
Hospital, Dreadnought, information concerning the study of medicine at, 239  
Hospital, Erskine, for Limbless Men, 699  
Hospital, Great Northern Central, report on working of tuberculosis department, 177  
Hospital, Guy's: Information concerning the study of medicine, 224—Scholarships, 393—*Reports*, vol. lxxix, rev. 466—Foulton Palmer research scholarship founded, 533  
Hospital, King's College: Information concerning, 225—Scholarships, 332, 480—Inaugural address of Listerian Society, 673  
Hospital, Lebanon, for Mental Diseases, Beirut: Appeal, 578  
Hospital for Limbless Men, the Erskine, 699  
Hospital, London: *Gazette*, 48—Roll of honour, 48—Medical College awards, 102—Information concerning the study of medicine at, 225  
Hospital, Maternity, and antenatal clinics (Comyns Berkeley), 33. (O)  
Hospital, Middlesex, information concerning, 225  
Hospital for neurasthenic men, 390  
Hospital for prisoners at Birmingham, 19  
Hospital, Royal Dental new trustees, 561  
Hospital, Royal Free (London School of Medicine for Women): Scholarships awarded, 177—Information concerning, 228  
Hospital, Royal Naval, Haslar, note on, 43  
Hospital, Royal Prince Alfred (Sydney), and military patients, 418  
Hospital, St. Bartholomew's: Information concerning, 226—Scholarships, 393  
Hospital, St. George's: Information concerning, 226—Roll of honour, 244  
Hospital, St. Mary's: Information concerning, 227  
Hospital, St. Thomas's: Information concerning, 227—Roll of honour, 244—Scholarships, 273  
Hospital, Scottish Women's: Elsie Inglis Unit the only field hospital attached to the Jugo-Slav Division in Macedonia, 393  
Hospital, Shakespeare (for disabled men), 418  
Hospital Ship Service and 1914 Star (parliamentary question), 67  
Hospital ship torpedoed (*Llandovery Castle*), 22, 294  
Hospital ships, enemy attacks on (parliamentary question), 42  
Hospital, Tyrone County: Report, 174  
Hospital, University College: Information concerning, 227  
Hospital, voluntary evolution of and its future (W. Thelwall Thomas), 547  
Hospital, Westminster: Future of, 164—Information concerning, 228

- Hospitals, auxiliary home, 71  
Hospitals, Bill, 533  
Hospitals, bombing of (parliamentary question), 120  
Hospitals, clinical, information concerning, 277  
Hospitals, infectious, value of, 195  
Hospitals, military, inspection of (leading article), 37  
Hospitals, voluntary, future of (leading article), 261  
Hospitals, voluntary, and the proposed Ministry of Health, 192, 468—Conference of the British Hospitals Association, 468  
HOTCH, C. H.: Drop foot appliance, 317  
Housing conditions in London, 448  
Housing and health (leading article), 410  
Housing question, Reconstruction Committee and, 22—Correspondence on, 450—Circular from President of Local Government Board, 620  
HOWARD, Captain Charles Reginald, killed in action, 388  
HOWARD, Robert, M.B.E. conferred upon, 417  
HOWE, Paul E. (and others): *Nutrition and Clinical Dietetics*, 316  
HOWELL, Major Frederick D. G., Legion d'Honneur conferred upon, 445  
HOWELLS, Surgeon-Lieutenant John Francis, dies on service, 612  
HUBER, Harry Lee, awarded the Ricketts Prize, 448  
HUPSON, Major Bernard: Case of subacute infective endocarditis, 512. (O)  
HUGHES, G. Martin: *Amputation Stumps: Their Care and After-treatment*, rev. 11  
HUGHES, Major Basil (and Captain H. Stanley BAMES): *War Surgery, from Firing Line to Base*, rev., 606  
HUGHES, Captain Basil, Serbian Order of St. Sava conferred upon, 331  
HUGHES, Captain Hugh Llewellyn Glyn, Military Cross conferred upon, 171  
HUGSTON, Major J., dies of wounds, 416  
HUGO, Lieut.-Col. James Henry, Legion of Honour conferred upon, 557  
HULL, Lieut.-Col.: *Surgery in War*, rev., 606  
HULTON, Captain W. A., lost in the *Llandovery Castle*, 43  
*Human Intestinal Protocols in the Near East*, rev., 378  
Humerus, reduction of dislocation of head of (Major W. H. Hosens), 112  
Humerus, triangle splint in treatment of compound fractures of (Major Philip Turner), 711. (O)  
HUMPHREY, Captain John Nelson, bar to Military Cross, 446  
HUNTER, Captain John Henderson, Military Cross conferred upon, 330  
HUNTER, Joseph, presentation to, 303  
HUNTER, Colonel William: New methods of disinfection for the prevention and arrest of lice-borne diseases, 198  
HUNTER, Major William Yeates, killed in action, 476  
HURFORD, Phelps G. (and George M. TUTTLE): *Diseases of Children*, rev., 347  
HURRY, Jameson P.: *Veterinary Diseases and the "Vicious Circle"*, rev., 516—Medical autographs, 531—Presents another historical picture to Reading Art Gallery, 674  
HURST, Major A. F. (and others): *Seale-Hayne Neurological Studies*, rev., 515—The bent back of soldiers, 621. (O)  
HUSBAND, J. C. R.: Splint for dislocation and fracture of the elbow, 659  
HUTCHESON, Captain Bellenden Seymour, Military Cross conferred upon, 640; V.C. conferred upon, 698  
HUTSON, Surgeon-Major John, M.B.E. conferred upon, 417  
HUTTABLE, Captain Arthur Edward, Military Cross conferred upon, 330  
HUTCKE, Captain Austin Harvey, bar to Military Cross, 329  
Hydrocele, abdominal or bilocular (Robert B. Coleman), 629  
Hydrogen ion concentration and "acidosis" (W. M. Baynes), 375. (O)  
Hygiene, pre-natal, the State and (Edward McConnell), 365. (O)  
Hygiene, social, Italian committee for promotion of after the war, 431  
HYMAN: Treatment of anthrax by normal ox serum, 611  
Hysteria, review of books on, 515  
Hysterical tremor (Major W. Johnson), 627. (O)

## I.

- Immobilization, the curse of (J. W. Dowden), 570. (O)—Correspondence on, 617, 642  
Imperial War Museum. *See* Museum  
Inaugural address, 274  
Income tax, 62, 126, 150, 208, 274, 454, 533, 674, 704, 732—Army medical workers and, 441  
Indexes, half-yearly, 17, 696



- INDIA:**  
 Billharziasis, 418  
 Influenza in Bombay, 41  
 Kala-azar in Assam, 418  
 Komau, Rao Sahib Dr. M. C., placed on special duty, 418  
 Pharmacology in, 634  
 R.A.M.C. officers in (parliamentary question), 498  
 Rat question, economies in, 415  
 Red Cross in India, 418  
 And the war, 612, 638
- Indian constitutional reforms** (leading article), 35  
**Indian Governments, medical advisers of**, 671, 750  
**Indian Institute of Science, Bangalore, report**, 723  
**Indian Medical Service, future of** (leading article), 13, 38—Note on, 16—Correspondence on, 72—Information concerning, 242—Additional administrative appointments, 272—Indian army pensions *etc.* Parliamentary questions, 474—Promotion, 702. See also *Army, Indian*  
**Indian Science Congress**, 674  
**Industrial fatigue, the study of**, 725  
**Infancy, early, meningitis in**, 41  
**Infants, wards for** (leading article), 471  
**Infections, antianaphylactic treatment of** (leading article), 25  
**Infections, spray chamber in prevention of**, 534  
**Infectious diseases and school children** (Sydney), 419  
**Infectious hospitals, value of**, 195. See also *Hospitals*  
**Influenza: Discussion at Royal Society of Medicine**, 574, 603  
**Influenza and anaphylaxis**, 530  
**Influenza, antistreptococcus serum in** (F. H. Riggsworth), 41  
**Influenza at a base hospital in France** (Lieut.-Col. C. J. Martin), 251, 40  
**Influenza, cause and prevention of** (W. Ford Robertson), 430, 40  
**Influenza, defluvium capillorum after** (Robert Gibson), 465—(John N. Beadles), 515  
**Influenza, drugs in**, 76  
**Influenza epidemic of 1918: Report on** (Surgeon Oliver H. Gotch and Captain Harold E. Whittingham), 82. (O)—Leading articles, 91, 439—In London, 99, 448; in Bombay, 418; in Glasgow, 447—In general practice (G. Holliday), 159—Report on by Influenza Committee of D.G.M.S. Advisory Board, 505 (O)—Clinical features of, 562—In a camp (Colonel C. Averill, Major G. Young, and Captain J. Griffiths), 111. (O)—Parliamentary questions, 526—Work of Medical Research Committee, 526—At Bramshott, September–October, 1918 (Lieut.-Col. C. E. Cooper Cole, with note by Colonel R. D. Russell), 525, 40—A filtrable virus as the cause of the early stage of the present epidemic (Major H. Graeme Gibson, Major F. B. Bowman, and Captain J. I. Connor), 645. (O)—Age incidence of (W. Gifford Nash), 686  
**Influenza, epidemiology of** (Captain Major Greenwood), 563. (O)—Sir Arthur Newsome, 574  
**Influenza, etiology of** (leading article), 43—Note on, 522, 665—Correspondence on, 701  
**Influenza, gout as a preventive of**, 620  
**Influenza, haemorrhage in** (John A. McConnochie), 515  
**Influenza, how to combat** (A. Josefson), 561  
**Influenza, immunity from**, 562  
**Influenza, incubation period of** (Peter MacDonald and J. C. Lyth), 488. (O)—Correspondence on, 644  
**Influenza in Ireland** (G. Peacocke), 717  
**Influenza in the lay press**, 534  
**Influenza mortality, French advice on prevention of**, 496  
**Influenza a notifiable disease in Philadelphia**, 533  
**Influenza pandemic**, 39, 439—Bacteriology of, 139  
**Influenza prevention, Local Government Board regulations**, 620  
**Influenza prevention in naval ambulance trains** (Surgeon Commander R. H. Jones), 573  
**Influenza prevention, Poplar supplies electrolytic disinfectants for**, 503  
**Influenza prevention and treatment, memorandum by Royal College of Surgeons**, 546  
**Influenza, public health measures in** (Norway), 694  
**Influenza, quinine in**, 592  
**Influenza, recent experience of**, 610  
**Influenza, large doses of salicin in** (E. B. Turner), 112—(Reginald Pollard), 465  
**Influenza, scarlatiniform rash in**, 504, 534  
**Influenza and the shortage of doctors**, 495  
**Influenza, spirits for**, 704  
**Influenza, suprarenal glands in** (Captain L. S. Winter), 629  
**Influenza, tender spot in lumbar region pathognomonic of**, 659  
**Influenza, toilet of the mouth in**, 731  
**Influenza, treatment of by opium**, 644  
**Influenza, vaccines for**, 470, 504, 533, 558, 631  
**Influenzal bronchitis and bronchopneumonia, camphor in** (P. L. Giuseppe), 716
- INGLIS, Elsie** Appeal for funds to establish a chair of medicine in Belgrade, 17, 424, 643  
**INMAN, Captain George Kingsley**, Military Cross conferred upon, 530  
**Insomnia, the nightmare for** (W. J. Burns Selkirk), 255  
**Inspection of military hospitals. See Hospitals**  
**Institution, Liverpool Medical: Opening of session 1917—Thelwall Thomas** Evolution of the voluntary hospital, 547, 557—Proposed annual oration in memory of the late Hugh Owen Thomas, 614—Papers read, 614
- INSURANCE, NATIONAL:**  
 Argyll County Insurance Committee and a Ministry of Health, 668  
 Burden of costly remedies, 20, 73, 101, 145, 200, 204  
 Cavitation fee and the Panel Conference, 450, 457  
 Central Pool, 359, 392, 421  
 County Wexford Local Medical Committee, 500  
 Galyi, 668  
 Insurance practice in rural districts, 205  
 Local Insurance Committee and a Ministry of Health, 503  
 Medical Benefit Regulations, 1918, 365  
 Mileage fee, 560  
 National Insurance in London, 298  
 Parliamentary questions, 498  
 Remuneration of rural practice, 390, 422, 450, 670  
 Sanatorium benefit in London, 668  
 And tuberculosis, 523, 558  
 Tuberculous persons, treatment of, 99  
 Vaccines for insurance patients, 94
- Insurance policy, Derry practitioners fix a scale of fees for medical examination of applicants**, 75  
**Insurance practice in rural districts**, 205  
**Inter-Allied Fellowship of Medicine**, 722  
**Inter-Allied food control**, 263. See also *Food*  
**Inter-Allied Scientific Food Commission and the fat problem**, 117  
**Intestinal infection with *Balantidium coli* in the Philippines** (Manlove), 404  
**Intestinal obstruction, case of** (J. W. Woodburne Morison and L. White), 513, 40  
**Intestinal obstruction, acute, due to strangulation through the great omentum** (J. K. Datta), 60  
**Intestinal obstruction due to *Ascaris***, 208  
**Intestinal obstruction and appendicitis** (John O'Connor), 73  
**Intestinal obstruction in Germany, steady increase of**, 22  
**Intravenous saline in black water fever** (Captain Adam Patrick), 404. (O)
- Ireland:**  
 Central Midwives Board, election of members, 122, 357  
 County Wexford Local Medical Committee, 500  
 Dispensary doctors' salaries, 615  
 Doctors for the army, immediate need of, 417  
 Marriage, birth, and death rates, 615  
 Poor Law medical officers in Ireland, remuneration of, 20, 121, 299, 357—Deputation to Local Government Board, 20—Letter from Local Government Board, 121  
 Travelling expenses of registrars of births, deaths, and marriages, 669  
 Tyrone County Hospital, 174
- IRELAND, General M. W., appointed Surgeon-General of the U.S. Army Medical Service**, 525  
**Irritable heart. See Heart**  
**IRVINE, Captain Austin Dwight**, Military Cross conferred upon, 45  
**IRVINE, Captain Charles Clouston**, bar to Military Cross, 446  
**IRVINE, Major Robert Charles**, dies on service, 613  
**IRVING, Lieut. Alfred**, killed in action, 614, 639  
**Ischaemic myositis. See Myositis**  
**ISAACSON: Endocrine origin of muscular dystrophy**, 412  
**Italian Association**, 472  
**Invalids, coals for**, 704
- ITALY:**  
 Bureau of Hygiene in Milan for gratuitous and voluntary antityphoid vaccination, 576  
 Committee appointed to report on watering places and thermal springs, 514  
 Committee for promotion of social hygiene after the war, 431  
 Dispatch from commander of British forces in, 475  
 Dispatch from the Earl of Cavan, 666  
 Hospital for tuberculous children to be founded in Rome, 303  
 Lectures on malingering and self-inflicted wounds at Milan, 207  
 Maximum price of drugs fixed, 514  
 Military medical establishments in, 202  
 New grade of medical officer with title of surgeon-major-general established in the navy, 561  
 Tuberculosis unit of American Red Cross, 479
- IVENS, Frances: Preventive and curative treatment of gas gangrene by mixed serums**, 425. (O)—Awarded Croix de Guerre with Palm, 698  
**IWANO, S.: Haemolysis caused by poison of Manchurian scorpion**, 363
- JACK, Captain William Boyd**, dies of wounds, 445  
**JACKMAN, C. Howard: Incubation period of influenza**, 644  
**JACKSON, Captain John L., Croix de Guerre conferred upon**, 557  
**JACKSON, Captain Thomas William**, Military Cross conferred upon, 172  
**JACOBI, Abraham**, accepts office of honorary president of Friends of American Democracy, 391  
**JACOBS, Captain R., killed in action**, 143  
**JACOBSON, Nicolaus** obstruction of the inferior vena cava, 695  
**JACOB, Captain Jacob**, reported killed in action, 266—A mistake, 297  
**JAFFE, Captain Joseph**, killed in action, 297  
**Jagger, Captain Thomas Ross**, Military Cross conferred upon, 640  
**JAKINS, Harley**, dies a prisoner of war, 416  
**JAMES, Captain George William Blomfield**, Military Cross conferred upon, 172  
**JAMES, Captain John**, reported killed in action, 498  
**JAMESON, Fleet Surgeon R. D., Legion of Honour conferred upon**, 269  
**JAMIESON, Lieut. L. F.**, dies on service, 69  
**JAMISON, Captain B.**, Some observations on six cases of ruptured spleen, 285. (O)  
**JANNEY: Endocrine origin of muscular dystrophy**, 412  
**JARDINE, Captain Edmund Basil**, bar to Military Cross, 329  
**JARVIS, Charles G.**, Legion of Honour conferred upon, 477  
**Jaundice, case of fatal** (Lieut.-Col. Rawdon, A. Veale, and Captain B. H. Wedd), 341. (O)  
**Jaundice, picric acid**, 92  
**Jaw, bone grafting in gunshot fractures of** (Captain William Billington, Arthur H. Parrott, and Harold Round), 679. (O)  
**JAY, Sir James** (the quack), 326, 534  
**JENNINGS, Lieut. Arthur R.**, Serbian Order of St. Sava conferred upon, 331  
**JEPSON, Captain Gordon Leigh**, Military Cross conferred upon, 45  
**Jerusalem, American Red Cross dispensary in**, 543  
**JEX-BLAKET, Major A. J. and Major W. James Wilson: Three fatal cases of *B. aertrycke* infection**, 310. (O)  
**JOE, Surgeon Alexander, D.S.C.** conferred upon, 417  
**JOHNS, Major Frederick Noel**, killed in action, 297  
**JOHNSON, Captain Arthur Morrell**, Military Cross conferred upon, 172  
**JOHNSON, Major W.**, Hysterical tremor, 627. (O)  
**JOHNSTON, Major Alexander**, obituary notice of, 362  
**JOHNSTON, J.**, receives long service silver medal of Order of St. John of Jerusalem, 177  
**JOHNSTON, Lance-Corporal Landal**, dies of wounds, 500  
**JOHNSTON, Captain Thomas J. W. A.**, Military Cross conferred upon, 269  
**Joints, penetrating wounds of, restoration of function after** (W. J. Foster), 315  
**JOLY, Henri L.**, France's share in biology and medical science, 523  
**JONES, Captain Evan Laurence**, reported killed in action, 498  
**JONES, H. Lewis: Medical Electricity**, rev., 36  
**JONES, Captain James Phillips**, Military Cross conferred upon, 45; bar to Military Cross, 144  
**JONES, Lieut. John Ynys Palfrey**, killed in action, 327  
**JONES, Surgeon Commander K. H.**, Prevention of influenza in naval ambulance trains, 573  
**JONES, Captain Kingsmill William**, killed in action, 170  
**JONES, Morris**, appointed J.P. for county of Denbigh, 126  
**JONES, Surgeon Lieut. Myrddin Emrys**, dies on service, 667  
**JONES, Sir Philip Sydney**, death of, 353—Obituary notice of, 619  
**JONES, Major-General Sir Robert**, elected Honorary Consulting Orthopaedic Surgeon to Liverpool Royal Infirmary, 526  
**JOSEPHSON, A.: Measures for combating influenza**, 561  
**JOSLIN, Elliott P.: Diabetic Manual for the Medical Use of Doctor and Patient**, rev., 257  
**JOSTÉ: Aviator's asthenia**, 663  
**JOUBERT, Captain Gideon J., Croix de Guerre conferred upon**, 269  
**Journal of an Army Surgeon** (Chas. Boufflower), 364



*Journal of General Physiology*, first number, 363  
**JONES**, Captain Andrew Monro, dies on service, 613  
**JULIAN**, Captain Frederick Bennett, Military Cross conferred upon, 45

## K.

Kala-azar in Assam, 418 (Ernest Muir), 545  
 Kashmir Medical Mission, report, 149  
**KATER**, N. W., Legion of Honour conferred upon, 447  
**KAUNTZ**, Captain William H., M.B.E. conferred upon, 586  
**KAZANTIAN**, Major Varaztad H., C.M.G. conferred upon, 500  
**KEANE**, Captain Edward Dawson, dies on service, 639  
**KEANE**, Captain Francis Esmond, Military Cross conferred upon, 172  
**KEEN**, W. W.: *Treatment of War Wounds*, rev., 516  
**KEIR**, Surgeon Commander William W., Legion of Honour conferred upon, 698  
**KEITH**, Arthur: Edinburgh University and anatomical nomenclature, 699  
**KEITH**, Captain George Elphinstone, dies on service, 697  
**KEITH**, Robert Donald: *Clinical Case taking: An Introduction to Elementary Clinical Medicine*, rev., 190—Obituary notice of, 422  
**KEITE**, Thomas Stotherd, killed in action, 201  
**KELLY**, Gunner Cecil Godfrey, killed in action, 555  
**KELLY**, Major Harold Beatty, bar to D.S.O., 121  
**KEMP**, Robert Coleman: *Diseases of the Stomach, Intestines, and Pancreas*, rev., 10  
**KENEFICK**, Captain Richard, Military Cross conferred upon, 172  
**KENNEDY**, Captain Ronald Sinclair, bar to Military Cross, 144  
**KENNEDY**, Major R. S., D.S.O. conferred upon, 297  
**KEOGH**, Sir Alfred, Serbian Order of the White Eagle conferred upon, 331—Elected an Honorary Fellow of the Royal Society of Medicine, 503, 585  
**KEOGH** Stephen, obituary notice of, 703  
 Kharsivan and neo kharsivan, curative effects of in diseases other than syphilis (G. Stoford-Taylor), 431 (O)  
 Khartoum, Gordon Memorial College, annual report, 703  
**KIDD**, H. Cameron: Scarlatiniform rash in influenza, 534  
**KIDD**, Percy: Harveian oration on the doctrine of consumption in Harvey's time and to-day, 455, (O)  
**KIMBALL**: Prevention of simple goitre, 326  
**KING**, Alex.: Typhus and vermin in the eighteenth century, 104  
**KING**, D. McDougal: *Battle with Tuberculosis, and How to Win It*, rev., 10  
**KING**, Truby: *The Natural Feeding of Infants*, rev., 288—*The Story of the Teeth*, rev., 288  
**KINGSBOTE**, Captain Ernest: Treatment of scabies, 274  
 King's Fund for Disabled Soldiers. *See* Fund and Soldier  
 King's letter to his troops, 201  
**KING**'s message, 583  
**KING-TURNER**, A. C.: Treatment of epilepsy by collosol palladium, 255, (O)  
**KINGZETT**, C. T.: *Chemistry for Beginners and School Boys*, rev., 257  
**KINSEY**, Lieut. Edward Digby, Military Cross conferred upon, 641  
**KIPPING**, F. S., Davy medal of Royal Society awarded to, 583  
**KIRK**, Captain E. W.: Collosol manganese in furunculosis and seborrhoea, 377—Curse of immobilization, 642  
**KIRK**, J.: Malaria and eye diseases, 110 (O)  
**KIRKLAND**, Captain Hugh Edward, killed in action, 475  
**KIRKLAND**, Captain James Towers, killed in action, 389  
**KIRKLAND**, Robert: Scarlatiniform rash in influenza, 504  
**KIRTON**, Lieut. Ralph Imray, dies on service, 639  
 Kite Fund. *See* Fund  
**KLING**: Serum treatment in scarlet fever, 93  
**KNAPP**, Arnold: *Medical Ophthalmology*, rev., 377  
**KNAPP**, Lieut.-Col. George H., D.S.O. conferred upon, 268  
 Knee-joint, gunshot wounds of (Captain H. H. Hepburn), 338, (O)  
 Knee-joint, restoration of function after penetrating gunshot wounds of (Major John Everidge and Colonel A. Fullerton), 182 (O)  
 Knee-joints, flexed, in below-the-knee stumps (Major W. A. Chapple), 543  
**KNIGHT**, C. F.: Action of sugar in pulmonary tuberculosis, 192  
**KNIGHT**, Captain Robert Halley, killed in action, 417

## L.

**KNIGHT**, Captain William John, bar to Military Cross, 97  
**KNOWLES**, Captain Benjamin, Military Cross conferred upon, 268  
**KOMAN**, Rao Sahib Dr. M. C., placed on special duty, 418  
**KORACH**: Gastro-intestinal diseases in German soldiers, 356  
**KYNASTON**, Lieut.-Col. John: Ministry of Health, 589

**LABAT**, André, awarded the Montyon prize, 333  
 Laboratories, clinical, in the U.S. Army, 331  
 Laboratory, central, established in France by American medical department, 394  
*Laboratory Methods of the U.S. Army*, rev., 575  
**Labour**, conditions of, course of instruction for improving in America, 363  
**Labour party** and the medical profession, 175, 203, 301, 558  
**Labourer** and his hire, 479  
 Labyrinth ablation of in a case with Ménière's symptoms (Courtenay Yorke), 429, (O)  
**LACHAPELLE**, E. P., obituary notice of, 591  
**LACY-HICKEY**, Captain William Joseph, Military Cross conferred upon, 556  
*La France*, first number, 438  
**LALANDE**, Lieut. R. H., dies at sea, 585  
**LAM**, P. W.: Rosacea successfully treated by mixed staphylococcus vaccine, 515  
**LAMB**, Captain Henry Taylor, Military Cross conferred upon, 356  
**LAMBERT**, Captain Alexander Chester, Military Cross conferred upon, 641  
**LAMBERT**, Lieut. C. J. N., killed in action, 354, 446  
**LAMBERT**, Gordon: Exercise blood pressure test of myocardial efficiency, 366, (O)—A correction, 424  
**LAMBERT**, James, obituary notice of, 303  
**LAMBIE**, Captain Charles George, Military Cross conferred upon, 330  
 Laminectomy for removal of shell fragments (Major Charles F. M. Saint), 282, (O)  
**LAMY**: Cardiac hypertrophy in aviators, 263  
 Lancaster, Royal Albert Institution, report, 587  
**LANE**, Midshipman J. D. A., lost at sea, 500  
**LANG**, W. D.: *Map showing the Known Distribution in England and Wales of the Anopheline Mosquitoes*, 63  
**LANGFORD**, Surgeon Lieutenant Commander Martyn Henry, dies on service, 728  
**LANGLEY**, J. N., elected foreign member of the Royal Academy dei Lincei, Rome, 47  
**LANDDALE**, Captain William Morris, killed in action, 327  
**LAPSLEY**, Captain James B., Military Cross conferred upon, 121  
*La Riforma Medica*, special Gaetano Rummo number, 503  
**LAROCHE**: Meningitis due to *B. pyocyaneus*, 134  
**LATAPIE**: Serum from goat immunized to bacillus of Pfeiffer, 546  
**LATHAM**, Arthur: Medical representation in Parliament, 420—Scottish University constituency, 672  
**LATRIE**, Lieut. Thomas Helm, killed in action, 170  
**LAWRENCE**, Captain George S., Military Cross conferred upon, 121  
**LAWSON**, Captain Joseph Illingworth, Military Cross conferred upon, 172  
**LAWSON**, Captain Robert, Military Cross conferred upon, 477  
**LAZARUS-BARLOW**, W. S.: Future of the medical profession, 174  
**LAZENBY**, Frederic Hamilton, obituary notice of, 590  
**LAZENBY**, Captain J. M.: Treatment of irritant gas poisoning, 342 (O)  
**LEA**, Donald H.: *Stand Down*, rev., 288

## Leading Articles:

A.M.S. and S.M.S., 579  
 Annual Meeting, 1918, 116  
 Anopheline mosquitoes in Great Britain, 63  
 Anti-anaphylactic treatment of infections, 323  
 Board of Control on early treatment of mental disorder, 607  
 Cult of the expert, 692  
 End crowns all, 550  
 Fat problem, 117  
 Fifth year, 137  
 Future of the medical profession, 348  
 Future of voluntary hospitals, 261  
 General Election, the coming, 193—Medicine in, 632  
 Great expectations, 348  
 Home-coming of the consumptive soldier, 607  
 Housing and health, 410  
 Indian constitutional reform, 38  
 Indian Medical Service, future of, 13

## Leading Articles (continued).

Influenza, pandemic of, 91, 439, 494—Etiology of, 494  
 Inspection of military hospitals, 37  
 Interdependence of the sympathetic and central nervous systems, 471  
 Malaria, control of, 261  
 Medical demobilization, 439, 661, 724  
 Medical literature and the progress of medicine, 165  
 Medicine in the General Election, 632  
 Medicine and industry, 724  
 Medicine and the State, 382  
 Medical visitors in Great Britain, 91  
 Meningococci carriers and meningitis, 382  
 Mental disorder, early treatment of, 322  
 Ministries of Health Bill, 550  
 National laboratory for the study of nutrition, 520  
 National service, physical census and its lesson, 349  
 "Nomenclature of diseases," the revised, 292  
 Organization of research, 291  
 Oxygen gas, therapeutics of, 521  
 Past and present, 633  
 Pernicious anaemia, treatment of, 63  
 Phthisis, epidemiology of, 349  
 Physiology and medicine, 579  
 Profession of medicine, 209  
 Representation, 691  
 Rickets, etiology of, 410  
 Shock and acidosis, 662  
 Symptoms of acute cerebellar injuries, 194  
 Tuberculosis, problems of, 166  
 War gas poisoning, 138  
 War injuries of peripheral nerves, 551  
 Wards for infants, 471  
 Work of the Council, 493

**League of Mercy**, Wanderers' Branch, 533  
**LEARY**: Treatment of anthrax by normal ox serum, 611  
**LEBAILLY**: Etiology of influenza, 665  
 Lebanon Hospital for Mental Diseases, Beyrout, appeal, 578  
 Lecture, Cavendish, future of the medical profession (Sir Bertrand Dawson), 23, (O)  
 Lectures, FitzPatrick: Early history of the Army Medical Service (Arnold Chapiro), 675, (O)  
**LEE**, Lieut. Charles John Nairne, killed in action, 446  
**LEE**, Captain John Gagen, Military Cross conferred upon, 330  
**LEE**, Captain Robert Ernest, reported drowned, 499  
**LEES**, Captain Francis Charles, Military Cross conferred upon, 330  
**LEES**, Captain Frederick William, bar to Military Cross, 97  
**LE FEVRE**, W. P.: Herpes zoster and varicella, 197  
**LEGGE**, Captain James Huntley, Military Cross conferred upon, 98; bar to Military Cross, 329  
 Legs, temporary peg (Major W. A. Chapple), 597, (O)—Correspondence on, 669, 704  
 Leicester, home of recovery for neuroasthenics, 119  
**LEIGH**, Captain Benjamin Hinton, dies on service, 445  
**LEIGH**, Lieut. Henry Godfrey Thomas, dies on service, 586  
**LEIPER**, R. T.: The "new" rabbit disease, 620  
**LELANE**, Lieut.-Col. P. S.: *Sanitation in War*, rev., 719  
**LE MESSURIER**, Major Frederick Neill, D.S.O. conferred upon, 556  
**LE MOIGNE**: Antityphoid lipovaccine, 41—(and A. SEZARY): Nouvelle méthode de vaccination antityphique, le lipovaccin T.A.B., rev., 288  
**LEONARD**, Captain Arthur Vincent, lost in the *Llandovery Castle*, 43, 70  
**LEONARD**, Major Thomas, M.D., D.S.O. conferred upon, 121  
**LERENDE**, E.: *Traitement du tabes (mélange myélique syphilitique postérieur)*, rev., 256  
**LESCHER**, Captain Frank Grabame, second bar to Military Cross, 328  
**LETTLE**, Maurice: Syphilitic peritonitis, 443  
 Leucocytes in blood clots and wound tissue, an "in vitro" method of demonstrating the "return immigration" of (Colonel O. J. Bond), 277, (O)  
 Leucocytes, number of, 104  
 Leukaemia, acute lymphatic, and enlarged thymus, 665  
**LEVADITI**: Streptococcus infection of wounds and reinfection, 686  
**LEVI**, Leopold: *Les Doses en Thérapeutique Thyroïdienne*, rev., 347  
**LEVINSON**, W. E.: Collosol manganese in furunculosis, 160  
**LEVIS**, Captain John Samuel, bar to Military Cross, 144  
**LEWIS**, Thomas: *Clinical Disorders of the Heart Beat*, rev., 378—Medical reports on soldiers discharged from the army for the conditions known as "D.A.H." and "V.D.H.," 647, (O)  
**LEWIS THOMAS**, J.: Crusade against tuberculosis, 589  
**LEWITT**, Surgeon B., killed in H.M.S. *Otranto*, 445



- LEBERMITTE, J. (and G. ROUSSY): *Les blessures de la moelle et de la queue de cheval*, rev., 465
- Lice in clothing, unreliability of sulphur for destruction of (A. Bacot), 464. (O)
- Lice with trench fever, association of rickettsia bodies in (J. A. Arkwright, A. Bacot, and F. Martin Duncan), 307. (O)
- Lice-borne diseases, new methods of disinfection for the prevention and arrest of (Colonel William Hunter), 198
- LIDDELL, Lewis Stephens Lyne, obituary notice of, 75
- Life table, biology of, a, 727
- LILFORD, Captain Algernon George Rowley, Military Cross conferred upon, 556
- LILLEY, Captain A. M.: Filariasis amongst Australian troops, 573
- LILLY, Captain George Austen, Military Cross conferred upon, 172
- Lima, antiquity of adjudication of medico-legal questions at, 381
- Limbless Men, Erskine Hospital for, 699
- Limbs, natural and artificial, weight of compared, 202
- LINDFMAN, Captain Sidney John Liddon, Military Cross conferred upon, 330
- LINDSAY, Captain David Paton, dies on service, 697
- LINDSAY, Captain George Edwin, bar to Military Cross, 329
- LINDSAY, James Alex.: Value of tuberculin in pulmonary tuberculosis, 20
- LINNEILL, A., elected chairman Northamptonshire Insurance Committee, 126
- LINNEILL, Captain John Wycliffe, Military Cross conferred upon, 330
- Lipovaccine, antityphoid, 41
- Liquid fire in warfare, 394
- Liquor control in Carlisle, 557
- Liquor cresol saponatus (Lysol, etc.), 424
- LISTER, Captain C. R., dies on service, 639
- LISTER, Lord, Life of (second edition), 88
- LISTER, Captain William Howard, killed in action, 201
- Lithotomy, endowment for, 334
- LITT, Captain John P., Greek Order of the Redeemer conferred upon, 447
- LITTLE, Muirhead: Orthopaedics and general surgery, 604
- LITTLE, Captain Neville Hull, dies of wounds, 555
- LITTLE, Captain Paul Macdonald, bar to Military Cross, 356
- Liverpool: Health of, 447—Medical Institution. See Institution—Medical Sunday, 448—Orthopaedic clinic at, 19
- Llandoverly Castle, loss of, 22, 42, 43, 294. See also Hospital ship
- LLOYD, Captain Vernon Edmund, Military Cross conferred upon, 330
- LLOYD, Captain Walter Henry, killed in action, 170
- "Local authority," Local Government Board order, 260
- LOCKHEAD, James, M.B.E. conferred upon, 417
- LOCKYER, Cuthbert: *Fibroids and Allied Tumours (Myoma and Adenomyoma): their Pathology, Clinical Features, and Surgical Treatment*, rev., 162
- Locomotor ataxy, review of books on, 256
- Lo Monaco, D.: Action of sugar in pulmonary tuberculosis, 191
- London: Annual Report of Medical Officer of Health, 99—Influenza in, 99, 448—Housing conditions of, 448
- London County Council. See Council
- London Hospital Gazette, 48
- London Insurance Committee: and a Ministry of Health, 503—and sanatorium benefit, 668—and supply of galyol, 668
- London Intercollegiate Scholarships Board results, 273
- London, National Insurance in, 298
- London Panel Committee: Vaccines for insurance patients, 94—Suggested new motor ambulance for B.E. Forces, 103—*Gazette*, 293
- London School of Clinical Medicine. See Hospital, Dreadnought
- London's medical sheriff, 178, 274
- LORENTZ, H. A.: Copley medal of the Royal Society awarded to, 583
- Lorraine abortion in, in the eighteenth century, 454
- LOUGHNANE, F. McG.: Local application of glucose, 574
- Louis XVI, lock of his hair disposed of by will of Dr. Vincent Wanostrocht, 690
- LOWELL, Captain Edward R., Légion d'Honneur conferred upon, 446
- Low, R. Bruce: *The Incidence of Small-pox throughout the World in Recent Years*, 262
- Low's Handbook to the Charities of London for 1918, rev., 631
- LUCAS, Colonel Thomas J. R., Japanese Order of the Sacred Treasure conferred upon, 447
- LUCAS CHAMPIONNIERE, Paul, obituary notice of, 362
- LUDOLF, Captain Henry Guy, Military Cross conferred upon, 172
- LUMSDEN, Captain William, Military Cross conferred upon, 356
- Lunacy, report of Board of Control, 607
- LUNDIE, R. A.: Immunity from influenza, 562
- LUNDIE, Captain R. C., killed in action, 500, 555
- LUSK, Graham: *Elements of the Science of Nutrition*, rev., 36
- LYLE, Captain Hayden Stratton, killed in action, 586
- Lymphæmia and whooping-cough (Robert Craik) 344—Correspondence on, 450, 500
- LYNCH, Captain James J., Military Cross conferred upon, 269
- LYON, Lieut.-Col. Alexander B., Croix de Guerre conferred upon, 557
- LYON, Captain Benjamin, Military Cross conferred upon, 477
- LYONS, Captain George Albert, Military Cross conferred upon, 330
- Lysol, formula for, 424
- LYSTER, Robert A.: Bacterial diagnosis of diphtheria, 592
- LYTH, J. C.: Future of the medical profession, 100—(and Peter MACDONALD): Incubation period of influenza, 488. (O)—Capitation fee and the Panel Conference, 588
- \*M.
- MCAPPE, Captain Duncan John, Military Cross conferred upon, 45
- MACALEVEY, Lieut. Gerald Esmond, Military Cross conferred upon, 556
- MACALISTER, J. Y. W.: Appreciation of N. C. Macnamara, 619
- MACAULAY, Lieut.-Col. Donald, O.B.E. conferred upon, 586
- MACAULAY, Lieut. James, killed in action, 586
- MACCALL, Lieut. Col. William, dies on service, 69
- MACCALL, Captain William Graeme Denroche, Military Cross conferred upon, 172; bar to Military Cross, 446
- MACCANN, F. J.: Tubal twin pregnancy, 10—"Study periods," 48—Treatment of the toxæmias of pregnancy, 145—Treatment of some common female ailments, 705. (O)
- McCARTER, Captain Frederick Buick, Military Cross conferred upon, 45; bar to Military Cross, 329
- McCARTHY, Captain William Hilgrove Leslie, bar to Military Cross, 329
- MACCAUSLAND, Captain Samuel, bar to Military Cross, 44
- McCaw, Hugh John, obituary notice of, 591
- MCULEAN, Captain G. D., Croix de Guerre conferred upon, 71
- MCCLINTOCK, Captain Lawson Tait, dies on service, 585
- MCCombe, Lieut.-Col. John (and Captain A. F. MENZIES): *Medical Service at the Front*, rev., 10
- MC'ONNIE, Captain William, Military Cross conferred upon, 331
- McCONAGHY, Major W., D.S.O. conferred upon, 297
- MC'CONNELL, Captain Albert Edward Peel, Italian Medal for Military Valour conferred upon, 641
- MC'CONNELL, Edward: The State and pre-natal hygiene, 365. (O)
- MC'CONNOCHIE, John A.: Haemorrhage in influenza, 515
- McCORMACK, Major Campbell McNeill, killed in action, 416; bar to Military Cross, 446
- McGOWAT, Captain William W., Croix de Guerre conferred upon, 269
- Mc'REIDIE, Captain Donald Walter, Military Cross conferred upon, 556
- Mc'REERY, Captain Mona J., dies on service, 500
- McCRUDEN: Endocrine origin of muscular dystrophy, 412
- MACCULLAGH, Sir Acheson, obituary notice of, 47
- McCulloch, Colonel Champe C., arrives in France, 529
- McCULLOUGH, Captain John Clark, Military Cross conferred upon, 556
- McCUTCHEON, Staff Surgeon James, promoted Fleet Surgeon for Zeebrugge operations, 97
- McDIEL, J. R.: *Lessons from the Enemy: How Germany cares for her War Disabled*, rev., 35
- McDONAGH, J. E. R.: Chemiotherapeutic treatment of gonorrhoea, 31. (O)
- MACDONALD, Peter: Future of the medical profession, 435, 558, 588—(and J. C. LYTH: Incubation period of influenza, 488. (O)—Medical Labour members, 558
- MACDONALD, Major R. St. J.: *Field Sanitation*, rev., 434
- MACDONALD, Lieut.-Col. Thomas Howard, lost in *Llandoverly Castle*, 43, 70
- MACDONALD, Lieut.-Col. W. M.: Tinel's sign in peripheral nerve lesions, 6 (O)—(and others): Purulent bronchitis complicating measles and rubella, 481. (O)
- MACDONELL, Major Winfred Smyth, dies on service, 613, 639
- MCENTIRE, Lieut.-Col. John Thomas, dies on service, 585
- MC'EWAN, Captain Peter: Légion d'Honneur conferred upon, 446
- MACFADYEN, Norman: Cerebro-spinal meningitis treated with autogenous vaccine, 433
- McFARLAND, Captain John B., Légion d'Honneur conferred upon, 446
- MACFARLANE, Captain James McLean, Military Cross conferred upon, 330
- MACFARLANE, Captain James Wallace, bar to Military Cross, 44; second bar to Military Cross, 144
- McGILLICUDDY, Major Richard Hugh, dies on service, 499
- McGILTYRAX, Captain George Mortimer, Military Cross conferred upon, 556
- McGLASHAN, Captain John Eric, Military Cross conferred upon, 356
- McGOWAN, J. P.: *Further Contribution to the Pathology and Epidemiology of Swine Fever*, rev., 11
- McGRATH, Captain Roger, Military Cross conferred upon, 172
- MACGREGOR, Lieut. Donald Hamilton, killed in action, 297
- McGREGOR, Lieut.-Col. John Robertson, O.B.E. conferred upon, 728
- McHATTIE, Alexander Campbell Nicholson, obituary notice of, 703
- MACHET, D. I.: Murder of Hamlet's father, 353
- MACLEATH, W. M.: Medical certificates and tribunals, 125—General practitioners and venereal disease, 269
- McINTOSH, J.: Pathology of gas gangrene, 655
- McINTYRE, Captain Donald, M.B.E. conferred upon, 586
- McKECHNE, Captain David William, D.S.O. conferred upon, 639
- McKECHNE, Captain Malcolm Archibald, dies of wounds, 201, 267—Military Cross conferred upon, 556
- McKEEL, Colonel S. Handford: Some aspects of military ophthalmology, 340. (O)
- McKELVEY, Captain Daniel, bar to Military Cross, 329; second bar to Military Cross, 446
- McKENDRICK, Alexander: Curse of immobility, 617
- MACKENZIE, Duncan J.: Neglected phimosis, 304
- MACKENZIE, Frederick Lumsden, obituary notice of, 673
- MACKENZIE, Sir James: *Symptoms and their Interpretation*, rev., 87
- MACKENZIE, Captain John Alexander, Military Cross conferred upon, 172
- MACKENZIE, Captain Kenneth William, D.S.O. conferred upon, 143
- McKENZIE, Lieut.-Col. Ronald P., C.M.G. conferred upon, 268
- McKENZIE, R. Tait: *Reclaiming the Maimed*, rev., 545
- MACKENZIE, William Colin: *Action of Muscles, including Muscle Rest and Muscle Re-education*, rev., 189
- MACRIE, Major Frederick P., O.B.E. conferred upon, 586
- MACKINNON, Annie, French Croix de Guerre conferred upon, 144
- MACKINNON, Captain James David, Military Cross conferred upon, 330
- MACKINTOSH, Captain G. D.: The orderly dog, 45
- MACKNIGHT, Surgeon Lieut. Dundas Simpson, lost at sea (H.M.S. *Britannia*), 585
- MACLACHLAN, Lieut. Donald William, killed in action, 268
- MACLACHLAN, Captain P. M., dies of wounds, 97
- MACLAGAN, Captain Philip Whiteside, Military Cross conferred upon, 641
- MACLAGGAN, Captain James Murray, killed in action, 475
- McLAY, Captain James Franklin, Military Cross conferred upon, 556—Croix de Guerre conferred upon, 614
- McLEAN, Captain Kenneth Arthur, Military Cross conferred upon, 172
- MACLENNAN, Aeneas Adam, dies of wounds, 268
- MACLEOD, J. J. R., appointed Professor of Physiology in the University of Toronto, 105
- MACLEOD, J. M. H.: *Burns and their Treatment*, rev., 545
- McLEOD, Lieut. W., dies at sea, 585
- MACMANUS, James T.: *Modern Methods in the Diagnosis and Treatment of Phthisis, with Special Reference to Tuberculosis*, rev., 257
- McMENAMIN, Captain Francis de Sales, Military Cross conferred upon, 354
- MACMULLEN, Surgeon Alfred Robinson, dies of wounds, 327
- MACMULLIN, Surgeon Alfred Robinson, bar to D.S.C., 500
- McMURTRIE, Captain Alexander Church Brodie, Military Cross conferred upon, 172
- McMURTRIE, Douglas C.: The beggar cripple, 101
- MACNALT, A. S.: Encephalitis lethargica, 490
- MACNAMARA, N. C., obituary notice of, 619
- MACNAUGHT, Lieut. William Wyllie, Military Cross conferred upon, 70
- MACNAUGHTON-JONES, H., estate of, 423
- McNEILL, Rev. Daniel, obituary notice of, 591
- MACNEILL, Captain James Grant, Military Cross conferred upon, 70; killed in action, 498
- McNICOL, Major John Hart, dies on service, 499



McCOSKER, J.: Influence of the hyaloid, 571  
 MacGILL, Sir Andrew: A wet night, 47  
 McKay, Captain Daniel Gair: Military Cross conferred upon, 79  
 McKeay, Captain Kenneth: Duncan Cameron, Military Cross conferred upon, 79  
 McTAVISH, Captain George: Road, bar to Military Cross, 49  
 McVea, Captain John: Military Cross conferred upon  
 MacVicker, Lieut. John Edward: Churchill, proposed killed in action, 58  
 Magee, Lieut. Eric William: Bristowe, killed in action, 328  
 MAGNAN, Dr.: Prize for best work on mental medicine, 127  
 MAGNUSON, Professor: Diphtheria, 115  
 MAGNUS, Sir Philip: Security of tenure of public health officers, 7  
 MAGRATH, Major Meyrick Myler, killed in action, 170  
 MAHER, Surgeon-General Sir James: Order of the Nile conferred upon, 557  
 MAITLAND-JONES, Captain Arthur Griffith: Military Cross conferred upon, 70  
 MAITLAND-THOMSON, Humphrey, dies on service, 528  
 MAJOR, R. H.: Enlarged thymus and acute lymphatic leukaemia, 68  
 Malaria, control of (leading article), 261  
 Malaria, complement deviation in cases of (Captain J. Gordon Thomson), 628. (O)  
 Malaria and diseases of the eye: J. Kirk, 119  
 Malaria in England (1917), 140  
 Malaria, infection of soluble dichlorine salts in (Sir Leonard Rogers), 10  
 Malaria, malignant, and heat-stroke, 479  
 Malaria, quinine prophylaxis in (G. Waugh Scott), 461. (O)  
 Malaria, review of books on, 631  
 MALCOLM, John D.: Two cases of valvitis caused by the accumulated secretion of Tyson's gland, 10  
 MALCOLM, Captain John Wright, bar to Military Cross, 329  
 MALDEN, Captain Walter, dies on service, 528  
 Malignant disease of the breast, value of a rays in treatment of (Claude Saberton), 367. (O)  
 Maligner's appearance of albuminuria produced by, 135  
 Malingering and self-inflicted wounds, lectures on at Milan, 207  
 MALLACE, Captain Alexander Cross, Military Cross conferred upon, 331  
 MALLAM, Captain Clifford Angus, dies of wounds, 555  
 MAMOURIAN, Mary: Part played by bone graft, 79. (O)  
 Man power, medical, in the United States, 323  
 Man power, venereal disease and waste of, 408  
 "Man value" of working class diets (Captain M. Greenwood and Cecil M. Thompson), 133. (O)  
 Manchester, medical meeting at, 698  
 Manganese a poison, 334, 364, 394  
 MANDFOLD, Colonel Courtenay C.: Croix de Guerre conferred upon, 71  
 MANLOVE, C. H.: Intestinal infection with *Bracon bracon* in the Philippines, 404  
 MANN, Captain Alan Cowan, Military Cross conferred upon, 172; bar to Military Cross, 336  
 MANSON, J. S.: Absorption of small intestine in an infant, with resulting volvulus, 432. (O)  
 MANUEL, Captain James, Military Cross conferred upon, 70; bar to Military Cross, 144  
 MARETT, Major Philip J.: Légion d'Honneur conferred upon, 446  
 MARINE, D.: Prevention of simple goitre, 326  
 MARKS, Lieut.-Col. Alexander H.: Croix de Guerre conferred upon, 557  
 Marriage, birth, and death rates (Ireland), 615  
 MARSH, Captain Edward Bertram, Military Cross conferred upon, 641  
 MARSHALL, Captain A. F., dies on service, 297  
 MARSHALL, Staff Surgeon Charles Devereux, dies on service, 354, 361, 423  
 MARSHALL, J. N.: Sporadic case of poliomyelitis, 8. (O)  
 MARSHALL, Lieut. John, Military Cross conferred upon, 70  
 MARTEL, M.: *Profilage et culture des plantes du croc*, 175  
 MARTIN Lieut. Arthur F.: Serbian Order of St Sava conferred upon, 331  
 MARTIN, Lieut.-Col. Claude B.: Serbian Order of St Sava conferred upon, 331  
 MARTIN, Lieut. Col. C. E.: Influenza at a base hospital in France, 281. (O)  
 MARTIN, Surgeon Lionel Arthur, accidentally killed, 201  
 MARTLAND, E. W.: Treatment of pneumonia, 465  
 MARTLAND, Miss, Croix de Guerre with Star conferred upon, 698  
 Mask, morphological, 12  
 MASON, Captain George Norman Minto, killed on service, 389  
 MASON, Howard H. (and others): *Nutrition and Clinical Dietetics*, rev., 136  
 MASSEY, Captain Thomas H.: Military Cross conferred upon, 121  
 MASSY-MILES, Captain Harry Godfrey, Military Cross conferred upon, 172

MATHEWAN, E. W. G.: Case of successful Caesarean section for eclampsia, 342. (O)  
 Maternity and Child Welfare Bill, 43  
 Maternity and child welfare: Edinburgh scheme, 11, 175—Parliamentary questions, 42, 43  
 Medical centre in London, 92  
 Cheshire Local Board and Panel Committee and 149  
 Social Child welfare and Pregnant women  
 Maternity hospital. See Hospital  
 MATTHISON, Arthur J.: Treatment of pneumonia, 562  
 MATTHEWS, Captain Robert D.: Légion d'Honneur conferred upon, 47  
 MATTHEWS, Captain Samuel Wauchope, dies on service, 639  
 MATTHEWS, Sidney: Future of the medical profession, 72, 122  
 MAUDSLAY, Dr.: *Chirurgie de guerre, chirurgie et chirurgie reconstructrice et orthopédique*, rev., 61  
 MAULE, Captain Geoffrey Lamb, dies on service, 639  
 MAURICE, Lieut. Francis Thomas, dies on service, 528  
 MAURICE, Colonel G. T. K.: A.M.S. and S.M.S., 616—A Vision of State Medical Service, rev., 658  
 MAURICE, Lieut. John Capel, killed in action, 476  
 MAY, Otto: Prevention of venereal diseases, 194  
 MAYNARD, Major George D.: O.B.E. conferred upon, 586  
 MEADE, Captain Charles Graham, Military Cross conferred upon, 355  
 MEADER, Captain Fred M.: Typhoid fever in inoculated soldiers, 604  
 MEARS, F. C.: The Central Pool, 359, 422—Future of the medical profession, 529  
 Measles and rubella complicated by purulent bronchitis (Lieut.-Col. W. M. Macdonald, Major T. R. Ritchie, Lieut. J. C. Fox, and P. Bruce White), 481. (O)  
 Measles, rubella, and scarlet fever, differential diagnosis of (Lieut.-Col. J. S. Warrack), 485. (O)  
 Meat from tuberculous animals, sterilization of, 203  
 Medical advice in Parliament, need for, 296, 379, 382. See also Parliament  
 Medical advisers of Indian Governments, 671, 734  
 Medical Annual, 1918, rev., 173  
 Medical appeal for regrading, 66, 75  
 Medical autographs, 531  
 Medical board, the travelling, 146  
 Medical candidates for Parliament, 611. See also Parliamentary  
 Medical certificates for insured men called up for examination (parliamentary question), 67  
 Medical certificates and tribunals, 100, 123  
 Medical Defence Union, election of officers, 480  
 Medical demobilization (leading article), 439, 661, 724—Note on, 521, 552—In France, 726—Correspondence on, 731  
 Medical Directory, 22; rev., 658  
 Medical education in England: Memorandum to the President of the Board of Education, by Sir George Newman (note on), 117—Note on by Sir Clifford Allbutt, 113—(Ernest H. Starling), 258—Correspondence on, 300  
 Medical education in the United States, 352  
 Medical education of women. See Medical schools and colleges and Medical students  
 Medical examination of school children. See School  
 Medical Faculties of Paris and Rome: The deans exchange congratulatory telegrams, 644  
 Medical Front Line Club. See Club  
 Medical grading (parliamentary question), 95  
 Medical Insurance Agency, 609  
 Medical Labour members, 558  
 Medical literature, British, in foreign countries, 618, 641  
 Medical literature and the progress of medicine (leading article), 165—Correspondence on, 271  
 Medical magistrates, 22, 103, 126, 303, 643, 732  
 Medical men, return of from the army (parliamentary question), 79  
 Medical Mission, Kashmir, report, 149  
 Medical missionaries, information concerning, 243—Correspondence on, 333  
 Medical officers of health to be supplied with number of deaths of infants under one year, 120  
 Medical officers prisoners in Turkey (parliamentary question), 95  
 Medical practice in British colonies and foreign countries, information concerning, 243  
 Medical practitioner as an asset to preventive medicine (Major A. H. Hogarth), 519  
 Medical practitioner sues for fees at Tottenham, 149  
 Medical profession, clinical organization of, from a general practitioner's point of view (M. G. Riggs), 26. (O)  
 Medical profession, future of (Sir Bertrand Dawson), 25, 36. (O) (M. G. Riggs), 25. (O)—Discussion, 59—Correspondence on, 72, 99, 122, 145, 174, 358, 392, 422, 501, 529, 550, 588, 671—(Lieut.-Col. A. Lloyd Jones), 85. (O)—(Sir

James Hall), 315. Leading article, 318  
 Meeting at Medical Society, 434—(Peter Macdonald), 435  
 Medical profession and the Labour party, 175, 203, 301  
 Medical profession and a Ministry of Health, 34. See also Health, Ministry  
 Medical profession in Old Flanders, 582  
 Medical representation in Parliament. See Parliament  
 MEDICAL RESEARCH COMMITTEE  
 Appointments, 581  
 Fourth annual report, 579, 581  
 German substitutes in war surgery, 442  
 Parliamentary questions, 554  
 Reactivity of the blood (Benjamin Moore), 251. (O)  
 Recent experience of influenza, 610  
 Report to on the amino-acid content of nutrient media (I. Walker Hall, A. Campbell, and I. Giles), 40  
 Report to on blood agglutination in meningococcal attacks (I. Walker Hall), 40  
 Report to on outbreak of cerebro-spinal fever in the navy at Portsmouth (Staff Surgeon Paul Fildes and Surgeon S. L. Baker), 382  
 Report to on the treatment of cerebro-spinal meningitis by antimeningococcus serum at the Royal Naval Hospital, Haslemere (Surgeon G. P. Adhead), 382  
 Report to on the epidemiology of phthisis (John Brownlee), 349  
 Report to on a ultra-virus as the cause of the early stage of the present epidemic of influenza (Major H. Graeme Gibson, Major F. B. Bowman, and Captain J. I. Connor), 645. (O)  
 Report to on gunshot wounds of the head (Captains W. J. Adie and W. W. Wagstaffe), 167  
 Report on the social and economic factors in the causation of rickets (Margaret Ferguson, Noel Paton, and Leonard Findlay), 410  
 Report on trench fever, 577  
 Report to on the laboratory diagnosis of venereal disease, 317  
 Medical Reserve of U.S. army, raising of status of commissioned officers in, 474  
 Medical school for Wales. See Wales  
 MEDICAL SCHOOLS AND COLLEGES:  
 Appointment under the Colonial Office, 242  
 Clinical hospitals in England, 257  
 Degrees for practitioners, 238  
 Dental surgery, 243  
 Indian Medical Service, 242  
 Information concerning the study of medicine, 205  
 Medical education of women, 234, 237  
 Medical missionaries, 243  
 New session opened, 385  
 Post-graduation study, 238  
 Prison medical service, 242  
 Psychological medicine, 241  
 Public health services, 241  
 Public services, 242  
 Royal Army Medical Corps, 242  
 Royal navy, 243  
 Scholarships, 225 et seq., 393  
 Tropical medicine, 240  
 Medical science, pure and applied, 325  
 Medical Service R.N. See Navy, Royal  
 Medical Service U.S.A. See United States  
 Medical session, the new, 385  
 Medical students, number of (parliamentary question), 67—Statement by General Medical Council, 118—Number in the Swiss universities, 453  
 Medical students, women, 234, 237, 300  
 Medical supervision of aviators, 66  
 MEDICAL AND SURGICAL APPLIANCES:  
 Amputation shield retractor, 11  
 Arthrometer, 62  
 Dental emergency outfit, 347  
 Drop-foot appliance, 317  
 Electric quilts, 347  
 Gabriel's improved steam sprayer, 690  
 Oxygen administration, 517  
 Salvarsan outfit, portable, 517  
 Splint for dislocation and fracture of the elbow, 659  
 Medical teaching in Paris, future of, 169  
 Medical visitors in Great Britain (leading article), 91  
 Medical week in Canada, 299  
 Medicinal and chemical preparations: Poly-valent influenza vaccine, 631  
 Medicinal oils and fats: war emergency investigations, 236  
 Medicinal plants, cultivation of, 333  
 Medicine, cheap, 529  
 Medicine in the General Election (leading article), 632  
 Medicine and Government, 16  
 Medicine and industry (leading article), 724  
 Medicine, Inter Allied Fellowship of, 722  
 Medicine, profession of (leading article), 209  
 Medicine, scientific, evolution of in the United States (Sir W. Osler), 149, 166  
 Medicine and the State (leading article), 382



- Medico-Legal. Coventry Case, Pratt and others v. British Medical Association and others 102, 123, 135, 161, 451, 472, 497, 502, 504, 531, 611
- Medico-Psychological Association. *See* Association
- MELVIN, Captain F. M. Gardner: Rank in the R.A.M.C., 422
- MILLER, JOHN, Deputy Inspector General John William Sinclair, obituary notice of, 591
- MELANOTI, Dr., recommended for a special decoration, 173
- MELVILLE, Colonel Harry George, dies on service, 697
- Meningitis due to *B. paratyphicus* (Abadie and Laroche), 134
- Meningitis in the newborn and in early infancy, 413
- Meningitis, septicaemic, case of (Lieut. John Dunbar), 187. (O)
- Meningitis, treatment of, 150, 208
- Meningitis. *See also* Fever, cerebro-spinal
- Meningococcal attacks, blood agglutinins in (J. Walker Hall), 681. (O)
- Meningococcal septicaemia, 295
- Meningococcal carriers and meningitis (leading article), 382
- Meningococcus carriers, nasopharyngeal conditions in (Captain F. J. Cleminson), 51. (O)
- Meningococcus anti-endotoxin, production of (Lieut. Col. M. H. Gordon), 335. (O)
- Meningococcus of Weichselbaum, 204, 269, 587, 617
- Mental disease, prize for best work on, 423—Review of books on, 605
- Mental disorder, early treatment of (leading article), 322, 607—Report on, 331—Correspondence on, 357, 391, 448, 550, 670—Report of Board of Control, 607
- Mental hygiene, Canadian National Committee for, 299
- Menthol, some uses of (F. P. Atkinson), 453
- MENZIES, Captain A. F. and Lieut.-Col. John McOMBER: *Medical Service at the Front*, rev., 10
- MENZIES, Lieut.-Col. Arthur John Alexander, killed in action, 201
- Mercantile marine uniform, 48, 333
- MERCER, Captain Walter: Curse of immobilization, 642
- Mercuric chloride injections for enlarged spleen (Groig and Ritchie), 304
- Mesopotamia dispatch, 266
- MESSINGER, Captain Henry Leslie, Military Cross conferred upon, 477
- METCALFE, Captain Frank, dies on service, 97
- METCALFE, Major James Beverley, D.S.O. conferred upon, 328
- Metropolitan Asylums Board, report, 332
- Mexico, National Medical Institute of, transformed into the Institute of General and Medical Biology, 112
- MEYER, Colonel C. H. L.: Heat-stroke and malignant malaria, 479
- MEYER, Leopold, obituary notice of, 363
- MEYER DE KOCK, Lieut. Col. Gervase, O.B.E. conferred upon, 728
- MIDDLEMISS, Lieut. J. E.: Treatment of war psycho-neuroses, 700
- MIDDLETON, Captain Harry, Military Cross conferred upon, 355
- Midwives Bill, 443, 498
- Midwives Board. *See* Board
- Milan: Bureau for gratuitous and voluntary antityphoid vaccination, 576
- Mileage fee, 569
- MILES, Captain Maurice William Holt, dies on service, 639
- Military hospitals. *See* Hospitals
- Military medical establishments in Italy, 202
- Military service, medical grading (parliamentary questions), 42—New definitions for the older men, 42—Medical appeal for regrading, 66
- Milk, dried, and the Local Government Board, 289
- Milk of greater purity, Food Controller and, 126, 197
- Milk, national control of, 265—Parliamentary questions), 554
- Milk substitutes, 21
- Milk supply, a clean (Sheridan Delépine), 715. (O)
- Milk supply: Third interim report by Committee, 696
- MILLAR, Captain William Linton, dies on service, 528
- MILLER, James, obituary notice of, 643
- MILLER, Captain William D. O.B.E. conferred upon, 586
- MILLIGAN, Captain E. T. C. (and Captain Fred. L. Napier): Blood transfusion and resuscitation, 603
- MILLIGAN, Wm.: Treatment of eclampsia, 454
- MILLS, Captain Arthur: Administration of anaesthetics to soldiers, 343. (O)
- MINGIE, Captain Walter James Ellis, Military Cross conferred upon, 477
- Ministry of Health. *See* Health
- Ministry of Pensions. *See* Pensions
- Mirrors, preparation for preventing condensation on, 273
- Missionaries, medical. *See* Medical
- MITCHELL, C. Ainsworth: *Edible Oils and Fats*, rev., 379
- MOFFATT, Captain George B., D.S.O. conferred upon, 288
- MOFFAT, Captain Alexander Dryden, Military Cross conferred upon, 355
- MOIR, Lieut. Douglas, dies of wounds, 170
- MOIR, Captain John Hay, bar to Military Cross, 144
- MOIR, Captain Percival John, Military Cross conferred upon, 268
- MOLESWORTH, Colonel William, C.B.E. conferred upon, 728
- Monsieur: Congresses to promote expansion of the original bath and watering places of the Allies, 103
- MONACO, L.O. *See* Lo
- Mons Star is officially the "1914 Star," 149
- MONTGOMERY, Captain James Allen, Military Cross conferred upon, 70
- Monty prize, 333
- MOON, R. O. (and others): Ten thousand recruits with doubtful heart conditions, 248. (O)—Some reflections on cardiac conditions in soldier, 599. (O)
- MOORE, Benjamin: The reactivity of the blood, 231. (O)
- MOORE, Captain Hamilton Stephen, Military Cross conferred upon, 172
- MOORE, Lieut. Harold Thomas Pelham, killed in action, 586
- MOORE, Lieut.-Col. Henry, proposed memorial to, 75
- MOORE, Captain Henry, D.S.O. conferred upon, 328
- MOORE, Lieut. Morgan Edward Jellett, dies of wounds, 614
- MOORE, Captain Reginald Devereux, Military Cross conferred upon, 98
- MOORHEAD, Surg.-Lieut.-Col. James, obituary notice of, 148
- MORHEAD, Captain Henry R., Military Cross conferred upon, 121
- MORELLI, Dr., obituary notice of, 703
- MORGAN, Colonel Claud K., Légion d'Honneur conferred upon, 202
- MORGAN, George Blacker, obituary notice of, 177
- MORGAN, Captain John Gilbert, Military Cross conferred upon, 98
- MORISON, J. M. Woodburn (and L. WHITE): Case of intestinal obstruction, 513. (O)
- MORPURGO: Meningococcal septicaemia, 295
- MORRIS, Captain George, Military Cross conferred upon, 70
- MORRIS, Sir Henry: Epsom College, 641
- MORRIS, Major John, killed in action, 527
- MORRIS, Sir Malcolm: Past and future of the crusade against tuberculosis, 539. (O)
- MORRIS, Lieut.-Col. W. A.: A.M.S. and S.M.S., 671
- MORSE, Captain Eric Victot, killed in action, 586
- MORTIS, Lieut. Eric John, presumed killed, 328
- MORTON, Captain Alick, killed in action, 327
- MORTON, Andrew Stanford, Order of the Crown of Italy conferred upon, 173, 202
- MOSCHCOWITZ, Dr. John Hall, Shakespeare's son-in-law, 196
- MOSES, Lieut. David Assur, Military Cross conferred upon, 70
- MOSHER, Lieut.-Col. Heber Havelock, killed in action, 327
- Mosquitoes, anopheline, in Great Britain (leading article), 63
- Mosquitos, vaseline as a protection against, 592
- MOSSE, Colonel William Oliver Matless, lost at sea (R.M.S. *Leinster*), 476
- MOSSMAN, Captain James Kilburn, Military Cross conferred upon, 641
- MOSSOP, Captain William Nicholson, dies of wounds, 328
- Mothers, expectant, in munition factories. *See* Munitions
- Motor cars, easy car starting in cold weather, 534, 562
- Motor cars, military, direct sale of, 620
- Motor driving and disabled soldiers, 732
- Motor head-lights, 642
- Motor licences, 48
- Motor notes for medical men (H. Massac Buist), 576, 720
- MOTT, Lieut.-Col. F. W.: Encephalitis lethargica, 488
- MOXON, Corporal Jack, dies of wounds, 97
- MUIR, Ernest: *Kala-azar*, rev., 545
- MULLIGAN, John Watson, obituary notice of, 393
- Municipal Waterworks Association. *See* Association, British Waterworks
- Munition factory, work of a department for employing expectant mothers in (Rhoda H. B. Adamson and H. Palmer-Jones), 309. (O)
- Munitions, Ministry of, releases some calcium carbide for public purposes, 126—Prohibits sale of radio-active substances, luminous bodies, and ores, 178
- MUNRO, Captain Stanley Andrew Wollaston, Military Cross conferred upon, 477; Croix de Guerre conferred upon, 614
- MUNROE, Captain Finlay, Military Cross conferred upon, 641
- Murder of Hamlet's father, 353
- Murderous assaults on doctors, 442
- MURDOCH, Captain William, bar to Military Cross, 640
- MURPHY, Captain M., reported drowned, 499
- MURPHY, Captain Michael, Military Cross conferred upon, 556
- MURPHY, Fleet Surgeon St. John Medical supervision of aviators, 66
- MURRAY, John: British medical literature in foreign countries, 641
- MURRAY, Captain Kenneth Arly Porterfield Rynd, Military Cross conferred upon, 356
- MURRAY, Major L. M.: The common factor in disordered action of the heart, 650. (O)
- MURSELL, Lieut.-Col. Henry Temple, O.B.E. conferred upon, 728
- MUSHENS, R. H.: Scheme for farm and industrial colonies for tuberculosis, 582
- Muscles, ciliary, variations in the activity of (Major G. F. Alexander), 571. (O)
- Muscles, stump, utilization of to articulate artificial limbs, 68. *See also* Vaughetti's operation
- Muscular dystrophy, endocrine origin of, 412
- Museum, Imperial War, 553
- MUSPRATT, Captain Terence Petty, dies of wounds, 170
- Myelitis in London, 99
- MYLES, Major Charles William Chester, dies on service, 499
- Myocardial efficiency, exercise blood pressure test of (Gordon Lambert), 366. (O)—A correction, 424
- Myositis, ischaemic (Sir James Purves Stewart), 151. (O)
- N.
- NAPIER, Captain Fred. L. (and Captain E. T. C. MILLIGAN): Blood transfusion and resuscitation, 603
- NASH, A. T.: Eight months' extrauterine pregnancy, 406
- NASH, Dr.: An old notebook, 334
- NASH, W. Gifford: Age incidence of the prevailing epidemic of influenza, 686
- Naso-pharyngeal conditions in meningococcus carriers (Captain F. J. Cleminson), 51. (O)
- NATHAN: Latent septicaemia, 442
- National League for Health, Maternity, and Child Welfare, leaflets on body vermin, 21
- National Service, Ministry of: A physical census and its lesson, 348—Parliamentary questions, 526
- National Union of Holloway Friendly Societies and a Ministry of Health, 332
- NATIONAL SERVICE, MINISTRY OF:  
Medical boards (parliamentary question), 17  
Medical boards, work of, 94  
Meeting in London, 98
- Naval ambulance train, 96
- Naval Medical Service (Arnold Chaplin), 677. (O)
- Navy, Royal: Information concerning the medical service of, 242—Changes in titles and uniforms of medical officers R.N., 440, 480, 504
- NEAL, James: Future of general practice, 467
- NEIL, Lieut.-Col. James H., Croix de Guerre conferred upon, 71
- NEILSON, Captain Andrew, Military Cross conferred upon, 477
- NEMIROWSKI: A surgical airplane, 561
- Neo-kharisivan and kharisivan, curative effects of, in diseases other than syphilis (G. Stopford Taylor), 431. (O)
- Neonatal life and death (J. W. Ballantyne), 32. (O)
- Nephrotomy combined with Caesarean section in the treatment of eclampsia with suppression of urine (Clifford White), 4. (O)—Correspondence on, 46
- Nerve disabilities, musculo-spiral (Colonel Astley V. Clarke and Captain N. I. Spriggs), 280. (O)
- Nerve injury, peripheral, one thousand consecutive cases (Captain J. Le Fleming Burrow and Lieut. H. S. Carter), 535. (O)—Leading article on, 551
- Nerve lesions, peripheral, Tinel's sign in (Lieut.-Col. W. M. Macdonald), 6. (O)
- Nerve stumps, painful (Edred M. Corner), 345
- Nervous disease, epidemic in Glasgow, 19
- Nervous disorders, functional, in the army treatment of, 73, 123
- Nervous symptoms, sympathetic and nervous, interdependence of (leading article), 471—(David Orr and Lieut.-Col. R. G. Rows), 657
- Nervous system, sympathetic, and the "irritable heart of soldiers" (Lieut. R. M. Wilson), 27. (O)
- Neurasthenia and tobacco, 732
- Neurasthenia, home of recovery for at Leicester, 119—Hospital for at Bray Court, Maidenhead, 390
- Neuroses, war, German experiences of, 695
- Neuroses, war, sinusoidal current (Sinus-strom) treatment of forbidden in German military hospitals, 363
- NEWHOLT, G. P.: The travelling medical board, 146
- Newborn, meningitis in, 413
- NEWELL, Percy: Aluminium acetate for burns, 424



NEWLAND, Major-General F. R., appointed Knight of Grace of the Order of St. John of Jerusalem, 643  
 NEWMAN, Sir George: Some notes on medical education in England, 113, 117  
 NEWSHOLME, Sir Arthur: Epidemiology of influenza, 573  
 NEWTON, Captain Edward, reported killed in action, 43; a correction (this should be Eric, not Edward), 170  
 NEWTON, Captain Eric, killed in action, 170. See also Captain Edward Newton, p. 43  
 NEWTON-DAVIS, Captain Charles, Military Cross conferred upon, 268  
 New York: Chapter of Hadassah forming a medical unit for Palestine, 22—Polyclinic hospital transferred to Columbia University, 740  
 New Zealand, acute poliomyelitis in, 264  
 NIAS, J. B.: *Dr. John Radcliffe: His Fellows and Foundations*, rev., 316  
 NICOLL, James H.: Femoral artery in war surgery, 569. (O)  
 NICHOLS, Captain Frederick Cecil, Military Cross conferred upon, 172  
 NICHOLSON, Miss, Croix de Guerre with Star conferred upon, 698  
 NICOLAI, Georg Friedrich: "Biology of war," 325  
 NICOLE: Etiology of influenza, 665  
 Nightcap for insomnia (W. J. Burns Selkirk), 255—Note on, 263  
 Nineteen fourteen Star (for Mons), 149  
 Nineteen fourteen Star and hospital ship service (parliamentary question), 67  
 NIMMET, Captain A. T. H.: Filariasis amongst Australian troops, 573  
 Nitrous oxide and oxygen in combination with ether or C.E. mixture for nose and throat operations (Captain H. Edmund G. Boyle), 684. (O)  
 NOGUCHI: Spirochaetes of the normal male urogenital tract, 65—Preservation of vaccine virus, 664  
 NOLF (and others): Bacillary dysentery on the Belgian front, 412  
*Nomenclature of Diseases*, new edition, 178—(Leading article), 292  
 NORMAN, Surgeon Vice-Admiral Sir William H., Legion of Honour conferred upon, 698  
 NORMAN-ROBINSON, W. A.: "Chronic diphtheria," 315  
 NORTHOTE, Lieut. James FitzGaulfrid, presumed killed, 18  
 NORTON, Lieut. Richard Legge, killed in action, 389  
 Norway: Public health measures in influenza, 694  
 Nose and throat operations, nitrous oxide and oxygen in combination with ether or C.E. mixture for (Captain H. Edmund G. Boyle), 684. (O)  
 Notebook, an old, 334

#### Notes, Letters, Answers, etc.:

A 1 and C 3, 424  
 Abortion in Lorraine in the eighteenth century, 454  
 Acidosis, 48  
 Acne rosacea, 454  
 Admiralty surgeons and agents, 534  
 Alcohol and glycerin, 644  
 Aluminium acetate for burns, strength of, 424  
 Ambulance work organization, 644, 674  
 Antivermin underclothing, 334  
 Application of solid paraffin, 644  
 Asthma and idiosyncrasy to horses, 304  
 Atropine poisoning in ophthalmic practice, 644  
 Auto-wheel to bicycle, 76, 178  
 Bacterial diagnosis of diphtheria, 592, 674  
 Belgian Doctors' and Pharmacists' Relief Fund, 150, 208, 364, 394, 454, 480, 504, 534, 562  
 Bell, J. H., fund to reimburse him for his legal expenses, 150, 178, 304, 394, 480, 644  
 Birth-rate, decline of, 178  
 Books for prisoners of war, 334  
*Butterworth's Medical Catalogue, 1918*, 454  
 Calomel for pruritus ani, 674  
 Carbolyzed oil iunction in scarlatina, 732  
 Cheloid, 274  
 Coal for invalids, 592, 704  
 Colloidal manganese in seborrhoeic eczema, 76  
 Collosol manganese and boils, 274  
 Corrections, 48, 178, 274, 424, 534  
 Coventry case, 504  
 Crepe paper bandages, 364  
 Cyclists: Device intended to replace trouser clips, 304  
 Diphtherial infection of wounds, 104  
 Drugs in influenza, 76  
 Easy car starting in cold weather, 534, 562  
 Eclampsia, treatment of, 454  
 Egyptian Public Health Commission, 454  
 Eighteenth century quack, 534  
 Epsom College, 104  
 Exercise blood pressure test of myocardial efficiency: a correction, 424  
 Facts for patriots, 533  
 Fees and prices in Germany, 364  
 Fund for the family of the late Dr. Kite, 364  
 Gestation, prolonged, 674  
 Goitre, in-crook ankle, and stunted growth, 208  
 Gout as a preventive of influenza, 620

#### Notes, Letters, Answers, etc. (contd.):

Haemorrhagic spirochaetal bronchitis, 620  
 Headache in gassed men, 76  
 Health resorts of the British Islands, 76  
 Heart in recruits, examination of, 48  
 Inaugural address, 274  
 Income tax, 126, 150, 208, 274, 454, 533, 674, 704, 732  
 Influenza, clinical features of the present epidemic, 562  
 Influenza, immunity from, 562  
 Influenza, incubation period of, 644  
 Influenza in the lay press, 534  
 Influenza, treatment of, 644  
 Intestinal obstruction due to ascaris, 208  
 Liquid fire in warfare, 394  
 Liquor cresol saponatus (lysol, etc.), 424  
 Lithotomy, an endowment for, 334  
 London's medical sheriff, 178  
 Manganese a poison, 334, 364, 394  
 "Medical Directory," 22  
 Medical Front Line Club, 644  
 Medical service, R.N., 480, 504  
 Medical Sickness and Accident Society, 48, 76, 104, 126, 150  
 Meningitis, treatment of, 150, 208  
 Military motor cars direct sale of, 620  
 Note-book, an old, 334  
 Obliteration of the superior vena cava, 364  
 Peg legs, temporary, 704  
 Phimosis, neglected, 304  
 Physical census and its lesson, 394  
 Pneumonia, increased intraspiral pressure in, 592  
 Pneumonia, present type of, 533  
 Pneumonia, treatment of, 504, 534, 562  
 Prophylactic influenza vaccine, 504  
 Quinine in bronchopneumonia, 704  
 Quinine and influenza, 592  
 Rectal injection in wound shock, 208  
 Scabies, treatment of, 274  
 Scarlatiniform rash in influenza, 504, 534  
 Scottish Poor Law medical officers, 274  
 Septicaemia due to mixed infection: a correction, 178  
 Sex ratio and sex determination, 562  
 Shrieval chain, 364  
 Soldiers' risks, 304  
 Spirits for influenza, 704  
 Spoon passed by bowel, 48  
 Spray chamber in the prevention of infection, 534  
 "Study periods," 48  
 Tobacco and neurasthenia, 732  
 Tubal twin pregnancy, 104  
 Typhus and vermin in the eighteenth century, 104  
 Urotropine, inquiry re, 424  
 V.A.D. medical officers, 424, 454, 504  
 Venereal diseases, prevention of, 104  
 White flour, 22  
 Winter quarters, 364  
 Wound stripes, 208  
 Wound treatment, 394  
 Yeates, Mr. Edward, case of, 274  
 Notifiable diseases, 1917, statistics, 15  
 Nurses, military honours to, 144  
 Nurses, State registration of, 75  
 Nursing certificates, examination for, 668  
 Nutrient media, amino-acid content of (I. Walker Hall, A. Campbell, and I. Hiles), 398. (O)  
 Nutrition, national laboratory for study of (leading article), 520  
 Nutrition officers for U.S. army, 529  
 Nutrition, problems of, 530  
 NUTTALL, Lieut. Eric J., killed in action, 18

#### O.

OAKLEY, Captain Arthur E., Military Cross conferred upon, 269  
 Obstetrics, review of books on, 315  
 O'CONOR, John: Intestinal obstruction and appendicitis, 573—Operating by the clock, 685. (O)  
 O'CONOR, Lieut. Ronald Ramsay, dies on service, 667  
 Ocular conditions affecting the efficiency of the aviator, 694  
 O'DONNELL, Captain Frederick Albert, dies of wounds, 170  
 O'DONNELL, Lieut.-General Thomas Joseph, K.C.I.E. conferred upon, 728  
 O'DONOGHUE, Rev. Geoffrey, discovers cartoon believed to be the original studies for Holbein's picture of Henry VIII and the Barber-Surgeons, 643  
 Officers commended for services, 45, 202, 269, 297, 417, 668  
 Officers repatriated. See Repatriated  
 Officers' University and Technical Training Committee, 126  
 O'FLYNN, Lieut. Michael Joseph, dies of wounds, 389  
 OGLIVIE, Captain Duncan Collingwood, Military Cross conferred upon, 355  
 OGLIVIE, George, obituary notice of, 702  
 OGLIVIE, Lieut. James Carter, Military Cross conferred upon, 355

O'ILVY-RAMSAY, Lieut. Max, dies of wounds, 201  
 O'GORMAN, Lieut.-Col. P. W., C.M.G. conferred upon, 297  
 Oils and fats, medicinal. See Medicinal  
 O'KEEFE, Captain William Robert, dies on service, 667  
 OLIVER, James: Goitre, in-crook ankle, and stunted growth, 208—Implantation of the newly fertilized ovum in the uterus, 655  
 O'MALLEY, Lieut.-Col. Coman Geoffrey, killed in action, 639  
 OPENSHAW, T. H.: Vanghetti's operation, 122  
 Operating by the clock (John O'Connor), 685. (O)  
 Ophthalmia neonatorum, notification in Scotland, 173  
 Ophthalmic practice, atropine poisoning in, 644  
 Ophthalmology, military, some aspects of (Colonel S. Hanford), 340. (O)  
 Ophthalmology, review of books on, 377  
 Opium in influenza, 644  
 OPPENHEIM: Method of treating scabies at Wilhelmina Hospital, Vienna, 207  
 OPPENHEIMER, Captain B. S. (and Lieut. M. A. Rothschild): The psychoneurotic factor in the "irritable heart" of soldiers, 29. (O)  
 ORAM, Captain Alger Roy, Military Cross conferred upon, 172  
 Orderly dog, 45  
 O'REILLY, Captain Patrick Joseph, killed in action, 498: bar to Military Cross, 640  
 O'REILLY, Lieut.-Col. Patrick Stanislaus, dies on service, 613  
 O'RIORDAN, Major Sydney Michael, Military Cross conferred upon, 641  
 ORLEBAR, Alexander: A.M.S. and S.M.S., 616  
 ORR, David (and R. G. Rows): Interdependence of the sympathetic and central nervous systems, 471, 657  
 Orthopaedic Society founded in France, 578  
 Orthopaedics: Clinic at Liverpool, 19—And general surgery (Muirhead Little), 604  
 Hospital, military, at Bangour, 19  
 ORTON, Major John, appointed J.P. for city of Coventry, 22  
 OSBORN, H. J., Darwin medal of Royal Society awarded to, 583  
 OSBURN, Major Arthur Carr, bar to D.S.O., 44  
 OSLER, Sir William: Evolution of scientific medicine in the United States, 149, 166—*A Way of Life*, rev., 465  
 O'SULLIVAN, Lieut. J. G., killed on service, 328  
 O'SULLIVAN, Lieut. T. G., killed in action, 268  
 Otosclerosis, review of books on, 256  
 Ovum in uterus, implantation of the newly fertilized (James Oliver), 655  
 OWENS, Lieut. Evan Edward, Military Cross conferred upon, 70  
 Oxford Ophthalmological Congress, annual meeting, 87  
 Oxygen administration apparatus (the Haldane), 517  
 Oxygen administration in irritant gas poisoning report on, 503  
 Oxygen gas. See Gas

#### P.

PACHANTONI, Demetrius, dies on service, 327  
 PAILTHORPE, Captain Duncan Westlake, bar to Military Cross, 329  
 Palestine, medical unit for, being formed by New York Chapter of Hadassah, 22  
 PALMER-JONES, H. (and Rhoda H. B. Adamson): Work of a department for employing expectant mothers in a munition factory, 309. (O)  
 PANTIN, Mabel: Life-history of *Ascaris lumbricoides*, 287  
 PANTON, P. N.: Encephalitis lethargica, 489  
 Paracentesis thoracis, aspirator for "J. M. Fortescue Brickdale", 286  
 Paraffin, soft, as a wound dressing (Major W. Haig), 188  
 Paraffin, solid, application of, 644  
 Paralysis, facial, simple splint for (Lieut.-Col. Chas. E. Dennis), 314; correspondence on, 359  
 Paraplegia, differential diagnosis between functional and organic (T. Williamson), 275. (O)  
 Paris: Future of medical teaching in, 169—Society of Biology institutes meetings of men of science in connexion with war questions, 432—Dean of Medical Faculty exchanges congratulatory telegram with Dean of Medical Faculty of Rome, 644  
 PARKER, Captain A. Allan, dies of wounds, 499  
 PARKER, Charles, obituary notice of, 21  
 PARKER, George: Milk substitutes, 21  
 PARKER, Rushton: Appreciation of James Lambert, 303—Function of the cardiac valves, 332  
 PARENSON, Captain George S., Croix de Guerre conferred upon, 557



**Parliament, Medical Notes in :**

Army medical establishments in France, 95.  
Artificial limbs for discharged service men, 474.  
Bombing of hospitals, 120.  
Criminal Law Amendment Bill, 120.  
Discharged men, 474.  
Discharged soldiers, 474.  
Education Bill, 42—Medical inspection and treatment, 42.  
Gratuities of temporary R.A.M.C. officers, 67.  
Honorary commissions for women doctors, 498.  
Hospital ship service and 1914 Star, 67.  
Hospital ships, enemy attacks on, 42.  
Indian Medical Service, 477.  
Influenza epidemic, work of the Medical Research Committee, 526.  
Insurance, 498.  
Maternity and Child Welfare Bill, 42, 67.  
Medical certificates for insured men called up for examination, 67.  
Medical examination of school children, 95.  
Medical grading, 95.  
Medical officers prisoners in Turkey, 95.  
Medical Research Committee, 554.  
Medical students, number of, 67.  
Medical treatment in elementary schools, 67.  
Midwives Bill, 443, 498.  
Military service, medical grading, 42—New definitions for the older men, 42.  
Milk supply, control of, 554.  
Ministries of Health Bill, 42, 67, 95, 554.  
National Service Medical Boards, 17—Ministry of, 526.  
Neurasthenic soldiers. *See* Soldiers.  
Nineteen-fourteen Star and hospital ship service, 67.  
Pay, allowances, and gratuities, R.A.M.C.(T.), 498.  
Pensions Bill, War, 474—Penalty for refusing to submit to treatment, 474.  
R.A.M.C. officers in India, 498.  
R.A.M.C.(T.) promotions, 498—Pay, allowances, and gratuities, 498.  
Rabies in Devon and Cornwall, 474.  
Rations for invalids, extra, 67.  
Regulation 40 D, 67, 474.  
Return of medical men from the army, 554.  
Soldiers, discharged, 474—Discharged tuberculous, 526.  
Soldiers, neurasthenic, 526.  
State and food supplies, 120.  
Tuberculous officers, 526.  
Women doctors in military employment, 554.

Parliament: Medical representation in, 236, 300, 379, 382, 408, 419, 448, 479, 581, 583, 611, 632, 636, 672, 691, 725—Correspondence on, 300, 419, 448, 479, 615, 672—Meeting of the profession, 379—Leaving article on, 382, 632, 691 N. Bishop Harman, 408—Medical candidates (names), 611—Medical men returned, 725.  
Parliament, service members of, Army Council instruction, 702.  
Parliamentary representation of universities. *See* Universities.  
PARROTT, Arthur H. (and others): Bone grafting in gunshot fractures of the jaw 679. (O).  
PARRIDGE, Captain Hugh Roser, killed in action, 170.  
Past and present (leading article) 633.  
Pathology, review of books on, 407.  
PATON, Noel: Etiology of rickets, 410 (and others): Observations on the cause of rickets, 625. (O).  
PATRICK, Captain Adam: Intravenous saline in blackwater fever, 304. (O).  
PATTON, Lieut. Idris Knox, dies on service, 667.  
PAUL, Frank T.: Operation for varicose veins, 359.  
Pay, allowances, and gratuities, R.A.M.C.(T.) (parliamentary question), 498.  
PEACOCKE, G.: Influenza in Ireland, 717.  
PEARCE, Captain John Lindsay, Military Cross conferred upon, 172.  
PEARSON, T. M.: Future of the medical profession, 175.  
PEARSON, Captain Allan Campbell, Military Cross conferred upon, 172.  
PEARSON, Surgeon Sub-lieutenant Eugene A., dies on service, 638.  
PEARSON, Major Morris G.: A bed and some appliances for gunshot wounds of femur and back, 186. (O).  
PEARSON, Captain Roland Wilfred, Military Cross conferred upon, 172.  
PEARSON, Captain William Reginald Guy, killed whilst diving, 97.  
PEDLOW, Captain William, killed in action, 528.  
PEDRAZZINI, F.: *Commozione cerebro-spinale*, rev., 115.  
PEEK, Captain John Harold, Order of the Crown of Italy conferred upon, 641.  
Pegs, temporary, for amputation of the lower limb (Major W. A. Chapple, 597 (O)—Correspondence on, 669, 704.  
Peking, new hospital opened in, 303.  
Penalties of rapid success (British advance from August 8th), 666.  
Pensions Bill, 474—Penalty for refusing to submit to treatment, 474.  
Pensions Ministry, hospital for pensioners at Birmingham, 19.

Peptone in treatment of asthma A. G. Auld, 479. (O).  
PERCIVAL, Captain Edgar, Croix de Guerre conferred upon, 614.  
Peripheral nerves. *See* Nerve.  
PERKINS, Captain George, Military Cross conferred upon, 355.  
Peritonitis, syphilitic, 443.  
PESEL, Captain Howard George, Military Cross conferred upon, 355.  
Pharmacology in India, 634.  
Pharmacology, review of books on, 575.  
Pharmacy and the future, 386.  
Philadelphia, influenza a notifiable disease in, 35.  
PHILIP, Lieut. Wilfred Paton, Military Cross conferred upon, 477.  
Philippine Island, intestinal infection with *Balantidium coli* not infrequent in (Man-love), 404.  
PHILLIPS, Elizabeth, receives unrestricted permission to wear the insignia of the Serbian Order of St. Sava, 269.  
PHILSON, Colonel Samuel Cowell, dies on service 615; C.I.E. conferred upon 728.  
Phimosis neglected, 504.  
Phthisis. *See* Tuberculosis.  
Physic, ancient (Lieut.-Col. E. M. Wilson), 424.  
Physical census and its lesson (leading article), 348—A correction, 344.  
Physical reeducation in America, 357.  
Physiology and medicine (leading article), 579.  
PIAZZA, V. C.: Albuminuria produced by mashing-gears, 395.  
PICKLES, Captain Harold Dobson, Military Cross conferred upon, 71.  
PICKUP, Surgeon-Lieutenant William Howard, dies on service 667.  
Picric acid jaundice, 92.  
PICTON, Lionel James: An attempt to breed tubercle-immune cattle, 157. (O).  
PINHEIS, Major Horace G., Portuguese Red Cross medal conferred upon, 557.  
PINKERTON, Captain John McLean, bar to M.C., 640.  
PITTS, Captain Arthur Thomas, D.S.O. conferred upon, 145.  
Plague in Suffolk, 14.  
PLANCK, Surgeon-General Charles, obituary notice of, 303.  
PLAYFORD, Lieut. Thomas Gordon, Military Cross conferred upon, 356.  
PLIMMER, R. H. A.: *Practical Organic and Bio-Chemistry*, rev. 378.  
Pneumonia, acute, with displacement of the heart to the side of the lesion, 189.  
Pneumonia, committee appointed to investigate nature, causes, and treatment of in United States military camps, 95.  
Pneumonia, increased intrapleural pressure in, 592.  
Pneumonia, lobar, complicated by pleurisy treated with polyvalent serum (A. Cowan Guthrie), 429. (O).  
Pneumonia, present type of, 533.  
Pneumonia, treatment of (Major D. Elliot Dickson), 427. (O), 562—(E. W. Martland), 464—Correspondence on, 504, 533, 534, 562.  
Pneumothorax, artificial (Cecil G. R. Goodwin and Frederic C. Coley), 405. (O).  
Pneumothorax, artificial, value of in the arrest and prevention of haemoptysis in pulmonary tuberculosis (Z. P. Fernandez), 55. (O).  
POCKLEY, Lieut. John Graham Antill, killed in action 18.  
POCOCK, Surgeon Frank Pearce, D.S.O. conferred upon, 97; dies of wounds, 416.  
Poisoning, atropine, in ophthalmic practice, 644.  
Poisoning, gas, 138. *See also* Gas.  
Poisoning, T.N.T., decrease in cases, 22.  
POLE, Arthur Douglas, killed in action, 354.  
POLICARD, A.: *L'Evolution de la Plaque de Guerre*, rev., 35.  
Polioencephalitis, sporadic case of (J. N. Marshall), 8. (O).  
Polymyositis, acute, in New Zealand, 264.  
POLLARD, Rev. Harold: Salicin in influenza, 465.  
POLLARD, Lieut. Wilfred Walter, dies on service, 70.  
Polynuclear cells, number of, 104.  
Polyvalent serum in treatment of lobar pneumonia (A. Cowan Guthrie), 428. (O).  
POOLE, Captain Leopold Thomas, D.S.O. conferred upon, 143.  
Poor Law authorities, transfer of functions of, 668.  
Poor Law Medical Officers' Association. *See* Association.  
Poor Law medical officers in Ireland, remuneration of, 20, 121, 299, 357—Deputation to Local Government Board, 29—Letter from Local Government Board, 121, 299.  
Poor Law medical officers, Scottish, 274.  
Poplar supplies free disinfectants as a preventive of influenza, 503.  
PORTER, Colonel Alexander, obituary notice of, 207.  
PORTER, Captain Alfred Stannage, Military Cross conferred upon, 38.  
PORTER, Charles: *The Future Citizen and His Mother*, rev., 545.  
PORTER, Wm. P.: Proposed Ministry of Health, 479.  
PORTEUS, S. D.: Detection of the feeble-minded, 634.

Post-graduate teaching and the University of London, 669; at Glasgow, 699. *See also* University.  
Post-graduation study, information concerning, 238.  
POTTER, Captain James, Military Cross conferred upon, 172.  
POWELL, Lieut. Col. John, bar to D.S.O., 121.  
POWERS, Captain Herbert Grendon, killed in action, 389, 528.  
POYNTON, F. J.: Nature and symptoms of cardiac infection in childhood, 1, 305. (O)—Recruits with doubtful heart conditions, 100.  
POZZI, Professor, street in Bergerac to be named after, 443.  
Pratt and others v. British Medical Association and others, 102, 123, 135, 161, 451, 472, 497, 502, 504, 531, 611.  
PRATT-JOHNSON, Captain John, Military Cross conferred upon, 268.  
Pregnancy, complicated. Discussion at Royal Society of Medicine, 687.  
Pregnancy, extrauterine, an eight months A.T.Nash 406.  
Pregnancy, prolonged, 674.  
Pregnancy, treatment in the toxæmias of (Gilbert I. Strachan), 108. (O)—Correspondence on, 149.  
Pregnancy, tubal twin (F. J. McCann), 10—Ma or Gordon Taylor, 104.  
Pregnant and parturient women, treatment of, and the prevention of maternal and infantile deaths J. W. Ballantyne, 32. (O). (Conyns Berkeley), 33. (O).  
Pregnant women in industrial work, 194.  
Pregnant women in munition factories, 309—*See also* Munitions.  
Prenatal hygiene, the State and (Edward McConnell), 365. (O).  
PREST, Edward L.: Value of tuberculin in pulmonary tuberculosis, 46—Discharged tuberculous soldiers, 617.  
PRICE, F. W. (and others): Ten thousand recruits with doubtful heart conditions, 248. (O).  
PRICE, Captain Owen Douglas, dies on service, 697.  
PRICHARD-EVANS, Lieut. Evan Lindsay, dies on service 388.  
PRIDHAM, Gunner Hugh Trevor, dies in hospital, 120.  
PRIDHAM, Captain John Alexander, Military Cross conferred upon, 71.  
PRIESTLEY, Major Percival Thomas, dies on service, 445.  
Primary suture, delayed, 526.  
PRINGLE, Captain John Millie, Military Cross conferred upon, 556.  
PRINGLE, Captain Robert N., Military Cross conferred upon, 268.  
Prison medical service, information concerning, 242.  
Prisoners, British and German doctors, 583.  
Prisoners repatriated, 586, 612.  
Prisoners in Turkey, medical officers as (parliamentary question), 95.  
Prisoners of war, books for, 334—The Hague agreement, 475.  
Prize for best work on mental disease, 423.  
PROCTOR, Major John, dies of wounds, 267, 297.  
PROCTOR-SIMS, T. R.: Quinine in broncho-pneumonia, 704.  
Profession, a dishonoured, 524.  
Profession of medicine. *See* Medicine.  
Professional Classes War Relief Council, 273.  
PROUD, Major John Dover, dies of wounds, 170.  
Pruritis ani, calomel in, 674.  
Psychiatry, review of books on, 689.  
Psychological medicine, information concerning the study of, 241.  
Psycho-neuroses, war, treatment of, 634—Correspondence on, 700. *See also* Shell shock.  
Psycho-neurotic factor in the "irritable heart" of soldiers (Captain B. S. Oppenheimer and Lieut. M. A. Rothschild), 29. (O).  
Psychopathic institute to be built in Winnipeg, 592.  
Public health in England and Wales, 1917-18, 497.  
Public health officers, security of tenure of, 615.  
Public health services, information concerning, 341.  
Public health services in England, 325.  
Public utility schemes, Local Government Board's circular re loans for, 703.  
Pulmonary fat embolism and its relation to traumatic shock (Captain George E. Sutton), 368. (O).  
Pulmonary spirochaetosis (Captain J. A. Thomson), 709. (O).  
Pupils, inequality of (T. Stewart Barrie), 514. (O).  
PURVES, Major R. B., D.S.O. conferred upon, 297.  
PURVES, Captain William James, Military Cross conferred upon, 172.  
PUSEY, W. A.: Anti-venereal measures in the American army, 534.  
PYL, Walter J. (editor): *Medical Ophthalmology*, rev., 377.  
Pyloric stenosis with accompanying spasmodic dysphagia (Captain E. B. Barton and Lieut.-Col. H. C. Dent), 514. (O).  
Pyorrhoea alveolaris treated by emetine (George P. Betchley), 188.







- Reviews of Books (continued)**  
 Surgery of the Abdomen, War (Major-General Cuthbert Wallace), 467  
 Surgery at a Casualty Clearing Station (Cuthbert Wallace and John Fraser), 71  
 Surgery, War: From Firing Line to Base (Major Basil Hughes and Captain H. Stanley Banks), 606  
 Surgery in War (Lieut.-Col. Alfred J. Hull), 606  
 Surgery of the War: Chirurgie de guerre, chirurgie d'urgence, chirurgie réparatrice et orthopédique (Dr. Maucclair), 61  
 Suspensory bandage, traitement des fractures (P. Desfosses and Charles Robert), 115  
 Swine Fever, Further Contribution to the Pathology and Epidemiology of (P. McGowan), 11  
 Symptoms and Their Interpretation (Sir James Mackenzie), 87  
 Teeth, the Story of the (Truby King), 288  
 Therapeutic Immunization: Theory and Practice (W. M. Crofton), 2  
 Thyroid Gland: Les doses en thérapeutique thyroïdienne (Léopold Lévy), 37  
 Training and Rewards of the Physician (R. C. Cabot), 689  
 Tuberculosis, Battle with, and how to win it (D. McDougal King), 10  
 Typhoid, "Sleep" (Sequel to Typhoid-Morphine Narcosis), 64  
 Venereal Diseases and the "Venereal Circle" (Jamieson B. Hurry), 516  
 Vision of State Medical Service (Colonel G. T. K. Maurice), 658  
 Voyage with a Convoy (Sir John Bland Sutton), 316  
 War Surgery of the Abdomen (Major-General Cuthbert Wallace), 407  
 War Surgery, See Surgery  
 War Wounds: L'Évolution de la Plaque de Guerre (A. Policard), 35  
 War Wounds of the Lung (Pierre Duval), 658  
 War Wounds, Treatment of (W. W. Keen), 516  
 Way of Life (Sir William Osler), 466  
 Wounds of the Spinal Cord: Les blessures de la moelle et de la queue de cheval (G. Roussy and J. Lhermitte), 465
- REV, Jules F.:** Easy car starting in cold weather, 74  
**REYNOLDS, Captain John Joseph,** Military Cross conferred upon, 641  
**Rheumatoid arthritis** (T. S. P. Strangeways), 503—(A. P. Beddard), 503  
**Rheumatoid arthritis, morbid anatomy and histology of** (T. S. P. Strangeways), 623 (O)  
**RHEV, Owen L.:** Work of a general disease clinic, 432 (O)  
**RICE-OLLEY, A. J.:** Future of the medical profession, 99; appointed J.P. for county of London, 103  
**RICHARDS, Captain William Kenneth Armstrong,** bar to M.C., 640  
**RIGHT, Captain,** missing, presumed killed, 354  
**Rickets, cause of** (D. Noël Paton, Leonard Findlay, and Alexander Watson), 625. (O)  
**Rickets, etiology of** (leading article), 410  
**RICKETS, Lieutenant James Stuart,** dies of wounds, 476  
**Ricketts prize,** 448  
**Rickettsia** lies in lice. See Lice  
**RIDDELL, Captain Daniel Falconer,** Military Cross conferred upon, 556  
**RIDDETT, Captain Stanley Alfred,** Military Cross conferred upon, 355  
**RING, Charles A. Eamonson,** obituary notice of, 581  
**Rio de Janeiro,** the exterminator of yellow fever from, 351  
**RITCHIE, Lieut. J. J. Austin,** killed in action, 446  
**RITCHIE, Major T. R. (and others):** Purulent bronchitis complicating measles and rubella, 481. (O)  
**RITCHIE, W. D.:** Injections of mercuric chloride for enlarged spleen, 304  
**ROBERTS, Frederick T.,** death of, 120; obituary notice of, 147; estate of, 423  
**ROBERTS, Captain L. E. W.,** dies of wounds, 399  
**ROBERTS, Morley:** Function of the cardiac vagus, 302, 501  
**ROBERTSON, Captain Angus Burns,** dies on service, 585  
**ROBERTSON, Robert,** obituary notice of, 103  
**ROBERTSON, T. Brailsford,** appointed professor of biochemistry in the University of Toronto, 103  
**ROBERTSON, Captain William,** Military Cross conferred upon, 71  
**ROBERTSON, W. Ford:** Influenza, its cause and prevention, 680. (O)  
**ROBINSON, Frederick W.:** Suggestions for treatment of septic wounds, 184. (O)  
**ROBINSON, G. C.:** Ventricular fibrillation with cardiac recovery, 196  
**ROBINSON, G. Drummond:** Foreign body in uterus, 687  
**ROBINSON, Major Henry Betham,** dies on service, 143; obituary notice of, 148; estate of, 423  
**ROBINSON Captain Henry Whitteron,** Military Cross conferred upon, 172
- ROBINSON, Lieut. John,** Military Cross conferred upon, 173  
**ROCH, Captain Charles,** bar to Military Cross, 144  
**Rockefeller foundation,** report of work done in 1917, 40  
**RODGER, Captain John,** Military Cross conferred upon, 355  
**ROGERS, Major James S. Y.,** Croix de Guerre conferred upon, 614  
**ROGERS, Lieut.-Col. Sir John Godfrey,** Order of the Nile conferred upon, 477  
**ROGERS, Sir Leonard:** Advantages of intramuscular injections of soluble cinchonine salt in severe malarial infections, 122. (O)  
**ROGERS, Captain Robert Carmichael,** dies of wounds, 172  
**Roman test of water hardness,** 413  
**Rome,** hospital for tuberculous children to be founded in, 303  
**ROOF, F. S.:** Spinal anaesthesia, 688  
**Rosacea** successfully treated by mixed staphylococcus vaccine (P. W. Lam), 515  
**ROSKAM (and others):** Bacillary dysentery on the Eastern Front, 41  
**ROSS, Captain A.,** reported killed in action, 475  
**ROSS, Colonel Arthur E.,** Croix de Guerre conferred upon, 71  
**ROSS, Captain Kenneth McAlpine,** killed in action, 416  
**ROSS, Major Stanley Graham,** D.S.O. conferred upon, 639  
**ROSS, S.:** Burden of costly remedies, 161  
**ROSS, Captain Thomas W. Pinchotson,** See Pinchotson, Captain T. S. Ross conferred upon, 511  
**ROST, Lieut.-Col. Ernest R.,** O.B.E. conferred upon, 586  
**R. (and others), Lieut. M. A. and Captain H. S. OPPENHEIMER:** Psychoneurotic factor in the "irritable heart" of soldiers, 29. (O)  
**ROUND, Cornwell:** Fireless cooking, 208  
**ROUND, Harold (and others):** Bone grafting in gunshot fractures of the jaw, 679. (O)  
**ROUS, G. and LHERMITTE, J.:** Les blessures de la moelle de la queue de cheval, rev., 103  
**ROUX, Emile,** resigns post of director of Pasteur Institute, Paris, 702  
**ROW, Major Charles M.,** Croix de Guerre conferred upon, 202  
**ROWE, Captain John,** Military Cross conferred upon, 355  
**ROWLAND, Lieut. John Walter Bruce,** killed in action, 586  
**ROWLAND, Lieut. Captain Lionel Matthew** Military Cross conferred upon, 71  
**ROWS, R. G. (and David ORR):** Interdependence of the sympathetic and central nervous systems, 471, 657  
**ROXBURGH, Surgeon A. C.:** Case of acute abdominal erythema, 150. (O)  
**Royal Air Force, See Air**  
**Royal Albert Institution, Lancaster,** report, 487  
**Royal Earlswood Institution,** report, 546  
**Royal Faculty of Physicians and Surgeons of Glasgow:** Information concerning the study of medicine, 222—Annual meeting, 589—Election of officers, 589  
**Royal Institution, lectures for 1919,** 703  
**Royal Medical Benevolent Fund. See Fund**  
**Royal Sanitary Institute:** Reduces its fees to discharged soldiers, 22—And a Ministry of Health, 503  
**RUBIN, H.:** Measles, and scarlet fever, differential diagnosis of (Lieut.-Col. J. S. Warrack), 486. (O)  
**RUDOLF, Colonel R. D. (and Lieut.-Col. C. E. Cooper COLE):** Influenza epidemic at Bramshot, September-October, 1918, 566. (O)  
**RUFER, Sir Marc Armand,** estate of, 479  
**RUMMO, Gastano,** special master of *La Riforma Medica* dedicated to, 503  
**RUSBY, Captain John Elvin,** bar to Military Cross, 329  
**RUSSELL, Charles:** Tetanus neonatorum, 60  
**RUSSELL, Captain Cedric,** Military Cross conferred upon, 71  
**RUSSELL, Captain Harold B. G.,** Croix de Guerre conferred upon, 557  
**RUTHERFORD, Major Thomas Carrie,** dies on service, 499  
**RUTHERFORD, Captain Robert,** Military Cross conferred upon, 71  
**RIVER, Captain Peter John,** Military Cross conferred upon, 172
- Salicin** in influenza, large doses of (E. B. Turner), 112—(Reginald Pollard), 465  
**Salvarsan injections** in amoebic dysentery, 71  
**Salvarsan outfit,** portable, 517  
**SAMPSON, Captain Basil,** Military Cross conferred upon, 355  
**SAMWAYS, D. W.:** Abuse of drainage tubes, 46—Administration of anaesthetics to soldiers, 478—Boot heels as a cause of flat-foot, 530, 703  
**Sanatorium benefit** in London, 668  
**Sanatorium life,** educational value of, 169  
**Sanatoriums for consumption** Newcastle upon-Tyne and Northumberland, report, 169—The Trudeau, 326  
**Sanatoriums, review of books on,** 10  
**SANDERS, Captain Thomas K.,** Military Cross conferred upon, 121  
**SANDERS, Brigadier-General Arthur Richard** Careless, killed in action, 389  
**SANDERS, Lieut. Reginald Horace,** killed on service, 328  
**SANDOE, Captain C. F.,** killed in action, 297  
**Sanitary Association. See Association**  
**SANKEY, E. H. O.:** Early treatment of mental disorder, 448  
**SANSON, Lieut. R. A. F.,** killed in action, 698  
**SARGENT, Surgeon Edward John,** dies on service, 43  
**SARRE, J. P. and Alfred E. WHITE:** *Encyclopédie de la Pratique de la Médecine de la Chirurgie*, rev., 317—Closure of cavities in bone, 656  
**SATRE, A.:** An endowment for lithotomy, 334—Abortion in Lorraine in the eighteenth century, 454  
**SAUNDY, Robert,** obituary notice of, 271—Bequests of books and his portrait, 643  
**SAVERY, H. Mearns:** The value of flavine, 283. (O)  
**Scabies, method of treating at Wilhelmina Hospital, Vienna (Oppenheim),** 207—Correspondence on, 274  
**SCALES, Captain Cuthbert,** Military Cross conferred upon, 172  
**Scarlatina,** carbolic oil inunction in, 732  
**Scarlatiniform rash** in influenza, 504, 534  
**Scarlet fever. See Fever**  
**SCHAFER, Sir Edward,** adopts the name of Sharpey before the surname of Schafer, 47  
**School children and infectious diseases** (Sydney), 419  
**School children, medical examination of** (parliamentary question), 95  
**School Medical Service,** report of medical officer, 659  
**Schools, elementary, medical treatment in** (parliamentary question), 67  
**Schools for mothers:** Board of Education regulations, 363  
**Schools, reformatory and industrial, Departmental Committee** appointed to consider conditions of service of officers, 95  
**Schools for tuberculous children,** 668  
**Scientific congresses, attendance of R.A.M.C. officers at,** 357  
**Scientific relations after the war, international,** French view of, 492  
**Scorpion (Manchurian),** poison of causes haemolysis (S. Iwano), 363  
**SCOTLAND, Lieut. D. Lothian,** dies of wounds, 500
- Scotland:**  
 After war work of the universities, 729  
 Bangour Military Orthopaedic Hospital, 19  
 Central Midwives Board for Scotland, 121, 699  
 Chelsea Hospital, Scottish, 418  
 Child welfare, 173  
 Crichton Royal Institution, 331  
 Edinburgh: Antivenereal action in, 173—Associate professors in, 729—Child welfare, 173—Fraser, Sir Thomas, resignation of, 447—Materia medica, therapeutics, and chemistry, 447—Ministry of Health, 173—November 11th celebrations, 587—Scottish Chelsea Hospital, 418—Status of lecturers and assistants in the university, 500  
 Erskine Hospital for Liable Men 699  
 Glasgow: Clinical course in venereal disease 332—Epidemic nervous disease in, 19—Influenza, 447—Number of medical students in, 587—Post-graduation instruction, 699—Shakespeare Hospital, opening of, 418  
 Incorporated Sanitary Association of Scotland, 298  
 James Murray's Royal Asylum, Perth: Report, 418  
 Meat from tuberculous animals, sterilization of, 203  
 Medico-Psychological Association, 121  
 Ministry of Health Bill, 173 668  
 Nursing certificates, examination for, 668  
 New register and pharmaceutical voting, 500  
 Ophthalmia neonatorum notification, 173  
 Post-graduation instruction at Glasgow 699  
 Scottish universities, admission to, 98  
 Scottish universities, representation of in Parliament, 331  
 Scottish University Conference, 98  
 Scottish University constituency, 203  
 Todd, the late Dr. Margaret, 299  
 Tuberculosis, institutional treatment of, 173  
 Venereal disease, clinical course, 332



- SCOTT, Major Estace L., O.B.E. conferred upon, 586
- SCOTT, G. Wagh: Quinine prophylaxis in malaria, 463. (O)
- SCOTT, (Captain James Alwin (Colville, second bar to Military Cross, 556
- SCOTT, Miss Jessie Anne, receives permission to wear insignia of Serbian Order of St. Sava, 356
- SCOTT, (Captain Ralph R., Military Cross conferred upon, 121
- SCOTT, Private William Howard, killed in action, 528
- Scottish Women's Hospital. *See* Hospital
- Scurvy, cause and prevention of. Statement of Royal Society Food (War) Committee, 606
- Seborrhoea, collosol manganese in (Captain E. W. Kirk), 377
- Seborrhoeic eruptions, etiology and treatment of (Captain H. W. Barber and Captain H. C. Semon), 245. (O)
- SECORD, Captain Wesley Herbert, Military Cross conferred upon, 71
- SECRETAN, W. Bernard: Future of the medical profession, 99
- SEGUIN, P. (and M. WEINBERG): *La gangrène gazeuse: Bactériologie, reproduction expérimentelle, sérothérapie*, rev., 115
- SELKIRE, W. J. Burns: The nightcap for insomnia, 255
- SELLERS, William, obituary notice of, 206
- SEMON, Captain H. C. (and Captain H. W. BARBER): Etiology and treatment of seborrhoeic eruptions, 245. (O)
- SEMPLE, Lieut.-Col. Sir David, resignation of, 393
- SIMPLE, Captain R. E. W., dies of wounds, 586
- Septic wounds. *See* Wounds
- Septicæmia, latent (de Gauléjac and Nathan), 442
- Septicæmia due to mixed infection (B. Henry Shaw), 133, 178—A correction, 178
- Septicæmia, meningococcal, 295
- Serum from goat immunized to bacillus of Pfeiffer (Latalap), 546
- Serum, ox. in treatment of anthrax, 611
- Service M.P.'s, Army Council instruction, 702
- Sex, determination of, 326, 358, 562
- Sex ratio and sex determination, 562
- SIZARY, A. (and E. LE MOIGNIC): *Nouvelle méthode de vaccination antityphique: le lipovaccin T.A.B.*, rev., 288
- SHANNON, Lieut. F. R., dies of wounds, 585
- SHARP, Captain Clive Justin Hicks, Military Cross conferred upon, 477
- SHAW, B. Henry: Septicæmia due to mixed infection, 133, 178 Early treatment of mental disorder, 391—Prophylactic influenza vaccine, 504
- SHAW, Sir Doyle Money, obituary notice of, 422
- SHAW, Captain John J. McI., Légion d'Honneur conferred upon, 446
- SHAW, Captain John Patrick, Military Cross conferred upon, 477
- SHAW, Captain Lawrence Drew, bar to D.S.O., 121
- SHAW, Walter Robert: A cause of drowning in swimmers, 196
- SHEEN, Colonel Alfred William, O.B.E. conferred upon, 728
- Shell fragments, laminectomy for removal of (Major Charles F. M. Sait), 282. (O)
- Shell shock: Scheme for employment of officers and men invalided for, 177—Instruction in, 260. *See also* Shock
- SHEPHERD, Lieut. Ernest Gordon, killed in action, 446
- SHEPPARD, Lieut. Charles Westcar, dies on service, 528
- SHERIDAN, Lieut. Charles J. G., killed on service, 297
- SHERIDAN, Lieut. John W., accidentally killed, 417
- SHIELD, Captain Hubert, Military Cross conferred upon, 172
- Shock and acidosis (leading article), 662
- Shock, traumatic, relation of pulmonary fat embolism to (Captain George E. Sutton), 368. (O)
- Shock, wound, discussion on cause of, 523. *See also* Psychoneuroses
- Shock, wound, rectal injection in, 208
- Shrieval chain, 364
- SIEGEL: Determination of sex, 326
- SILLAR, Captain R. A., dies on service, 69
- SILLS, Captain George Luther, lost in the *Llandovery Castle*, 43, 70
- SIMPSON, Colonel Robert Mills, D.S.O. conferred upon, 640
- SIMSON, Captain Colin C., Croix de Guerre conferred upon, 71
- SINCLAIR, Lieut. David William, dies of wounds, 555
- SINCLAIR, Captain William Ewing, Military Cross conferred upon, 71
- Skin, congenital defects of, 168
- Skin, sterilization by aniline dyes, 100
- SEPPER, Major Charles F., Légion d'Honneur conferred upon, 447
- Sleep, broken (Guthrie Rankin), 77. (O)—Correspondence on, 146
- Sleeping Sickness Commission, sixteenth report, 346
- SLINON, William H., obituary notice of, 75
- SLOGGETT, Sir Arthur, joins the board of Bovril Limited, 149
- SMALLEY, Captain Arthur Ashton, bar to Military Cross, 329
- Small-pox throughout the world in recent years, 262
- SMITH, Adam E.: *Studies in the Anatomy and Surgery of the Nose and Ear*, rev., 288
- SMITH, Captain Charles Henry Vernon, dies on service, 555
- SMITH, Captain Charles Nixon, bar to Military Cross, 329
- SMITH, E. J.: *Race Degeneration*, rev., 435
- SMITH, Major-General Sir Frederick: Army Veterinary Corps, 694
- SMITH, Captain James Martin, Military Cross conferred upon, 477
- SMITH, John, obituary notice of, 303
- SMITH, Captain S. Maynard, Croix de Guerre conferred upon, 557
- SMITH, Colonel S. Maynard: Treatment of the wounded in the aid post and field ambulances, 127. (O)
- SMITH, Sydney: *Infantile Paralysis in the Wellington Health District, New Zealand*, 264
- SMITH, Colonel W. R., elected Sheriff of City of London, 75—Presentation of shrieval chain to, 364
- SMITH, Captain William, Military Cross conferred upon, 172
- SMITH, Captain William, Military Cross conferred upon, 355
- SMITH, Captain W. Robson, dies on service, 639
- Smoking by boys in Berlin, 104
- Smoking and pulmonary tuberculosis, 65
- SMYLY, H. Jocelyn: Prophylactic face mask, 522
- SMYLY, Sir William: Accidental hæmorrhage, 630
- SMYTH, Lieut.-Col. Temple, D.S.O. conferred upon, 121
- SMYTH, W. Johnson: Apparatus to facilitate Thomas's suction treatment, 344—Gout as a preventive of influenza, 620
- Social study and training at the universities, 324
- Society, Belgian Surgical: First meeting since July, 1914, 684—Election of president, 684—Protest against German manifesto, 684
- Society, Irish Ophthalmological: Foundation of, 592; election of officers, 592
- Society Medical, of London:—Presidential address: The future of medicine (Major A. F. Voelcker), 434—T. S. P. Strangeways and A. P. Beddard: Rheumatoid arthritis, 503—Colonel E. Farquhar Buzzard: Lethargic encephalitis, 687
- Society, Medical Sickness and Accident, 48, 76, 104, 126, 150
- Society, Reading Pathological: Resolution re victory, 614
- SOCIETY, ROYAL, OF MEDICINE: Discussion on encephalitis lethargica, 488
- Discussion on influenza, 574, 603
- Discussion on spinal anaesthesia, 688
- Inter-Allied Fellowship of Medicine, 722
- Section of Anaesthetics*: George A. Buckmaster: Physiology of anaesthesia by chloroform, 345—Discussion on spinal anaesthesia, 688
- Section of Electrotherapeutics*:—Edred M. Corner: Pain and irritation in amputation stumps, 345
- Section of Epidemiology and State Medicine*:—Captain Fred. M. Meader: Typhoid fever in inoculated soldiers, 604—Lieut.-Col. E. W. Goodall: Enteric fever in Flanders in 1914-15, 717
- Section of Obstetrics and Gynaecology*: John Adams: Ante-natal and post-natal syphilis, 541; discussion, 544—Pamphlet on discussion on *Twilight Sleep*, 545—G. Drummond Robinson: Foreign body in gravid uterus, 687—Clifford White: Kidney removed during nephrotomy on two patients suffering from puerperal anuria, 688
- Section of Pathology*: Discussion on the pathology of gas gangrene, 655
- Sections of Electrotherapeutics, Clinical Medicine, and Surgery*:—Edmund Spriggs: Radiography of the appendix, 657
- Section of Surgery*:—Lieut.-Col. Percy Sargent: Closure of cavities in bone, 656
- Sections of Medicine, Epidemiology, and Pathology*:—Discussion on encephalitis lethargica, 488
- Society, Royal: Arranges a conference re the future of scientific work, 178—Election to Council, 561—Award of medals, 583
- Society, Royal Statistical: Biology of a life table (John Brownlee), 727
- Society, Royal Surgical Aid: Annual meeting, 673
- Society, Swedish Medical: How to combat influenza (A. Josefson), 561
- Society, West London Medico-Chirurgical: Opening meeting, 424—President's address: Ancient physic (Lieut.-Col. E. M. Wilson), 424
- Society, Zoological, of London: The "new" rabbit disease (R. T. Leiper), 620
- Soldiers, bent back of (Lieut.-Col. A. F. Hurst), 621. (O)
- Soldiers and sailors, disabled: King's fund for, 273—Care and training of in Birmingham, 298—Physical re-education in America, 357—Care of in Canada, 415—Shakespeare Hospital (Scotland) for, 418—Treatment of in Wales, 475—Parliamentary questions, 474—Reveille, 149, 635, 665—And motor driving, re-appointment of committee to consider, 732
- Soldiers and sailors, discharged (parliamentary questions), 474, 526—Artificial limbs for, 474
- Soldiers, discharged tuberculous (parliamentary question), 526—Leading article on, 607—Correspondence on, 617—Local Government Board circular, 693
- Soldiers, disposal of after nerve suture (Army Council instruction), 447
- Soldiers, neurasthenic (parliamentary question), 526
- Soldiers' risks, 304
- Soldiers, tuberculous, home-coming of (leading article), 607—Parliamentary question, 526
- Soldiers, unqualified treatment for (Army Council instruction), 71
- SOLTAC, Lieut.-Col. Alfred B., Croix de Guerre conferred upon, 557
- SOMERVILLE, Captain Thomas Victor, bar to Military Cross, 144
- SOMERVILLE, Lieut.-Col. W. F.: Broken sleep, 146
- SOUTHON, Major Charles E., O.B.E. conferred upon, 586
- Spain: Members of medical and pharmaceutical professions of Chamber of Deputies form a group to deal with public health questions, etc., 432—National Academy of Medicine distributes prizes, 518
- Spas, British, 385
- SPEARES, Captain: Influenza in Ireland, 717
- SPEIRS, H. M.: Sex ratio and sex determination, 552
- SPENCE, Captain Gilbert Chisholm Drever, killed in action, 476
- SPENSLEY, Captain Frank Oswald, dies of pneumonia, 499
- SPIERK, John L.: The capitation fee and the Panel Conference, 617
- Spinal anaesthesia. *See* Anaesthesia
- Spinal cord, wounds of, review of books on, 465
- Spirits for influenza, 704
- Spirochaetes of the normal male urogenital tract, 65
- Spirochaetosis, pulmonary (Captain J. A. Thomson), 709. (O) *See also* Bronchitis, hæmorrhagic spirochaetal
- Spleen, enlarged, intravenous injections of mercuric chloride for (Greig and Ritchie), 304
- Spleen, ruptured, six cases of (Captain B. Jamison), 285. (O)
- Splint for dislocation and fracture of elbow, 659
- Splint for facial paralysis (Lieut.-Col. Chas. E. Dennis), 314
- Splint for fractured shaft of femur (H. E. Griffiths), 374. (O)
- Splint triangle, in treatment of compound fractures of humerus (Major P. Turner), 711. (O)
- Spolia opima (Sir John Bland-Sutton), 593. (O)
- Spoon passed by bowel, 48
- Spray chamber in prevention of infection, 534
- Sprayer, Gabriel's improved steam, 690
- SPRIGGS, Edmund: *Treat and How to Save It*, rev., 316—Radiography of the appendix, 657
- SPRIGGS, Captain N. I. (and Colonel Astley V. CLARKE): Musculo-spiral nerve disabilities, 280. (O)
- SPURGEON, Captain Herbert George Flaxman, dies on service, 613
- STACY, Major Valentine O., Croix de Guerre conferred upon, 557
- STANLEY, Captain George Wheldale, Military Cross conferred upon, 355
- STANLEY, Captain J. A., reported killed in action, 475
- STANSFELD, Alfred Ellington, obituary notice of, 675
- STANSFELD, Captain Rex, Military Cross conferred upon, 268
- STARR, A. Campbell: Acidosis, 700
- STARKEY, William, obituary notice of, 532
- STARLING, Ernest H.: Significance of fats in the diet, 105. (O)—Medical education in England, 258
- STARLING, Lieut. H. J.: Subacute bacterial endocarditis, 154. (O)
- State and prenatal hygiene (Edward McConnell), 365. (O)
- Status epilepticus, case of (A. Lloyd Davies), 406
- Status lymphaticus, some aspects of, 352
- STAVELEY, Major Miles, dies of wounds, 446
- STEEDMAN, J. F.: Treatment of ankylosis of elbow-joint, 433
- Steam sprayer, Gabriel's improved, 690
- STEEL, Captain J., killed in action, 354
- STEEL, Captain James, Military Cross conferred upon, 355
- STER, Sergeant P. (and Major W. James WILSON): Isolation and cultivation of anaerobic bacteria, 568. (O)



Stenosis of pylorus, with accompanying spasmodic dysphagia (Captain E. B. Barton and Lieut.-Col. H. H. C. Dent), 514 (O).

STEPHEN, Lieut. James Eliot, killed in action, 555.

STEPHENSON, Captain George Edward, Military Cross conferred upon, 355.

STEPHENSON, Captain H. M.: Administration of chloroform in the firing line, 629.

STEPHENSON, Captain John, bar to Military Cross, 144.

Sterilization of skin. See Skin.

STEVENS, Captain Frederick F. A., killed in action, 446.

STEVENS, Captain John, Military Cross conferred upon, 355.

STEWART, F. J.: Some points concerning the operation for varicose veins, 286 (O).

STEWART, Captain Frederick Naylor, D.S.O. conferred upon, 143.

STEWART, Captain James Lennox, D.S.O. conferred upon, 143.

STEWART, Sir James Purves: Ischaemic myositis, 151 (O).

STIDSON, Major Charles Algernon, D.S.O. conferred upon, 44.

STIELL, Captain Gavin, Military Cross conferred upon, 555.

STODOL, Serum for gas gangrene, 287.

STOKES, Captain Adrian, Belgian Ordre de la Couronne conferred upon, 121.

STOKES, Captain Dennis Jeffcott, Military Cross conferred upon, 556—Croix de Guerre conferred upon, 614.

Stokes-Griffith amputation, modification of (Major W. A. Chaplin), 158 (O).

Stomach diseases, review of books on, 10.

STOPFORD-TAYLOR, G.: Curative effects of kharshvan and neo-kharshvan in diseases other than syphilis, 431 (O).

STOREY, Captain Thomas Copeland, Military Cross conferred upon, 172.

STORMONT, J. Henry: Remuneration of rural practice under the Insurance Act, 670.

STOWERS, Lieut. Raymond, Military Cross conferred upon, 356.

STRACHAN, Gilbert F.: Treatment in the toxæmia of pregnancy, 108 (O).

STRACHAN, Robert, M.B.E. conferred upon, 417.

STRAHAN, Surgeon George E., D.S.C. conferred upon, 331.

STRANGEWAYS, T. S. P.: Rheumatoid arthritis, 505—Morbid anatomy and histology of rheumatoid arthritis, 625 (O).

STRATON, Lieut. Col. Charles H.: Serbian Order of the White Eagle conferred upon, 331; corrected to Order of St. Sava, 477.

STRINGER, Captain Charles Herbert, D.S.O. conferred upon, 143.

STRUTHERS, Major John W., Serbian Order of St. Sava conferred upon, 331.

Students and khaki, 76.

Study periods, 48.

STRUBROCK, Lieut.-Col. William Malcolm, dies on service, 613.

Suffolk, plague in, 14.

Sugar, action of in pulmonary tuberculosis (D. lo Monaco), 191.

Sulphur for destruction of lice in clothing, unreliability of (A. Bacot), 464 (O).

SUMMERHAYES, Captain J. A., killed in action, 354.

Surgery, review of works on, 407.

Surgical Mission in America, The Allied, 525.

Surgical physiology of the foot, 391.

Suspension cords, simple grip for adjusting (Herbert E. Durham), 377.

SUTCLIFFE, Captain William Henry, Military Cross conferred upon, 556.

SUTHERLAND, A. W. M.: Suggestion for a new shape of rubber drain, 345.

SUTTON, Captain George E.: Pulmonary fat embolism and its relation to traumatic shock, 368 (O).

SUTTON, Lieut. Vivian Charles W., killed in action, 354.

Suture, delayed primary, 526.

SVENSSON, Captain Robert, Military Cross conferred upon, 355; Croix de Guerre conferred upon, 614.

SWIFT, Captain Brian Herbert, Military Cross conferred upon, 71.

Swimmers, cause of drowning in, 196.

Swine fever, review of books on, 11.

Switzerland, number of medical students in the universities of, 453.

Sydney: Infectious diseases and school children, 419. Red Cross Society, 418—Royal Prince Alfred Hospital and military patients, 418.

SYKES, Major Harold Widdington, dies on service, 639.

SYMMERS, D.: Some aspects of the status lymphaticus, 352.

Sympathetic nervous system and the "irritable heart of soldiers" (Lieut. R. M. Wilson), 27 (O).

Symptoms, review of books on, 87.

Syphilis, abortive treatment of, 635.

Syphilis, ante-natal and post-natal (John Adams), 541 (O).—Discussion on, 544—Note on, 553—Demonstration at the London Hospital, 723.

Syphilis, secondary, and Raynaud's disease, 386.

Syphilitic peritonitis, 443.

TALMA, Safe, obituary notice of, 591.

Tartar emetic. See Antimonium tartaratum.

TASSIE, Major Leslie Gemmel, D.S.O. conferred upon, 328.

TATE, Colonel Gerrard William, C.M.G. conferred upon, 121.

TAWSE, H. Bell: Appreciation of W. Morley Willis, 177.

TAYLOR, C. Barrie: Medicine in Parliament, medical reconstruction, 449.

TAYLOR, Lieut. Douglas, dies on service, 389.

TAYLOR, Sir Frederick, appointed to Officers' Pensions Appeal Tribunal, 22.

TAYLOR, Captain George Pritchard, bar to D.S.O., 556.

TAYLOR, Major Gordon: Double rupture of urethra due to gunshot injury, 9.

TAYLOR, Captain Raymond Brewitt, Military Cross conferred upon, 172; dies of wounds, 327.

TAYLOR, Captain Robert, Military Cross conferred upon, 355.

TAYLOR, Captain William, Military Cross conferred upon, 355.

TEGGART, Captain John Cameron Thompson, killed in action, 143.

Temperature reduction by local ice-bags (Captain M. G. Dobbyn), 87.

Tendons, method of overcoming the adherence of, after suturing (P. C. Collingwood Fenwick), 542 (O).

TENNENT, Major Bernard Charles, killed in action, 266.

TENNES, Lieut. Hugh, killed whilst flying, 268.

Tetanus following subcutaneous injection of gelatin (F. Parkes Weber), 189.

Tetanus in home military hospitals, 415.

Tetanus neonatorum (Charles Russ), 60.

Thermometers, standard clinical, 451.

THOMAS, Francis Gerald, killed on duty, 18.

THOMAS, J. Lynn: Vanghetti's operation, 122.

THOMAS, Captain John Oscar, Military Cross conferred upon, 98.

THOMAS, Lieut. W. P. C., Military Cross conferred upon, 356.

THOMAS, W. Thelwall: Evolution of the voluntary hospital and its future, 547.

Thomas's suction treatment, apparatus to facilitate (W. Johnson Smyth), 544.

THOMPSON, Cecily M. (and Captain M. Greenwood): "Man value" of working-class diets, 133 (O).

THOMPSON, D'Arcy: Commercial importance of the herring, 94.

THOMPSON, Sir W. Henry, obituary notice of, 451.

THOMSEN, Oluf: Febris volynica, 65.

THOMSON, Captain Arthur Pelegine, Military Cross conferred upon, 71.

THOMSON, Major Charles G., Croix de Guerre conferred upon, 557.

THOMSON, Lieut. Cyril Ground, killed in action, 417.

THOMSON, Captain Ewing George, Military Cross conferred upon, 355.

THOMSON, H. Hyslop: Value of tuberculin in pulmonary tuberculosis, 101.

THOMSON, Lieut.-Col. Hugh W., Order of the Nile conferred upon, 557.

THOMSON, Captain James Ettershank Gordon, Military Cross conferred upon, 355.

THOMSON, Major General James, appointed Knight of Grace of the Order of St. John of Jerusalem, 643.

THOMSON, Captain J. A.: Pulmonary spirochaetosis, 709 (O).

THOMSON, Captain J. Gordon, returns to Egypt to do special research work in malaria, 47. Complement deviation in cases of malaria, 628 (O).

THOMSON, Sir St. Clair: Inaugural address of Asterian Society of King's College Hospital, 673.

THOMSON, William Hanna, *Treatise on Clinical Medicine* rev., 257.

THORNTON, Captain George Lestock, bar to Military Cross, 202.

THORNTON, H. J., appointed J.P. for county of Middlesex, 22.

THORP, Colonel Austin, killed in action, 556.

THURSTED, Gunner John George Havard, dies of wounds, 417.

THYALLES, Captain E. C.: Spray chamber in prevention of infection, 534.

THWAITES, Captain James A., Military Cross conferred upon, 268.

Thymus, enlarged, and acute lymphatic leukaemia, 665.

Thyrotoxic heart. See Heart.

TICKLE, Captain Frederick Ralph, dies on service, 555, 585.

TILMANT: A surgical airplane, 561.

TIMMS, Captain Charles Gordon, bar to Military Cross, 144.

Tinel's sign in peripheral nerve lesions (Lieut.-Col. W. M. Macdonald), 6 (O).

T.N.T. poisoning, decrease in cases, 22.

Tobacco amblyopia in Germany, 663.

Tobacco and neurasthenia, 732.

TOBIN, Lieut.-Col. John, Croix de Guerre conferred upon, 557.

TORBOLD, von: German substitutes in war surgery, 442.

TOCHER, Captain James Williamson, bar to Military Cross, 329.

TODD, Captain Andrew William Palethorpe, Military Cross conferred upon, 477.

TODD, Margaret: *Life of Sophia Jex-Blake*, rev., 133—Obituary notice of, 299.

TOMKINS, Harding H.: Future of the medical profession, 530.

Tonsillectomy, historical account of (E. E. Violet Glover), 685 (O).

TOOTH, Colonel Howard, resumes duty at St. Bartholomew's and the National Hospitals, 329.

TORNEY, Lieut. T. F. H., killed in action, 328.

Torpedo shock, 140.

TOTTENHAM, Surgeon Lieut. R. E.: Past and future of the crusade against tuberculosis, 642.

TOUGH, Captain John James, killed in action, 498.

TOWNSEND, Captain Thomas Ainsworth, bar to Military Cross, 97.

Toxæmia of pregnancy. See Pregnancy.

Trachea, fibroma of (James B. Horgan), 653 (O).

Traumatic shock, relation of pulmonary fat embolism to (Captain George E. Sutton), 368 (O).

Traumatisms, war, blood pressure in (Edgar F. Cyriax), 132 (O)—(S. Russell Wells), 286.

Travelling Medical Board. See Medical.

TRAVERS-SMITH, Lieut. Robert Montsomery, lost at sea, *Hirano Maru*, 175.

Tremor, hysterical (Major W. Johnson), 627 (O).

Trench fauna, 331.

Trench fever, report of Medical Research Committee of American Red Cross, 577.

Trench fever, etiology of (report of Medical Investigation Committee), 120.

Trench fever, association of rickettsia bodies in lice with (J. A. Arkwright, A. Bacot, and F. Martin Duncan), 307 (O).

TRIMBLE, Robert, obituary notice of, 103.

TRINCA, Captain Francis Louis, Military Cross conferred upon, 641.

Tropical medicine, information concerning the study of, 240.

Tropical Medicine, Liverpool School of, information concerning, 240.

Tropical Medicine, London School of, information concerning, 240.

Trudeau sanatorium and research laboratory, 326.

TRIST, Captain Frank Elliot Trenoweth, Military Cross conferred upon, 641.

TRUMAN, Claude A. P.: Treatment of pneumonia, 534.

TRUMBLE, Captain Hugh Compson, Military Cross conferred upon, 356.

TRUSTAM, E. J.: The shriek chain, 364.

Tubercle-immune cattle. See Cattle.

Tuberculin in pulmonary tuberculosis, value of, 20, 45, 101.

Tuberculosis to come to life again, 103.

Tuberculosis in cattle, American campaign against, 730.

Tuberculosis in the counties, 265.

Tuberculosis, crusade against, 539, 589, 642, 670.

Tuberculosis, discussion on at a meeting of the Waffenärztliche Vereinigungen Deutschlands und Österreich-Ungarns, 153.

Tuberculosis, epidemiology of (leading article), 349.

Tuberculosis, farm and industrial colonies for (R. H. Mushen's scheme), 582.

Tuberculosis at home and abroad, 40.

Tuberculosis in Harvey's time and to-day, doctrine of Percy Kildit, 455 (O).

Tuberculosis, institutional treatment of (Scotland), 173.

Tuberculosis and the Insurance Act, 523, 558.

Tuberculosis in naval dockyards, 197.

Tuberculosis, notification statistics of, 46.

Tuberculosis Officers' Association. See Association.

Tuberculosis, past and future of the crusade against (Sir Malcolm Morris), 539 (O)—Correspondence on, 589, 642, 670.

Tuberculosis problems (leading article), 166.

Tuberculosis professorships in France, 673.

Tuberculosis, pulmonary, action of sugar in (D. lo Monaco), 191.

Tuberculosis, pulmonary, blood pressure in (Richard J. Cyriax), 572 (O).

Tuberculosis, pulmonary, smoking and, 65.

Tuberculosis, pulmonary, value of artificial pneumothorax in the arrest and prevention of haemoptysis in (Z. P. Fernandez), 15 (O).

Tuberculosis, pulmonary, value of tuberculin in, 20. See also Tuberculin.

Tuberculosis regulations, amending order, 334.

Tuberculosis research in America, bequest for, 379.

Tuberculosis, review of books on, 257.

Tuberculous children, schools for, 668.

Tuberculous officers (parliamentary question), 525.

Tuberculous persons in sanatoriums and hospitals, dietaries for, 518.

Tuberculous persons, treatment of, London scheme, 99.

Tuberculous soldiers, discharged (parliamentary question), 526—Correspondence on, 617. See also Soldiers.

TURNER, Captain Bryan Montague, Military Cross conferred upon, 268.

Turvey, medical officers as prisoners in (parliamentary question), 95.



TURNER, E. B.: Large doses of salicin in influenza, 112—Burdens of costly remedies, 259—Medical representation in Parliament, 615.

TURNER, John: The reducing body in the cerebro-spinal fluid, 60.

TURNER, Major Philip: Triangle splint in treatment of compound fractures of the humerus, 71. (O)

TURNER, Lieut.-Col. Reginald, G.C.M.G. conferred upon, 121.

TUTTLE, GEORGE M. (and Phelps G. HURFORD): *Diseases of Children*, rev., 147.

TWIN pregnancy, tubal (F. J. McCann), 10—(Major Gordon Taylor), 104.

TYNDALL, Captain William Ernest, Military Cross conferred upon, 315.

TYPHUS fever. *See* Fever.

TYNDALL, Captain William, Croix de Guerre conferred upon, 71; bar to D.S.O., 121.

Tyson's glands. *See* Glands.

## U.

UTHOFF, J. C., promoted Knight of Grace of the Order of St. John of Jerusalem, 75.

Uthoff for mercantile marine, 48.

## UNITED STATES:

Allied Surgical Mission in, 525.

American Association of Clinical Psychologists, 207.

American Association of Thoracic Surgery, 207.

American Sanitary Commission to study prevention of yellow fever in Ecuador, 303.

American War Hospital on the East Coast of Scotland, 273.

Antibiphoid inoculation offered free to all applicants, 281.

Anti-venereal measures in the American Army, 583.

Army Medical Service, new Surgeon-General, 525.

Army school of nursing for training women for service in military hospitals, 21.

Boys physically unfit for Students' Army Training Corps, percentage of, 591.

Central laboratory established in France, 394.

Chemical Industries Exposition, 659.

Clinical laboratories for the army, 331.

Columbia University and Presbyterian Hospital, New York, dissolution of alliance between, 463.

Crematorium library, 163.

*Dispensatory of the U.S.A.*, rev., 61.

Doctors serving in the forces, 529.

"Druggish healers" in the army, admission of reported by the Surgeon-General, 207.

Evolution of scientific medicine in (Sir W. Osler), 149, 166.

Influenza a notifiable disease in Philadelphia, 533.

Labour conditions, courses of instruction for the improvement of, 363.

Medical department of the army appoints a division surgeon to each camp, who is responsible for its health, 273.

Medical education in, 352.

Medical man power in, 323.

Medical Reserve, raising of status of medical officers, 474.

Medical Service, U.S.A. statistics, 698.

Military establishment, changes in, 207.

National Tuberculosis Association urges pressing need for more tuberculosis hospitals, 518.

New York Chapter of Hadassah forming a medical unit for Palestine, 22.

New York Polyclinic Hospital transferred to Columbia University, 730.

Nutrition officers for the army, 529.

Physical re-education, 357.

Pneumonia in military camps, committee to investigate, 95.

Poison gas, experimental work in, 207.

Recruiting of medical officers for the army, 472.

Red Cross: Antivivisectionists and, 197—Grant to Royal Free Hospital, 197—Establishes a dispensary and hospital in Jerusalem, 543—Contributes to Canadian Red Cross, 922—Membership, 728.

Rockefeller Foundation, review of work done in 1917, 40.

Tuberculosis in cattle, campaign against, 730.

Tuberculosis research, bequest for, 379.

Universities and colleges to be asked to alter their curriculum, 303.

Veneral diseases: Campaign, 363—Control of, 473.

Washington University, Seattle, hospital to form nucleus of a medical department to be built in the campus of, 665.

Wisconsin University, bequest to, 136.

Zionist medical unit, 103.

Universities and colleges of America to be asked to alter their curriculum, 303.

Universities and colleges, meagre Government grant to, deputation to Chancellor of Exchequer, 618.

Universities, Scottish, admission to, 98—After-war work of, 729.

Universities, Scottish, constituency, 203, 672, 731.

Universities, Scottish, parliamentary representation of, 98, 351, 672. *See also* Parliament.

Universities, social study and training at, 324.

University of Aberdeen: Degrees and pass lists, 47, 74—Information concerning the study of medicine, 220, 233.

University of Belfast, Queen's, information concerning, 222, 236.

University of Birmingham: Degrees and pass lists, 74—Information concerning the study of medicine, 215, 230.

University of Bristol: Degrees and pass lists, 73—Information concerning the study of medicine, 216, 230.

University of Brussels, information concerning, 238.

University of Cambridge: Change in initials of degree of Master of Surgery, 125—Degrees and pass lists, 73, 453, 480, 502, 643, 673—Elections, 702—Information concerning the study of medicine, 214, 229, 240—Raymond Horton-Smith prize, 363, 673.

University of Columbia and Presbyterian Hospital, New York: Dissolution of alliance between, 463—New York Polyclinic Hospital transferred to, 730.

University constituencies, 654.

University of Dublin: Degrees and pass lists, 74, 177—Information concerning study of medicine, 222, 235—Lectures, 177—War service record of Trinity College, 303—The election, correspondence on, 618.

University of Durham: Degrees and pass lists, 21—Information concerning the study of medicine, 216, 231, 238.

University of East Midlands, proposed, 298.

University of Edinburgh: Anatomical nomenclature at, 699—Degrees and pass lists, 47, 74, 453—Degrees for research, 65, 702—Graduation ceremony, 74—Information concerning the study of medicine, 220, 233, 240—Materia medica, therapeutics and chemistry, 447—New register and parliamentary vote, 500—*Reminiscences of a Student's Life at Edinburgh in the Seventies*, rev., 379.

Status of lecturers and assistants in, 500.

University of Glasgow: Commemoration ceremony 21—Degrees and pass lists, 21, 102, 423, 453, 589—Information concerning the study of medicine, 220, 234—Number of medical students, 587—President of the French Republic re-elected, Lord Rector, 620—Post-graduation instruction, 699.

University of Ireland, National, information concerning, 223.

University of Leeds: Degrees and pass lists, 21—Information concerning the study of medicine, 217, 231.

University of Lima, antiquity of adjudication of medical-legal questions at, 381.

University of Liverpool: Degrees and pass lists, 73—Information concerning the study of medicine, 217, 231, 240.

UNIVERSITY OF LONDON:

Appointments, 673.

Chairman of committees, 146.

Degrees and pass lists, 102, 618, 731.

Demobilization, 673.

Examiners, 146.

Information concerning the study of medicine, 215, 238, 240.

London Hospital Medical College, 102, 423.

Meeting of Senate, 146, 561.

Parliamentary register, 146.

Parliamentary representation of, 450, 643, 672.

Post graduate teaching and, 669.

Royal Free Hospital. *See* Hospital.

University, McGill, women medical students to be admitted, 591.

University of Manchester, Victoria: Degrees and pass lists, 21, 731—Information concerning the study of medicine, 217, 232.

University of Oxford: Degrees and pass lists, 21, 47, 480, 532, 702—Information concerning the study of medicine, 213, 229.

University of Pennsylvania, Goodell bequest to, 99.

University representation in Great Britain, 609, 674.

University of St. Andrews, information concerning the study of medicine, 220, 235.

University of Sheffield, information concerning the study of medicine, 218, 232.

University of Toronto: Appointments, 103—Bequest to for establishment of chairs in pediatrics, gynaecology, etc., 586.

University of Wales: Information concerning the study of medicine, 218—Parliamentary representation of, 332.

University of Washington: Seattle Hospital to form the nucleus of a medical department to be built on the campus of, 665.

University of Wisconsin, bequests to, 136.

Unequalled treatment for soldiers. *See* Soldiers.

Urethra, double rupture of, due to gunshot injury (Major Gordon Taylor), 9.

Urethra, operation for reconstruction of, in cases of severe or impermeable stricture (Captain John Guthrie), 111. (O).

Urine, nephrotomy in treatment of the suppression of (Clifford White), 4. (O). Correspondence on, 46.

Urine systematic testing of in the examination of recruits, 176.

Urogenital tract, spirochaetes of the normal male, 65.

Urotropine, dosage of, 424.

Uterine prolapse, surgical cure of (Hugh P. Costabatie), 370. (O).

Uterus, foreign body in (G. Drummond Robinson), 687.

Uterus implantation of the newly fertilized ovum in (James Oliver), 655.

## V.

V.D.H. *See* Heart.

Vaccination, prophylactic antipneumococcal, 265.

Vaccine, autogenous, in treatment of cerebro-spinal meningitis (Norman MacLachlan), 433.

Vaccine virus, preservation of, 664.

Vaccines for influenza, 470, 504, 558, 631.

Vaccines for insurance patients, 94.

Vaccine, mixed staphylococcus, in treatment of rosacea (P. W. Lam), 515.

V.A.D. medical officers, 424, 454, 504.

VALENTI, Lieut. Douglas James, Military Cross conferred upon, 355.

VAN COLLE, Major Paul Johannes, O.B.E. conferred upon, 728.

VANGHETTI, G.: Vanghetti's operation, 269.

Vanghetti's operation, 58, 86, 122, 204, 269—(Major W. F. Brook), 626. (O).

Varicella and herpes zoster, 197—(George Gunn), 574.

Varicose veins, some points concerning the operation for varicose veins (F. J. Steward), 286. (O)—Correspondence on, 359.

Vaseline as a protection against mosquitos, 592.

VEALE, F. de Coverley: Future of the medical profession, 123, 392.

VEALE, Lieut.-Col. Rawdon A. (and Captain B. H. Wild): Case of fatal jaundice, 541. (O).

VEDDER: Anti-beri-beri vitamins, 93.

Vena cava, inferior, neoplastic obstruction of, 695.

Vena cava, superior, obliteration of, 364.

Veneral disease, campaign against, in America, 363.

Veneral disease clinic, work of (Owen L. Rhys), 432. (O).

Veneral disease, control of: In Canada, 203—In the United States, 475—In the American army, 583—In the British armies, 608, 604, 670—In Austria, 727.

Veneral disease and general practitioners, 119, 176, 205, 269.

Veneral disease in Germany (O. Gans), 41.

Veneral disease, instruction in the treatment of, 302.

Veneral disease, laboratory diagnosis of, 317.

Veneral diseases, prevention of, 104.

Veneral disease, publicity arrangements of London County Council, 614.

Veneral disease and waste of man power: War cabinet memorandum, 408—Small committee appointed, 408.

Veneral maternity centre in London, 92.

Veneral. *See also* Antivenereal.

Ventricular fibrillation, with cardiac recovery, 196.

Vermin and typhus in the eighteenth century, 104.

VERRIEST, Gustave, obituary notice of, 207.

VEYER, Captain Gifford Trail van der, Military Cross conferred upon, 355.

VILGREN, Sir Anthony Gysbert, obituary notice of, 591.

VINCENT, H.: Serum for gas gangrene, 287.

Vitamins, anti-beri-beri, 93.

Vitamines, 663.

VOLCKER, Major A. F.: Future of medicine, 434.

Volunteer Force medical officers, 293.

VON SHOLLY, Anna I., decorated and receives commission in medical corps of French army, 519.

Vulvitis caused by the accumulated secretion of Tyson's glands (John D. Malcolm), 53. (O).

## W.

WAGSTAFFE, Captain W. W.: Gunshot wounds of head, 167.

WALDRON, Captain George Dibbs King, Military Cross conferred upon, 71.

Wales, treatment of the disabled in, 473—National school of medicine for, 477.



WALKER, Captain Arthur, D.S.O. conferred upon, 328  
 WALKER, E. H.: Medicine in Parliament—medical reconstruction, 479  
 WALKER, Captain John, Military Cross conferred upon, 355  
 WALKER, Captain Rankine Greig, Military Cross conferred upon, 268  
 WALKER, Captain William, Military Cross conferred upon, 172  
 WALL, (Captain Douglas) Larmer, Military Cross conferred upon, 71  
 WALLACE, Captain Albert Henderson, Military Cross conferred upon, 611  
 WALLACE, Captain Alexander F., Military Cross conferred upon, 121  
 WALLACE, Cuthbert and John FRASER: *Surgery at a Casualty Clearing Station*, rev., 719  
 WALLACE, Major-General Cuthbert, *War Surgery of the Abdomen*, rev., 407  
 WALLACE, Captain Joseph Stephen, bar to Military Cross, 44  
 WALLACE, Captain Robert Neilson, dies on service, 43  
 WALLIS, Lieut. Walter Kelvin, dies on service, 120  
 WALSH, Captain William Charles, Military Cross conferred upon, 641  
 WALTER, Major Albert Elijah, O.B.E. conferred upon, 728  
 WALTERS, Lieut. Herbert Aidan, killed on service, 500  
 WALTHER, John David, estate of, 423  
 WANOSTROCHT, Vincent, disposes by will of a lock of Louis XVI's hair, 630  
 War ends, 550  
 War neuroses, German experiences of, 695  
 War neuroses, sinusoidal current (Sinusstrom) treatment of forbidden in German military hospitals, 365  
 War Office conference on vaccines for influenza, 470  
 War psycho-neuroses. See Psycho-neuroses  
 War traumas, blood pressure in (Edgar F. Cymax), 132. (O)  
**War:**  
 Anti-venereal measures in the American army, 584  
 Auxiliary home hospitals, 71  
 "Blackguard nation," 202  
 Casualties in the medical services, 18, 43, 69, 97, 120, 143, 170, 201, 266, 297, 327, 354, 388, 416, 445, 475, 498, 527, 555, 585, 612, 638, 667, 697, 728  
 Casualties, total, 612. Naval, 612—Canadian, 612—American, 612  
 Clinical laboratories in the United States army, 531  
 Commended for services, 45  
 Delayed primary suture, 42  
 Disabled soldiers in Canada, 415  
 Dispatches. See General Index  
 Disposal of soldiers after nerve suture, 447  
 East African campaign, 111, 637  
 Fees to civilian medical practitioners, 45  
 Gastro-intestinal diseases in German soldiers, 356  
 Grande Charitree as a base hospital, 590  
 History of the war, medical and surgical, 529  
 Honours, 44, 70, 97, 121, 143, 171, 202, 268, 297, 328, 354, 417, 446, 477, 500, 520, 556, 586, 614, 639, 668, 698, 728  
 Hospital for neurasthenic men, 390  
 India and the war, 612  
 Italian dispatch, 666  
 Italian front, 475  
 King's letter to the troops, 201  
 Lice borne diseases, new methods of disinfection for prevention and arrest of (Colonel William Hunter), 198  
 Limbs, weight of, natural and artificial limbs compared, 202  
 Mesopotamia dispatch, 266  
 Military medical establishments in Italy, 202  
 Naval ambulance train, 96  
 Nurses, military honours to, 144  
 Nutrition officers for U.S. army, 529  
 Orderly dog, 45  
 Penalties of rapid success, 666  
 Physical re-education in America, 357  
 Physicians in service of U.S. Government, number of, 529  
 Prisoners of war, the Hague agreement, 475  
 R.A.M.C. front line education, recent development in, 141  
 Repatriated officers, 586  
 Royal Naval Hospital, Haslar, 43  
 Tetanus in home military hospitals, 415  
 Trench fauna, 351  
 Trench fever, report of Investigation Committee, 120  
 Unqualified treatment for soldiers, 71  
 U.S. Medical Service, 698  
 Vanshetti's operation, utilization of stump muscles for artificial limbs, 68  
 Western front, 387, 414, 444  
 Wet night, 636  
 Winter campaign in the Arctic, 477  
 WARD, Captain Francis, Croix de Guerre conferred upon, 202  
 WARD, Gordon. Whooping cough and lymphæmia, 450  
 WARD, J. F.: Manganese a poison, 394

WARD, Captain Joseph Hugh, D.S.O. conferred upon, 143  
 WARD, Surgeon N. C., reported killed, 388  
 WARD, Lieut. Rowland, Military Cross conferred upon, 355  
 WARD, Lieut. Walter Granby, killed in action, 589  
 WARD, Major William Alfred, dies on service, 297  
 Wards for infants (leading article), 471  
 WARE, Major George W. W., Italian Order of St. Maurice and St. Lazarus conferred upon, 339  
 WARRACK, Lieut.-Col. J. S.: Differential diagnosis of scarlet fever, measles and rubella, 486. (O)—Bacterial diagnosis of diphtheria, 674  
 WASSERMANN: Abortive treatment of syphilis, 635  
 WATER, Captain Frans Karel Te, Military Cross conferred upon, 269  
 Water hardness, Roman test of, 413  
 Watering places of Italy, development of, 514  
 WATERS, Ernest E.: *Diabetes: Its Causation and Treatment (with special reference to India)*, rev., 191  
 WATKES, H. J.: Haemorrhagic spirochaetal bronchitis, 620  
 WATSON, Alexander (and others): Observations on the cause of rickets, 625. (O)  
 WATSON, Chalmers: Significance of fats in the diet, 145. *Lectures on Medicine: A Handbook for Nurses*, rev., 191  
 WATSON, Captain Charles Eric, Military Cross conferred upon, 173  
 WATSON, Cecil Francis William, dies on service, 476  
 WATSON, Robert: Treatment of scarlet fever, 500  
 WATSON, Captain Wm. H., Military Cross conferred upon, 121  
 WATTHEWS, Captain John Wilfred, bar to Military Cross, 114  
 WEATHERLY, D. A.: *Plea for the Insane*, rev., 60  
 WEAVER-ADAMS, Lieut. Philip Clive, killed on service, 528  
 WEBER, F. Parkes: Tetanus following subcutaneous injection of gelatin, 189. *Aspects of Death and Correlated Aspects of Life in Art, Epigram and Poetry*, rev., 575  
 WEBER, Sir Hermann, death of, 553; obituary notice of, 590  
 WEBB, Sidney: Labour party and the medical profession, 175, 301  
 WEBB-JOHNSON, Cecil: *Painless Childbirth in Twilight Sleep in the East*, rev., 61  
 WEBSTER, Lieut. John, killed in action, 614  
 WEBSTER, Captain William Joseph, bar to Military Cross, 329  
 WEBSTER, Captain William L., Legion d'Honneur conferred upon, 446  
 WEDD, Captain R. H. (and Lieut.-Col. Rawdon A. VIALLE) Case of fatal aneurism, 541. (O)  
 WELLS, Captain Edward Park, Wellman, killed in action, 97, 355  
**Week:**  
 Abortive treatment of syphilis, 635  
 Air Force Medical Service, 524  
 All out, 412  
 Allied surgical mission in America, 32  
 American and British doctors, 64  
 Ante-natal and congenital syphilis, 553  
 Anthrax treated by normal ox serum, 611  
 Anti-beriberi vitamin, 93  
 Antiphoid lipovaccine, 41  
 Antivivisectionists and the Red Cross, 197  
 Army Medical Service in South Africa, report, 141  
 Army workers and the income tax, 441  
 Army Veterinary Corps, 694  
 Army voters abroad, 140  
 Asphyxiating gas, use of, 168  
 Asthma's asthma, 463  
 Aviators, medical supervision of, 66  
 Bacillary dysentery on the Belgian front, 412  
 Baldwin, Sir Harry, appointed Surgeon-Dentist to the King, 95  
 Belgian doctors in England, 726  
 Biology of a life table, 727  
 Board of Education's annual report of medical officer, 636  
 Botulism, 693  
 Botulism from canned vegetables, 41  
 British casualties, total, 583  
 British prisoners and German doctors, 583  
 British Red Cross, 413  
 British Scientific Products Exhibition, 167  
 British spas, 385  
 Canadian medical war collection, 169  
 Cardiac hypertrophy in aviators, 263  
 Care of the consumptive soldier, 693  
 Casualties, total British, 583  
 Cerebral changes in pernicious anaemia, 119  
 Cerebro-spinal fluid, the reducing body in, 15  
 Clarke, the late Dr. J. Michell, 610  
 Coal shortage, 264  
 Congenital defects of the skin, 168  
 Countess of Dufferin's Fund, 295  
 Coventry case, 472, 497, 611  
 Cruise, R. R., appointed Surgeon-Oculist to the King, 95  
 Defence of the coal fire, 664  
 Degree for research, 66  
 Demobilization and reconstruction, 552  
 Detection of the feeble-minded, 634

**Week (continued):**  
 Diabetes insipidus and the pituitary, 197  
 Disabled men, treatment of in Wales, 473  
 Dishonoured profession, 524  
 Doctors in the army, the need for, 411  
 Drowning in swimmers, cause of, 196  
 Educational value of sanatorium life, 169  
 Election, the general, 580  
 Elsie Inglis chair of medicine, 17  
 Emergency substitutes, call for, 120  
 Endocrine origin of muscular dystrophy, 412  
 Enlarged thymus and acute lymphatic leukaemia, 665  
 Epsom College, 16, 636  
 Evolution of scientific medicine in America, 166  
 Experiments on animals in 1917, 295  
 Family diets, 413  
 Farm and industrial colonies for tuberculosis, 582  
 Febris wolynica, 65  
 Food control, inter-allied, 263  
 Food restrictions in the French Revolution, 294  
 France's share in biology and medical science, 523  
 French advice on the prevention of influenza mortality, 498  
 French Congress of Surgery, 635  
 Future of the disabled man, 635, 665  
 Future of medical teaching in Paris, 169  
 Gall bladder disease, diagnosis of, 195  
 General practitioners and venereal disease, 119  
 German experiences of war neuroses, 695  
 German medical literature in Holland, 352  
 German professor on militarism, 325  
 German substitutes in war surgery, 442  
 Germans and the scientific workers of Lille, 693  
 Goitre, prevention of simple, 326  
 Grand old man of France, 385  
 Gray, Colonel H. M. W., joins Sir Robert Jones in military orthopaedic department, 95  
 Gunshot wounds of the head, 167  
 Haemorrhagic spirochaetal bronchitis, 727  
 Hall, Dr. John, Shakespeare's son-in-law, 196  
 Herpes zoster and varicella, 197  
 Herring harvest, 94  
 Home of recovery for neurasthenics, 119  
 Home coming of Sir Douglas Haig, 725  
 Imperial War Museum, 553  
 Indexes, half-yearly, 17, 696  
 Industrial fatigue, study of, 726  
 Infant deaths under one year, statements to be made to medical officers of health, 120  
 Infectious hospitals, value of, 195  
 Influenza etiology of, 522, 665  
 Influenza mortality, French advice on the prevention of, 496  
 Influenza and the shortage of doctors, 495  
 Influenza, recent experience of, 610  
 Influenza pandemic, 39, 139, 473; bacteriology of, 139  
 Insurance Act and tuberculosis, 523  
 Italian Association, 472  
 King's message, 583  
 Local Government Board, new President of, 525  
 Magnesium and cancer, 118  
 Malaria in England (1917), 140  
 Medical advice in Parliament, need for, 296  
 Medical appeal for regrading, 66  
 Medical demobilization, 521; in France, 726  
 Medical education in England, 117  
 Medical education in the United States, 352  
 Medical Insurance Agency, 609  
 Medical man power in the United States, 323  
 Medical profession and a Ministry of Health, 39  
 Medical profession in old Flanders, 582  
 Medical representation in Parliament, 581, 583  
 Medical Research Committee, 581  
 Medical Service R. N., 440  
 Medical session, the new, 385  
 Medical Society of London, 413  
 Medical students, number of, 118  
 Medical supervision of aviators, 66  
 Medicine and Government, 16  
 Meningitis in the newborn and in early infancy, 413  
 Meningococcal septicaemia, 295  
 Milk, national control of, 265  
 Ministry of Health, 94, 95, 139, 441, 525  
 Murder of Hamlet's father, 353  
 Murderous assaults on doctors, 442  
 National Service Medical Boards, the work of, 94  
 Neoplastic obstruction of the inferior vena cava, 695  
 Nightcap, the, 263  
 Notifiable diseases (1917), statistics of, 15  
 Ocular conditions affecting the efficiency of the aviator, 694  
 Pharmacology in India, 634  
 Pharmacy and the future, 386  
 Picric acid jaundice, 92  
 Plague in Suffolk, 14  
 Poliomyelitis, acute, in New Zealand, 264  
 Pregnant women in industrial work, 194  
 Prophylactic antipneumococcal vaccination, 265  
 Prophylactic face mask, 522



**Week continued):**

- Public health in Baghdad, 610  
Public health in England and Wales, 497  
Public health measures in influenza, 691  
Public health services in England, 325  
Pure and applied medical science, 325  
Quack, an eighteenth century, 326  
Quatercentenary of the Royal College of Physicians. *See* Royal  
Rats and mice, 384  
Raynaud's disease and secondary syphilis, 386  
Recruiting of medical officers for the U.S. army, 472  
Recruits, young (in France), 194  
Relative value of domestic fuels, 695  
Roberts, Frederick T., death of, 120  
Rockefeller foundation, 40  
Roman test of water hardness, 413  
Royal Air Force Medical Service, 351  
Royal College of Physicians, quatercentenary of, 350, 386, 497, 553  
Royal College of Surgeons of England, collection of instruments at, 141  
Royal Society, medals awarded, 583  
Septicæmia, latent, 442  
Serum treatment in scarlet fever, 93  
Sex, determination of, 326  
Sinking of the *Llandovery Castle*, 294  
Small-pox throughout the world, the recent, 262  
Smoking and pulmonary tuberculosis, 65  
Social study and training at the universities, 324  
Spirochaetes of the normal male urogenital tract, 65  
Status lymphaticus, some aspects of, 352  
Streptococcal empyema, 496  
Syphilitic peritonitis, 443  
Tobacco amblyopia in Germany, 663  
Torpedo shock, 140  
Trudeau Sanatorium and Research Laboratory, 326  
Tuberculosis in the counties, 265  
Tuberculosis at home and abroad, 40  
Tuberculosis in naval dockyards, 197  
University constituencies, 634  
University members, 725  
University representation in Great Britain, 609  
U.S. Army Medical Service, 525  
Vaccine virus, preservation of, 664  
Vaccines for insurance patients, 94  
Venereal disease, control of, 608, 664 In Austria, 727  
Venereal disease in Germany, 41—In the United States, control of, 473  
Venereal maternity centre, 92  
Ventricular fibrillation with cardiac recovery, 196  
Visits to foreign health resorts, 324  
Vitamines, 663  
Volunteer Force medical officers, 293  
War collection at the Royal College of Surgeons of England, 64  
War psycho-neuroses, treatment of, 634  
Wound shock, cause of, 523  
Wounded in agriculture, 195  
Yellow fever from Rio, the exterminator of, 351
- Weichselbaum, meningococcus of, 204, 269, 587, 617. *See also* Meningococcus  
WELL, M. P.: Reducing body in the cerebro-spinal fluid, 15  
WELL, Richard, obituary notice of, 103  
WEINBERG, M. (and P. SARGENT): *La gangrène gangueuse. Bactériologie, reproduction expérimentelle sérothérapie*, rev., 115  
WEISS, Lieut. Hubert Foveaux, killed in action, 476  
WEISSENHACH: Cause of inflammation in penetrating wounds of brain, 186  
WELLS, Alfred E. (and Percy SARGENT): *Emergencias en la Práctica de la Medicina y de la Cirugía*, rev., 317  
WELLS, H. Gideon: *Chemical Pathology*, rev., 407  
WELLS, Lieut. James Bowen Primrose, dies of wounds, 268  
WELLS, Captain Philip Hower, Military Cross conferred upon, 98  
WELLS, S. Russell (and others): Ten thousand recruits with doubtful heart conditions, 248, (O) Blood pressure in war traumatism, 286  
WELSH, Captain Robert H., Military Cross conferred upon, 268  
WESBROOK, F. F., obituary notice of, 503  
WEST, Captain Cecil McLaren, Military Cross conferred upon, 356  
Western front, the, 387, 414, 444  
Wet night (Sir Andrew Macphail), 636  
Wexford County Local Medical Committee, 500  
WHATE, Colonel Thomas du Bédat, Italian Order of St. Maurice and St. Lazarus conferred upon, 331  
WHELPLEY, Captain Ernest Harold, Military Cross conferred upon, 611  
WHITAKER, Captain Victor John, presumed killed, 268  
WHITE, Clifford: Nephrotomy combined with Caesarean section in the treatment of eclampsia with suppression of urine, 4, (O) —Sections of kidney removed during nephro-
- tomy on two patients suffering from puerperal anuria, 688  
WHITE, Captain Harry Ernest Bantry, Military Cross conferred upon, 173  
WHITE, Captain Hill Wilson, killed in action, 667  
WHITE, Lieut.-Col. J. Sinclair: Traumatic aneurysm of left subclavian artery, 131, (O) WHITE, J., (and J. M. Woodburn MORGAN): Case of intestinal obstruction, 513, (O)  
WHITE, P. Bruce (and others): Purulent bronchitis complicating measles and rubella, 481, (O)  
WHITEHEAD, Surgeon-General Sir Hayward R., Greek Order of the Redeemer conferred upon, 447  
WHITMORE, Captain Thomas, dies of wounds, 201, 267  
WHITTINGHAM, Captain Harold E. (and Surgeon Oliver H. GORTCH): Report on the "influenza" epidemic of 1918, 82, (O)  
WHITWORTH, Captain Henry Parkes, dies of wounds, 585  
Whooping-cough and lymphæmia (Robert Craik), 344 Correspondence on, 450, 501  
WIDFELT: Serum treatment in scarlet fever, 93  
WIDFIELD, Captain Frederick P., Serbian Order of St. Sava conferred upon, 331  
WILDEY, Deputy Surgeon-General A. G., Legion of Honour conferred upon, 269  
WILE, F. W.: *Explaining the Britisher*, rev., 576  
WILEY, Major C. J.: Treatment of bilharziosis by intravenous injections of tartar emetic, 716  
WILLY, Harvey W.: *Fools and their Adulteration*, rev., 11  
WILKINSON, Lieut. E. F., killed on service, 698  
WILKINSON, W. (Cambridge): Value of tuberculin in pulmonary tuberculosis, 45—Future of the medical profession, 72—Medicine in Parliament, 420—Etiology of influenza, 522—Vaccines in influenza, 558—Past and future of the crusade against tuberculosis, 670  
WILLIAMS, Captain David Roberts, Military Cross conferred upon, 173  
WILLIAMS, E. G. H.: Danger of coal rationing, 176  
WILLIAMS, Captain Eric Watson, Military Cross conferred upon, 355  
WILLIAMS, J. Price: The Central Pool, 421  
WILLIAMS, Captain Roger Llewellyn, D.S.O. conferred upon, 143  
WILLIAMS-FREEMAN, J. P.: Remuneration of rural practice, 390  
WILLIAMSON, R. T.: Differential diagnosis between functional and organic paraplegia, 275, (O)  
WILLS, Captain Herbert George, D.S.O. conferred upon, 144  
WILLS, W. Morley, obituary notice of, 177  
WILMER, Colonel W. H.: Ocular conditions affecting the efficiency of the aviator, 694  
WILSON, Captain Alexander Frazer, bar to Military Cross, 556  
WILSON, Lieut.-Col. Arthur Mitchell, D.S.O. conferred upon, 556  
WILSON, Captain Charles Edgar, Military Cross conferred upon, 173  
WILSON, Captain Christopher J., Military Cross conferred upon, 121  
WILSON, Lieut.-Col. E. M.: Ancient physio, 424  
WILSON, Lieut. Geoffrey, killed in action, 18  
WILSON, Captain Henry, Military Cross conferred upon, 173  
WILSON, Horace: Notification statistics of tuberculosis, 46  
WILSON, James, killed in action, 354  
WILSON, James, obituary notice of, 532  
WILSON, Major General James B., Croix de Guerre conferred upon, 557, 641  
WILSON, Captain J. S. dies of wounds, 267  
WILSON, Captain Maurice Ullick, Military Cross conferred upon, 356  
WILSON, Lieut. R. N.: Sympathetic nervous system and the "irritable heart of soldiers," 27, (O)—*The Hearts of Men*, rev., 346  
WILSON, S. A. Kinzier: The Bell Fund, 178, 304, 480, 644  
WILSON, Lieut. Thomas, killed in action, 328  
WILSON, Captain William Brockie, Military Cross conferred upon, 641  
WILSON, Major W. James (and Major A. J. JEN-BLAKEL): Three fatal cases of *B. aertrycke* infection, 310 (O)—and Sergeant P. STELLER: Technique employed in the isolation and cultivation of anaerobic bacteria, 568, (O)  
Winning, psychopathic institute to be built in, 592  
Winter campaign in the Arctic, 477  
Winter quarters, 364  
WINTER, Captain E. S.: Suprarenal glands in influenza, 623  
WINTER, Captain Laurence Amos, dies on service, 614  
WINTERBOTTOM, Augustus: Dental emergency outfit, 347  
WISHART, John: Organization of ambulance work, 674  
WITHERS, Richard Walter Owen, estate of, 423  
WOLLSTEIN, Martha: Etiology of influenza, 522
- WOLSTENHOLME, Captain B., Croix de Guerre conferred upon, 557  
WOLTMAN: Cerebral changes in pernicious anaemia, 119  
Women doctors. *See* Doctors  
Women, medical education of. *See* Medical school  
Women's work in war time, exhibition of, 423  
WOOD, Major James H., Croix de Guerre conferred upon, 71  
WOOD, Captain William L. Rene, Croix de Guerre conferred upon, 557  
WOODOCK, H. M.: Epidemiology of amoebic dysentery, 710, (O)  
WOODWARK, A. S.: *Manual de Medicina*, rev., 317  
WOOLACOTT, F. J.: Influenza and anaphylaxis, 530  
WOOLLETT, Captain J. C., dies on service, 614  
WOOTON, Captain John Charles, Military Cross conferred upon, 556  
WORTHINGTON, Captain Frank, Croix de Guerre conferred upon, 614  
Wound dressing, soft paraffin as a (Major William Haig), 188  
Wound infected by streptococcus little likely to be reinfected by streptococcus from another wound (Levaditi), 686  
Wound shock. *See* Shock  
Wound stripes, antiquity of, 208  
Wound treatment, 394  
Wounded in agriculture, 195  
Wounded in the aid post and field ambulances, treatment of (Colonel B. Maynard Smith), 127, (O)  
Wounds, diphtherial infection of, 104  
Wounds, gunshot. *See* Gunshot  
Wounds of joints. *See* Joints  
Wounds, septic, treatment of (Frederick W. Robinson), 184, (O)  
WRIGHT, Colonel Robert W., Order of the Crown of Italy conferred upon, 331  
WRIGHT, Walter Bryan, killed in action, 698  
WRIGHT, Captain William G., Croix de Guerre conferred upon, 71  
WRIGHTSON, Sir Thomas: *An Inquiry into the Analytical Mechanism of the Internal Ear*, rev., 346  
WYBRANES, Lieut. John Holman, dies of wounds, 170  
WYNNE, Fred. E.: Electric quilts, 347

X.

X rays in treatment of malignant disease of the breast (Claude Saberton), 337, (O)

Y.

YATES, Captain Arthur Lowndes, Military Cross conferred upon, 355  
YEALLAND, Lewis R.: *Hysterical Disorders of Warfare*, rev., 134  
YEATES, Edward, case of, 104, 274  
Yellow atrophy case of acute (Surgeon A. C. Roxburgh), 430, (O)  
YORKE, Courtenay: Ablation of the labyrinth in a case with Ménière's symptoms, 429, (O)  
YOUNG, Captain Clarence Randolph, second bar to Military Cross, 328  
YOUNG, Captain Ernest William Gilmore, Military Cross conferred upon, 98  
YOUNG, Major G. (and others): The influenza epidemic in a camp, 111, (O)  
YOUNG, Captain Gavin, Military Cross conferred upon, 98  
YOUNG, Captain James Anderson, Military Cross conferred upon, 71  
YOUNG, Captain James Carruthers, Military Cross conferred upon, 71  
YOUNG, General Staff Officer James Christian Lawrence, killed in action, 500  
YOUNG, Lieut. Philip, dies of wounds, 268  
YOUNG, Captain R. P., reported killed in action, 445  
YOUNG, Sydney: *Stoichiometry*, rev., 89  
YOUNG, Captain William Barrie, accidentally killed, 201

Z.

Zionist medical unit (American) for Palestine, 103  
Zona, supraorbital (F. B. Judge Baldwin), 543



## LIST OF ILLUSTRATIONS.

SPECIAL PLATES.		PAGE		PAGE
Attempt to Breed Tubercle-immune Cattle (Colonel J. Paton)	facing	157	Fractured Femur, Immediate Treatment of (Captain F. B. Chavasse)	373
Bent Back of Soldiers (Lieut.-Col. A. F. Harst)	facing	624	Gabriel's Improved Steam Sprayer	690
Ischaemic Myositis (Sir James Purves Stewart)	facing	157	Influenza Epidemic in the British Armies in France, 1918	505
Modified Stokes-Gritti Amputation (Major W. A. Chapple)	facing	157	"Influenza" Epidemic of 1918 (Surgeon Oliver H. Gotch and Captain Harold E. Whittingham)	82
Rheumatoid Arthritis (T. S. P. Strangeways)	facing	625	Influenza, Epidemiology of (Captain M. Greenwood)	565
Rickets, cause of (D. Noel Paton, L. Findlay, and A. Watson)	facing	624	Influenza, Filtrable Virus in (Major H. Graeme Gibson, Major F. B. Bowman, and Captain J. I. Connor)	645 (Charts)
Subacute Bacterial Endocarditis (H. J. Starling)	facing	156	Ischaemic Myositis (Sir James Purves Stewart)	151
Vanghetti's Operation (Major W. F. Brook)	facing	624	Knee-joint, Restoration of Function after Penetrating Gunshot Wounds of (Major John Everidge)	183
ILLUSTRATIONS IN THE TEXT.			Lice-borne Diseases. New Methods of Disinfection for (Colonel William Hunter)	189
Ablation of the Labyrinth in a Case with Meniere's Symptoms (Courtenay Yorke)	...	430	Musculo-spiral Nerve Disabilities (Colonel Astley V. Clarke and Captain N. I. Spriggs)	280
Adherence of Tendons after Suturing, Method of Overcoming (P. C. Collingwood Fenwick)	...	543	Nephrectomy combined with Caesarean Section in Treatment of Eclampsia with Suppression of Urine (Clifford White)	6
Administration of Anaesthetics to Soldiers (Captain Arthur Mills)	...	343	Peripheral Nerve Injuries (Captain J. Le Fleming Burrow and Lieut. H. S. Carter)	536
Amputation of Lower Limb, Temporary Pegs for (Major W. A. Chapple)	...	597	Pulmonary Fat Embolism and Traumatic Shock (Captain George E. Sutton)	369
Anaerobic Bacteria, Isolation and Cultivation of (Major W. James Wilson and Sergeant P. Steer)	...	569	"Return Immigration" of Leucocytes (Colonel C. J. Bond)	277
Apparatus to Facilitate Thomas's Suction Treatment (W. Johnson Smyth)	...	344	Salvarsan Outfit, Portable	517
Arthrometer	...	659	Secondary Purulent Bronchitis (Lieut.-Col. W. M. Macdonald, Major T. R. Ritchie, Lieut. J. C. Fox, and P. Bruce White)	481
Aspirator for Paracentesis Thoracis (J. M. Fortescue-Brickdale)	...	286	Septic Wounds, Suggestions for Treatment of (Frederick W. Robinson)	185
Bed and some Appliances for Gunshot Wounds of Femur and Back (Major Maurice G. Pearson)	...	186	Service of a Teaching Hospital (Sir Bertrand Dawson)	56
Bone Graft, the Part Played by (Marcus Mamourian)	...	81	Simple Grip for adjusting Suspension Cords (Herbert E. Durham)	377
Bone Grafting in Gunshot Fractures of the Jaw (Captain William Billington, Arthur H. Parrott, and Harold Round)	...	679	"Spacing Out" in the Prevention of Military Epidemics of Cerebro-spinal Fever (Captain J. A. Grover)	509
Common Factor in Disordered Action of the Heart (Major L. M. Murray)	...	650	Splint for Dislocation and Fracture of Elbow	659
Drop-foot Appliance	...	317	Splint for Facial Paralysis (Lieut.-Colonel Chas. E. Dennis)	714
Endocarditis, Subacute Infective (Major Bernard Hudson)	...	513	Splint for Fractured Shaft of Femur (H. E. Griffiths)	374
Exercise Blood Pressure Test of Myocardial Efficiency (Gordon Lambert)	...	366	Splint, Triangle, in Treatment of Compound Fractures of Humerus (Major Philip Turner)	711
Extension Apparatus for Fracture of Femur (Captain Dennis W. Crile)	...	284	Spolia Opima (Sir John Bland Sutton)	595
Flexed Knee-joints in Below-the-knee Stumps (Major W. A. Chapple)	...	543	Uterine Prolapse, Surgical Cure of (Hugh P. Costobadie)	371
			Vanghetti's Operation: Utilization of Stump Muscles to Actuate Artificial Limbs	68
			Ventral Hernia (Captain H. H. Greenwood)	513







# THE British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

LONDON: SATURDAY, JULY 6TH, 1918.

## Observations

ON

### THE NATURE AND SYMPTOMS OF CARDIAC INFECTION IN CHILDHOOD.

BY

F. J. POYNTON, M.D., F.R.C.P.LOND.,

PEDIATRICIAN TO UNIVERSITY COLLEGE HOSPITAL; SENIOR PHYSICIAN TO  
OUT-PATIENTS, THE HOSPITAL FOR SICK CHILDREN,  
GREAT ORMOND STREET.

#### III.—RHEUMATIC ENDOCARDITIS.\*

##### I. OF THE MITRAL VALVE.

THE commencement of rheumatic endocarditis of the mitral valve is bound up with the early acute dilatation of the heart, and the symptoms are very few. There need be no pain, and fever is not essential. An increase in the rate of the pulse, some breathlessness and possibly palpitation, if the child is not confined to bed, are suspicious, but these are due to the myocardial weakness rather than to the valvular disease. We have only to picture the minute lesions that constitute an early endocarditis to realize this lack of symptoms, and it is amply borne out clinically by the ease with which a primary cardiac rheumatism can be overlooked. I am nevertheless opposed to any attempt to minimize the importance of valvular disease, for though, no doubt, in former years overmuch attention was paid to it as the agent in cardiac failure, we cannot neglect its extreme value as evidence of organic disease, or forget that, as in mitral stenosis, it may be the predominant cause of the failure of health.

In acute rheumatism mitral endocarditis is extremely frequent—how frequent no one can say, because, as I have already pointed out, it is impossible in some cases to be sure as to whether the condition is one of simple dilatation alone. In fatal cases, however, it is practically invariable, for in 149 out of 150 there was a lesion of this valve.

##### Two Types of Mitral Endocarditis.

A point of importance is the distinction between the classical mitral incompetence and stenosis. In order to understand this distinction some attention must be given to the morbid processes in the two lesions. Every one is acquainted with the *post-mortem* appearances of the dilated incompetent mitral valve, and with the cicatrized tissues of advanced stenosis; but it is nevertheless my experience that, among students, there is a vague idea that the latter is an advanced stage of mitral incompetence. This, however, is only true in a very restricted sense. The ordinary lesion of mitral incompetence will never give rise to a classical stenosis, for such a result as this is a pathological impossibility. In mitral stenosis, as will be described later in more detail, the entire valve flaps, the ring, and the chordae tendineae are infiltrated by a subacute rheumatic process. I do not deny that between the two extremes there are grades which bridge over these differences, but if we are to understand the history of mitral stenosis we

must first recognize this essential distinction in the nature of its development, that it is a *subacute process involving the entire structure of the valve*. This particular form of chronic inflammation is more frequent in the female. The explanation of this sex peculiarity must necessarily be hidden from us until we have some knowledge of the nature of the rheumatic poisons. The occurrence, however, of a process of this kind in infection is not in itself remarkable, for the nature of a fibroid phthisis has for many years been thoroughly appreciated and is as unlike an acute broncho-pneumonic tuberculosis as mitral stenosis is unlike an acute carditis. The results produced by these two types of endocarditis are very different, for while mitral incompetence may be of little importance, mitral stenosis constitutes one of the most formidable of cardiac affections. It is so common and its early history is so unpretentious that I am doubtful whether the true gravity of the lesion is even yet sufficiently appreciated. In adult hospitals we have become so familiar with these cases that they are almost in danger of becoming either problems in diagnosis or occasions for the demonstration of auricular fibrillation, while in children's hospitals the symptoms are as a rule so slight that the future of the patients is liable to be forgotten. If, however, we merge these two aspects into one we cannot fail to realize the dangerous tendencies of this form of endocarditis.

##### A. Mitral Incompetence.

In childhood the course of a case of mitral incompetence depends almost entirely upon the myocardium. If this is severely damaged by an acute carditis the case will run a disastrous course, compensation will never be effective, and invalidism quickly follows. On the other hand, if the myocardium is sound the course is favourable, if the physician and parents have patience and exert much care. Complete recoveries are in my opinion frequent, and this even when the bruit is audible over a wide area, including the back of the chest. In order to realize this such cases must be followed for some years, during which time several interesting facts will be noted. Thus the systolic murmur, which at first was obvious and classical, will become in time indistinguishable from a so-called functional murmur in its behaviour to change of position and cardio-respiratory phenomena. I am very sceptical of the book distinctions between functional and organic bruits, and prefer to rely upon a study of the patient rather than the bruit as the best means in differential diagnosis. Another interesting point is that the time may come when the patient goes away to school with a warning note to advise that he has had rheumatic endocarditis, and we hear later that we have been mistaken, and that there is in reality nothing amiss. Remembering the pathological changes in a mitral endocarditis, there is no reason why the vegetations, just as the rheumatic nodules, should not gradually shrink in the course of cure, and then the slight thickening that is left can have no importance when we bear in mind the contractile nature of the valve ring and the great power of the cardiac muscle to adjust itself to slight deficiencies. The real importance of a mitral systolic murmur may eventually lie in the evidence it affords of

\* Articles I and II were published in the JOURNAL of March 24 and April 15th.



the rheumatic attack, and this is of value, for rheumatism in the child is a disorder very likely to recur.

When mitral regurgitation runs an unsatisfactory course in childhood the symptoms of breathlessness and palpitation are soon apparent. The pulse is rapid and later irregular. The impulse, even if it becomes more forcible than normal, is diffuse and the transverse diameter of the heart enlarged. The systolic murmur is loud and long, conducted to the axilla and audible at the back, and often a bruit develops which is to-and-fro in rhythm. There is a tendency to bronchitis, the liver enlarges, and oedema appears. Eventually a condition strictly comparable to an adult case of severe mitral incompetence results.

It is remarkable how such cases resist remedial treatment, a result due to several factors, particularly weakness of the myocardium, adherent pericardium, and destruction of the tone of the valve ring.

### B. Mitral Stenosis.

For a thorough understanding of mitral stenosis the early developments should be carefully studied in childhood. This is the more needful because the medical treatment is most unsatisfactory, and I am convinced that no single step in its history should be left unexplored, even if, as it seems to me at present, this only deepens the conviction of our powerlessness.

We are faced by a most insidious form of subacute inflammation the duration of whose progress is often measured not by weeks but by years. In its earliest stages the absence of symptoms may easily lull our fears; in the latest stages, when the systemic blood system has been throttled at its source, we are powerless to do more than ease the suffering. It is a lesion in which the valvular change is the essential factor, for we often find the myocardium remarkably healthy, and feel that if we could only free the ligature round the blood stream the heart would recover.

There is no doubt that this process of contraction may stop, and if this happens before much stenosis has occurred then life will be prolonged, but the lamentable feature is our inability to influence the process by medical treatment. However carefully we treat these cases by rest and medicine the stenosis often develops under our eyes, and we are driven to the second line of defence—that of minimizing by palliative measures the results that will follow.

It has been pointed out that there are cases of mitral endocarditis in which some scarring of the free edges of the flap occurs, thus causing a certain degree of narrowing; but in these cases the stenosis is of pathological rather than clinical interest. I have had one opportunity of observing not only the development of the condition from week to week, but of ascertaining the pathological changes in the valve after death in a case of true mitral stenosis of unusually rapid course.

This was the case of a little girl of 6 years who was under my care for five months in hospital suffering from severe myocarditis. In the first month there was apparently no valvular lesion; then there steadily developed the signs of a stenosis, with the usual thrill and presystolic murmur. The necropsy showed general thickening of the segments of the valve from subacute inflammation, with small areas of necrosis such as are seen in the rheumatic nodule. Had life been prolonged a general and severe contraction must have followed.

In lectures and papers I have several times drawn attention to the association between repeated attacks of chorea and the development of mitral stenosis in childhood. This association is one which I feel certain is of clinical interest, and I illustrate it by three examples out of a number of similar observations.

#### Example 1.

A. K. A., female, aged 6 years, came under my observation in August, 1907, for an attack of chorea, with multiple arthritis. The attack of arthritis was interesting because the metacarpophalangeal joint of the right great toe resembled a gouty arthritis. An occasional mitral systolic murmur was noticed at that date.

In October, 1907, there was another attack of chorea paralytic in type. In December, 1909, a third attack occurred, and now the first sound at the apex was noted to be short. In May, 1910, there was a fourth attack, and a systolic mitral murmur was audible. In November, 1912, there was a fifth attack, and now a presystolic murmur had developed. In January, 1914, there was a sixth attack, and the condition of the heart was a classical example of mitral stenosis.

#### Example 2.

C. C. A., female, aged 6 years. She was first under observation in March, 1907, suffering from chorea of seven days' duration; the only other rheumatic manifestation was a mitral systolic murmur.

In September, 1908, after a sore throat and a rheumatic erythema she developed headache and chorea and there was also mitral incompetence. In February, 1910, there was a third attack with active carditis but no evidence of mitral stenosis. In February, 1911, she had an attack of arthritis following a sore throat, but there was no obvious mitral stenosis. In May, 1912, a fourth attack of chorea occurred with fainting attacks, and the usual evidence of early mitral stenosis was obtained.

#### Example 3.

J. B., a boy, aged 3½ years. He was first under observation in May, 1908, for chorea of five weeks' duration.

In 1909 there was a second attack. In June, 1910, there was a third attack, when mitral regurgitation was first noticed. In January, 1911, there was a fourth attack, and in April a fifth with arthritis. In October a sixth attack commenced and mitral stenosis was first detected. In 1912 and 1913 further attacks developed, and by September, 1914, he had suffered from ten attacks of chorea and there was an obvious mitral stenosis.

These three cases and many others I have notes upon enable us to trace the development of mitral stenosis. It is obviously a very gradual process, taking many months and sometimes some years to become unequivocal, and during its development the child may never complain of cardiac symptoms. The chorea reminds us, however, that the rheumatic infection is active on frequent occasions, and we are led to realize how stealthy may be the progress of the rheumatic infection in the human tissues. Further, these cases lead us to understand clearly how in an adult we may meet with well-marked mitral stenosis and yet obtain no history of rheumatism, for if the heart is primarily affected and there is no chorea an advancing stenosis may occur without any symptom that calls attention to its presence.

Mitral stenosis is, I think, not by any means an easy lesion to diagnose in the early stages, and a knowledge of the history of the child's health in recent years often gives us valuable information. The presystolic thrill is at first very local and accurately limited to the region of the heart beat. A systolic murmur is often audible, but there are cases in which it is never heard although all the cardinal signs of stenosis appear. In others, again, the systolic murmur gradually fades away, but the first sound becomes short and sharp and a presystolic murmur appears. It is easy enough, if the heart is examined just at the time when the systolic murmur is disappearing, to overlook the character of the first sound and pass the heart as sound. The persistent third sound, commonly expressed by Zubb-tut-tut, is well recognized, as also the presystolic, mid-diastolic, and diastolic types of the rumbling murmur.

Attention must be drawn to a to-and-fro murmur, blowing in character, which is not infrequently met with in the mitral disease of childhood. It is very like the to-and-fro murmur heard in adult aortic disease, and does not point to mitral stenosis. Both these murmurs are soft and blowing, and a necropsy will show a widely dilated mitral opening with a large dilated heart and very probably also an adherent pericardium. It is in my opinion a sign of value in mitral incompetence pointing to a severe lesion, and is one often met with in the disastrous cases alluded to under that section.

In the early stages of mitral stenosis symptoms are usually absent, and it is a sound rule in prognosis to look upon the development of definite symptoms in young children as a serious matter. There is, however, one which is of great interest and difficult of explanation. This is tachycardia. Physicians are well acquainted with tachycardia and its danger in the advanced disease of adults, but the same may occur in childhood from the earliest appearance of the stenosis. It is not, however, dependent upon the stenosis, for it may even pre-date it. The following example will illustrate this occurrence.

#### Example 4.

L. G., a girl aged 5 years, whose father had suffered from rheumatic heart disease, was brought to hospital in March, 1902, suffering from chorea. She lived in a damp house near the Thames, and for four months had become increasingly nervous, until at last chorea developed. The feature of the case was a persistent tachycardia, the pulse varying between 120 and 148 in the minute. The heart was dilated.

She was kept in hospital for four months, and though treated very strictly, the tachycardia persisted until June, when, after



removal of decayed and septic teeth with subsequent administration of the bromides, it disappeared. A systolic murmur at the apex was occasionally noticed when the tachycardia was unusually severe.

Six weeks after leaving the hospital she returned, very excitable and with a recurrence of the tachycardia, but there was no cardiac murmur. A month later some irregularity of action developed, and the impulse of the enlarged heart was very forcible. The thyroid gland was palpable, but there were no other signs of exophthalmic goitre.

In 1906 the condition remained much the same, and there was one attack of chorea. Nervousness and tachycardia were very constant, and the pulse-rate sometimes reached 156 to the minute. The first sound was becoming more abrupt, but no murmur of any kind could be detected. I saw the child again seven years later in 1913, at the age of 16, and found then severe mitral stenosis with tachycardia, cyanosis, and the same remarkable nervousness.

This is an extreme example; far more frequently we meet with cases in which, after a rheumatic attack, the condition has seemed satisfactory, except that the action of the heart has been persistently more rapid than normal, and, except for some shortness of the first sound, no other evidence of actual disease has been apparent. In such cases I have been struck with the frequency with which mitral stenosis eventually develops. This tachycardia is much influenced by emotion; the child does not, as a rule, complain much, but there is a general weakness and sense of exhaustion.

In the adult all physicians are acquainted with severe tachycardia in mitral stenosis, which is sometimes persistent and sometimes paroxysmal, and recognize it as one of the gravest symptoms in the final stages. Of particular interest to me is the tendency for some cases to develop this symptom even before any stenosis is apparent, and often in the early stages when the mechanical difficulties must be small; and I would dwell upon the gravity of this phenomenon as one which tends to complicate the history of the illness with increasing weight as the lesion progresses and, owing to the nervous disturbances so constantly associated, to aggravate the discomfort of the patient. This symptom must not be confused with the rapid action produced in a nervous child by arrival in hospital among strange faces and sounds. These factors will naturally add to the symptom, but the obstinate swiftness of the heart beat in these cases is easily distinguished when the child has been under close observation for some time.

When symptoms develop in childhood, they do so along different lines in different cases. Some show embolic phenomena early, and these are likely to recur, and may end fatally in a cerebral attack. In others bronchitis is the first serious event. In others an acute carditis may entirely alter the outlook, or a malignant endocarditis may supervene. Lastly, in some cases the stenosis proceeds apace, and we have the picture of the disease in its last stages, as it occurs in adult life, and may even see the child lingering on with gangrene of fingers or toes.

## II. AORTIC AND MITRAL DISEASE.

The importance of this combined lesion in childhood has not, I think, attracted the attention it deserves. It is not that I imagine any peculiar mechanical disability results from this combination; on the contrary, it is apparent that the general trend of such cases will be mitral if that lesion is predominant, and aortic if the aortic valve is chiefly damaged. The great feature of interest lies with the infective process rather than with the mechanical disability, for in many cases where both valves are affected we are confronted with a severe type of cardiac rheumatism, and one which may terminate in a malignant or progressive endocarditis in early adult life. Later some figures will be given to illustrate this point. Meantime I would point out that this terminal malignancy is not by any means always the cause of the involvement of the second valve, for the necropsies show, and the former history has proved during life, the existence of these two lesions in the so-called simple phase. The aortic lesion usually develops later than the mitral, and the valve may be damaged during the same illness, or in a recrudescence, or in a later attack. The essential feature in this condition is, in my opinion, the spread of the infection. This places it in position between a simple endocarditis of one valve and a malignant endocarditis involving two valves or spreading to the cardiac chamber.

Several practical points about this combined lesion deserve attention. The commencement of an aortic lesion in a child is very easily missed, for in itself it gives rise to no definite symptoms and requires for its detection a routine and careful examination of the heart. In some cases I have noticed its development coincides with a rise of temperature after the first bout of fever has subsided, which, though not severe in degree, remains persistent for some days or longer. The steps in the development are that a systolic murmur appears in the aortic area and the second sound becomes faint, and then later the diastolic murmur develops. The aortic lesion is the more easily missed because the diastolic murmur in childhood is heard most clearly to the left of the sternum in the third space or behind the sternum itself, or again at its lower end. Students, in my experience, repeatedly miss this physical sign from ignorance of this fact, and also because they are misled by the systolic murmur over the mitral area. It may seem a gross mistake, but it is one easily made, to confuse the diastolic aortic murmur to the left of the sternum with the systolic mitral murmur conducted upwards. The involvement of the two valves by the infection is well explained by their close anatomical relations.

It is my belief that the aortic lesion may be sometimes recovered from, and it is based upon clinical observation and the study of necropsies. I have observed the diastolic murmur disappear and have also seen at necropsies slight damage to the aortic valve which has, during life, given rise to no physical signs. Putting these two observations together, I believe it possible for an aortic valve to heal as effectively as the mitral, though less frequently.

These combined lesions represent by far the majority of cases of aortic regurgitation in early life, and it is not, in my opinion, correct to attribute the systolic mitral murmur to a relative incompetence of the valve secondary to the aortic disease. As I have already stated, the mitral lesion is the earlier, and the result of endocarditis.

Aortic regurgitation is not frequent as a solitary lesion, but it does occur, as experiment proves, for an intravenous injection may produce an endocarditis of this valve alone. In children also we occasionally find aortic regurgitation with no evidence of a mitral lesion.

The practical outcome is that if in the combined lesions the aortic predominates, the case is to all intents and purposes one of aortic regurgitation, unless the mitral lesion has developed into a stenosis. In that event we have another important valvular defect in the combination of aortic regurgitation and mitral stenosis.

### *Signs and Symptoms.*

The physical signs in aortic regurgitation, once established, rapidly develop their characteristics in the young. The pallor, the strongly beating vessels, the large heaving heart, and the collapsing pulse, all appear in due course, and may, as is well known, reach in young adult life an extreme degree.

Breathlessness, pain over the heart, and epistaxis, are frequent, but angina not so frequent as in the adult, for the aorta is seldom severely damaged. Nervousness is a symptom upon which I would lay much emphasis. These children suffer much from it, and may be quite unable to attend school for this reason. No symptom, in my experience, is more often mentioned by the parents.

Compensation is often remarkably effective, and these children may be remarkably active. I have in my notes a case in which such a patient became a first-class cricketer, though, let me add, not with my sanction, for I think it is a very extravagant use of the cardiac reserve to employ it in strenuous games, and even if there is no disaster, nevertheless it must shorten a useful life; that man, however, led a happier life, in my opinion, than one who has been frightened into invalidism because he has some degree of aortic regurgitation. The happy mean must be the obvious line to take, and with the young heart the aim should invariably be to make the life as full and not as empty as possible.

As a rule these children do not die suddenly but succumb to a renewed attack of carditis. Later in life they may die in the same way, or may strain the heart in an entirely improper occupation in life, or develop malignant endocarditis, or, again, die suddenly or suffer from the mitral lesion and its consequences. When the heart fails from a carditis or from general breakdown of compensation,



the signs and symptoms of the aortic lesion become much less obvious and may be entirely overlooked until recovery sets in and the bruit reappears.

Table illustrating the Relation of Aortic and Mitral Disease to Malignant Endocarditis.

No.	Sex	Rheumatic Attack, Mitral and Aortic Disease.	Death from Malignant Endocarditis.
1	M.	In 9th year	In 10th year.
2	M.	In 10th year	In 13th ..
3	M.	In 6, 8, 10th, and 12th years	In 16th ..
4	F.	In 12th and 13th years	In 14th ..
5	F.	In 7th and 20th years	In 21st ..
6	M.	In 11th, 14th, 17th, and 18th years	In 19th ..
7	F.	In 12th year	In 16th ..
8	F.	In 9th and 16th years	In 11th ..
9	F.	In 12th year	In 14th ..
10	M.	In 7th year	In 11th ..
11	F.	In 12th and 15th years	In 17th ..
12	F.	In 8th, 13th, and 15th years	In 24th ..
13	F.	In 13th and 17th years	In 27th ..
14	F.	In 7th year	In 12th ..

This group strengthens, I think, the view that I hold that aortic and mitral disease is not of importance only because two valves are affected, but because the lesions point to a tendency to spreading activity and the possibility of malignant development.

As already stated, aortic regurgitation as a solitary valvular lesion is exceptional in childhood, and for the purposes of this article sufficient attention has been given to it under the combined lesion just described. Aortic stenosis and tricuspid endocarditis occur in childhood, but they illustrate no special principles and need not detain us.

#### MALIGNANT ENDOCARDITIS.

Space will not permit any detailed description of this deadly disease in childhood, which resembles in its behaviour the condition in adult life; but I would repeat here my belief that the rheumatic infection is a frequent and important cause, and will very briefly state the reasons.

There is frequently an antecedent history of rheumatism; it may occur together with such active symptoms as arthritis and pericarditis, and these may be overcome although the valvular lesion may run a fatal course. Both simple and malignant endocarditis may occur in the cardiac valves in the same case, and connecting links between simple and malignant endocarditis may be met with in childhood. Experimental inoculation with the rheumatic infection may produce both forms of endocarditis.

I look upon simple endocarditis as evidence of destruction of the micrococci by the tissue resistance, and malignant endocarditis as proof of the failure of that resistance. I cannot accept the view that septic micrococci have a predilection for damaged and sclerotic valvular tissues, but I think it highly probable that in the necrotic areas of vegetations micrococci may remain latent and spring into virulence. How is it that in written answers we find examiners insisting upon the multiple abscesses found in the viscera in malignant endocarditis? The great feature is the usual absence of such abscesses, and the term arterial pyaemia is as a rule quite incorrect.

It need hardly be added that I do not suppose rheumatism to be the only cause of malignant endocarditis, which we all admit may be produced by various infections. Lastly, I venture to think that more attention directed to the supervision of patients with organic heart disease would throw light upon the all-important factors tending to cause this most dangerous condition.

It follows from the above considerations that I recognize three cardinal processes in endocarditis: (1) The simple; (2) the sclerosing; and (3) the malignant.

## NEPHROTOMY COMBINED WITH CAESAREAN SECTION IN THE TREATMENT OF ECLAMPSIA WITH SUPPRESSION OF URINE.

By CLIFFORD WHITE, F.R.C.S. Eng.,

SURGEON, SAMARITAN AND METROPOLITAN HOSPITAL; OBSTETRICIAN, QUEEN CHARLOTTE'S HOSPITAL.

The number of patients suffering from eclampsia appears to have increased recently, this complication having occurred at Queen Charlotte's Hospital one and a half times more often during 1917 than in the year before the war. Hence the question of its treatment, important at any time, is now the greater.

Before discussing whether transperitoneal incision of the capsule of the kidney may be a useful addition to Caesarean section, it is necessary to consider in what type of eclamptic patient Caesarean section should be performed. Stated briefly, the indications for Caesarean section are the occurrence of fits or the onset of severe toxic symptoms in a primigravida with an undilated cervix, especially if little urine is being secreted and if generalized oedema and cyanosis are present. The advantage of Caesarean section in such cases is that no rapid method of delivery *per vaginam* is possible except at the cost of local trauma and shock that exceeds that of laparotomy. If the view be taken that such cases are better left undelivered and treated on general lines, we are faced immediately with the undesirability of infusing fluid into the veins or subcutaneous tissues of an oedematous patient who is frequently already bronchitic, and the equally undesirable practice of giving large doses of morphine to a cyanosed patient. One of the few drugs that is still available in such cases is veratrine, and this, unfortunately, frequently fails. After Caesarean section the eclamptic seizures rapidly improve in the great majority of cases, but in some there is difficulty in eliminating the toxin, owing to more or less marked suppression of urine.

It is usual for eclamptic patients to pass only a diminished quantity of urine for some days after delivery, and this diminution is considerable in quite a large number. The occurrence of acute suppression of urine in toxic patients immediately after delivery, although uncommon, is well known, and is frequently fatal. The pathological explanation generally accepted is that the suppression of urine is due to the thrombosis of the intertubular vessels, with consequent necrosis of the renal cortex. This theory seems to rest on the publication of very full and careful *post-mortem* records of certain classical cases.

Bradford and Lawrence (*Journal of Pathology and Bacteriology*, 1898, vol. v, p. 195) recorded the case of a multipara who had practically complete suppression of urine after delivery till her death on the seventh day. There were none of the usual symptoms of acute uraemia—vomiting, delirium, coma, dyspnoea, and amaurosis being absent. *Post-mortem* the convoluted tubules were found to be necrotic and the intertubular arteries thrombosed.

Herringham and Griffith (*Ibid.*, 1906, vol. xi, p. 237) gave details of a patient who, from the time of delivery till her death nine days later, passed only ten ounces of urine. The ordinary symptoms of uraemia were absent till the end. *Post-mortem* the kidneys showed cortical necrosis and thrombosis of the intertubular vessels.

Lloyd (*Lancet*, 1909, vol. i, p. 156) recorded the case of an eclamptic patient from whom only an ounce and a half of urine was collected from the time of delivery till her death on the eleventh day. There were slight twitchings from the seventh day onwards, but no fits or other symptoms of uraemia. The *post-mortem* description of the kidneys is that together they weighed seventeen ounces. Microscopic examination showed coagulation necrosis of the cortex: the large arteries were not thrombosed, although the intertubular vessels were, and the intertubular spaces infiltrated with leucocytes.

It is of paramount importance to consider whether this explanation is correct in the majority of cases, as if primary renal thrombosis occurs and is the cause of the suppression, it is in the highest degree unlikely that any surgical interference will save the patient's life once the symptoms are established. There are, however, reasons for doubting if this explanation is correct in all—or any—cases. In 1909 Weber<sup>1</sup> criticized this pathology, and pointed out that "there is nothing in the description of the thrombi to indicate that they were formed several



days before the death of the patient," and suggested that the thrombosis was secondary to inflammatory changes affecting the secreting tissues. The existence of inflammation in all the classical cases is shown by the presence of small cell exudation. A second criticism that may be brought forward is that it is common knowledge that a large number of cases recover which, in the early stages, are clinically identical with the three classical cases. Yet it is difficult to conceive a thrombosis occurring that is sufficiently widespread to cause almost complete anuria and yet allow of recovery. A third and more important point is that after ten days of a condition clinically identical with the account given of the cases already quoted, the simple procedure of incising the capsule of the kidney at once caused free secretion of urine. It is to be noted that the symptoms present in such cases are nearly always those of "latent uraemia" resembling the phenomena observed in obstructive suppression of urine when the ureters are suddenly blocked by a moving calculus.

It remains to consider what is the condition of the kidney during life in eclamptic or toxæmic patients with more or less marked suppression of urine. Cases provisionally grouped under the terms "eclampsia" and "toxæmia" include widely divergent clinical types, and so it is hardly to be expected that the state of the kidney during life will be uniform if a sufficiently large series of cases be taken. To ascertain the state of the kidney during an eclamptic attack in patients with a diminished output of urine, I have palpated the kidney directly through the abdominal incision after performing Caesarean section in eclamptic patients. In every case I have found the organ swollen, tense, and, in some cases, as hard as stone. Whatever the pathology of the condition, increased intracapsular pressure certainly has been present in the cases in question, and this is, in my opinion, a very important factor in causing suppression of urine; it may be the only factor of vital importance in some cases of acute inflammation of a previously healthy kidney. If increased pressure inside the fibrous capsule of the kidney be the cause of the suppression, it may act through alterations in the blood flow or by pressure on the tubules leading towards the ureter. Of the two, the latter seems to be the more probable mode of action.

It would not require great pressure on these tubules to cause suppression of the flow of urine, as it has been shown experimentally that if the ureter is ligatured the pressure of urine in the ureter rises to 60 mm. of mercury in a manometer and then remains stationary, showing that at this pressure either secretion ceases or reabsorption commences. The swelling of the kidney within its fibrous capsule and the intertubular infiltration may cause compression of the collecting tubules leading towards the kidney pelvis and thus prevent the urine reaching the ureter. Thus suppression can theoretically go on for a considerable time, even if the secreting epithelium is still functioning. The suppression of urine in these cases, on this hypothesis, would be "obstructive" in nature, and we should expect to get the symptoms actually met with—namely, those of latent uraemia. One of the cases recorded below seems to lend support to the mechanical hypothesis, for, in a case of post-eclamptic suppression, as soon as the kidney capsule was incised, urine commenced to reach the bladder in reasonably large quantities. Also sections from small pieces of the renal cortex demonstrate the existence of distension of the tubules (see Figs. 1 and 2), and the distension is more marked in the case of the patient with the more complete suppression of urine.

If increased intracapsular tension be the cause of the diminished flow of urine, and if the diminution in the quantity of urine passed is sufficient to cause delay in the excretion of the toxin causing the nephritis, the indication is to relieve the hypertension before degeneration of the renal epithelium takes place and the terminal thrombosis of the intertubular vessels occurs. Caesarean section for eclampsia is one of the few conditions in which this can be done easily, as at this time the operator is faced with (1) acute inflammation of a previously healthy kidney, (2) general toxæmia causing that inflammation, and (3) a laparotomy incision giving easy access to the kidney. Since I satisfied myself that the renal tension is very frequently raised it has become a routine to treat suitable cases by nephrotomy after doing Caesarean section. As such suitable cases are uncommon even in a lying-in

hospital, my experience is so far limited to six, but the results as regards immediate free diuresis have been good and uniform, as every patient has passed a large quantity of urine from the time of operation.

The method adopted is as follows: The patient being under ether, Caesarean section is performed through a high abdominal incision instead of the usual one below the umbilicus. One that gives good access is a median incision made so that two-thirds of its length are above the umbilicus and one-third below. The Caesarean operation being finished in the usual way, a large retractor of the Doyen type is inserted and the wound retracted upwards and to the right. The flaccid abdominal wall allows of free retraction. The small intestine being packed over to the left, the peritoneum lateral to the ascending colon is incised for five inches, the colon turned towards the middle line, and the kidney exposed. An incision through the renal capsule is made along its convex border for its whole length, and as it is impossible to limit the incision to the capsule, a superficial portion of the kidney substance is cut through. A small drainage tube is passed through to the skin of the loin, the colon replaced, and the abdomen closed. The only difficulty is that of illumination in so deep a hole in a fat patient; in an easy case the nephrotomy does not add ten minutes to the operation.

The performance of nephrotomy some time after delivery requires separate consideration, as it might be expected that the secreting epithelium would be damaged permanently after, say, a week, and that little improvement would result from simple division of the capsule. That this is not a fact, and that the operation may be followed by the most marked improvement, is shown by the two following cases:

#### CASE I.

[By permission of Dr. G. F. Backer,] S. O., who had had one child in 1911, was admitted under Dr. Backer's care at University College Hospital on March 5th, 1912, being then six months pregnant. For the last week the daily quantity of urine had fallen to 8 oz.; it was scanty with albumin, and contained granular casts. Intense general oedema present. Optic discs normal. Labour induced, and a dead foetus—tetus delivered on April 1st. Blood pressure 145 mm. mercury. No improvement occurred, and the oedema became so intense that the swollen upper and lower eyelids made any vision was possible. In spite of treatment only 5 oz. of urine were passed each day. On April 17th her fits were followed by temporary coma occurred. On April 18th nephrotomy was suggested and one kidney capsule was incised by Mr. Trotter at 8 p.m.; the kidney did not bulge much through the capsule. In spite of this, 20 oz. of urine were passed the next day and about double that quantity on each subsequent day. The oedema rapidly disappeared and the patient was discharged on May 17th. She walked up to the hospital to see me on July 25th in good general health, and on September 25th was noted as being very well although a little albumin was still present in the urine.

This case was probably one of nephritis aggravated by pregnancy and ending in uraemia; the second is one of true eclamptic toxæmia in which increased kidney tension was noted at the time of the Caesarean section and where, after ten days of almost complete suppression, nephrotomy immediately relieved a condition that appeared to all to be approaching a fatal termination rapidly.

#### CASE II.

L. B., primigravida, aged 25 years, was examined in the antenatal department at Queen Charlotte's Hospital on March 28th, 1918. There were no pre-eclamptic symptoms and no albuminuria. On April 7th at 3 a.m. she had severe headache and vomited repeatedly; at 6.30 a.m. the first eclamptic fit came on, and eleven more occurred before she was brought to Queen Charlotte's Hospital soon after noon. On admission the report of Miss E. Pfeil, the Resident Medical Officer (from whose notes this abstract is made), was that the patient was convulsed, and consciousness was not regained between the fits. Extreme cyanosis and slight jaundice were present. Blood pressure 160 mm. There were slight oedema of ankles and shifting oedema of the flanks. The physical signs were those of a twenty-four weeks' pregnancy, cervix closed, and the fetal heart not heard. On passing a catheter an ounce of dark bloody urine, which became solid on boiling, was obtained. In spite of morphine and an enema ten more fits occurred. At 5 p.m. I removed a dead fetus (six months) by abdominal Caesarean section. There was a considerable amount of ascites. The right kidney was very hard, but owing to the early period of gestation in this case, the incision was too low to allow of nephrotomy without considerably extending the incision upwards, and, as the patient was extremely ill, I did not incise the kidney capsule. Two hours after the end of the operation the patient was conscious, and no more fits occurred.



On April 8th, 9th, and 10th frequent watery evacuations of the bowels were obtained, so it is difficult to state with accuracy if any urine was passed. On April 11th the bowels were not opened for twenty-four hours and all urine was collected with the greatest care; only 2 oz. were obtained. For the ten days (April 7th to 17th) though very large quantities of fluid were drunk, the quantity of urine collected in twenty-four hours was never more than  $3\frac{1}{2}$  oz. and frequently only a few drachms. During this time she was slightly drowsy but easily awakened, and answered all questions quite rationally. Delirium, twitchings, vomiting, convulsions, and headache were absent. The temperature averaged  $99^{\circ}$  and never rose above  $100^{\circ}$ . After the shock of the fits had subsided the pulse-rate averaged 84. The tongue was fairly clean and the breath not foul. She complained only of pain in the eyes, but Mr. Dawney, who examined the discs on April 16th, found them normal. During the first part of this time the oedema was slight, but on April 17th it had increased; her general condition was getting definitely worse, no improvement in the output of urine had taken place, and a fatal termination within, at most, two days, seemed the only end. At noon, under ether anaesthesia (Miss Russell), I incised the right loin and exposed the kidney. It was dark purple in colour and hard. On incision, the kidney substance bulged slightly through the tense capsule. The capsule was freely opened by a T-shaped cut which penetrated the cortex for about one-third of an inch. A large drainage tube was inserted into the oedematous perinephric tissues and the wound closed rapidly by through-and-through sutures. In the sixteen hours preceding the operation she had passed only 2 oz. of urine; in the next eight hours, besides what came from the loin, 6 oz. were passed by the urethra. On the next day, April 18th, 38 oz. were passed; on April 19th, 37 oz.; on April 20th, 50 oz. During the next week the average amount measured daily was 82 oz. She rapidly improved after the nephrotomy and recovered without further symptoms.

The urine was repeatedly examined by Dr. F. E. Taylor; on April 16th albumin was present up to 0.5 Esbach, but diminished in amount till it was reported as absent on April 23rd and following days. Later a trace reappeared. Neither diacetic acid nor acetone was ever found. The amount of urea on April 13th was 0.5 per cent. and on April 15th 0.7 per cent. Casts were repeatedly searched for, but were absent till the day after the nephrotomy, when blood and leucocytic casts were passed in quantity.

#### HISTOLOGY.

Case 1, Fig. 1. A section of a minute piece of cortex removed from Case 1 shows considerable degeneration of the tissues. Some tubules are lined by cells that are clear, greatly swollen, and whose nuclei can no longer be distinguished. Many cells are disintegrating, and the tubules in places are entirely filled by granular material. Many

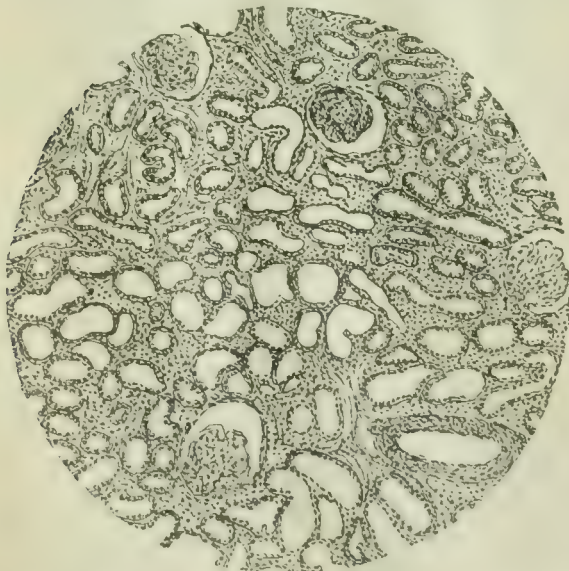


FIG. 1.—Case 1: Section of portion of kidney removed from nephritis and pregnancy patient during period of partial suppression of urine. Relative size of dilated tubules obtained from section by tracing. Nephrotomy. Recovery.

tubules are still lined by healthy cells that stain well. Compared with a healthy kidney the tubules show general dilatation, but this is not so advanced as in Case II. The glomeruli show no profound change; the size of the clear space round them is rather greater than normal. There is considerable infiltration of the interstitial tissue. No thrombosis of vessels is to be seen.

Case II, Fig. 2. A small piece of cortex at the angle of the T-shaped incision was removed during the nephrotomy on Case II. Sections show that, as a rule, the cells take the stain well and the nuclei are distinct. Some of the cells are degenerate, but no extensive areas of cloudy swelling or necrosis are present. The connective tissue in places is

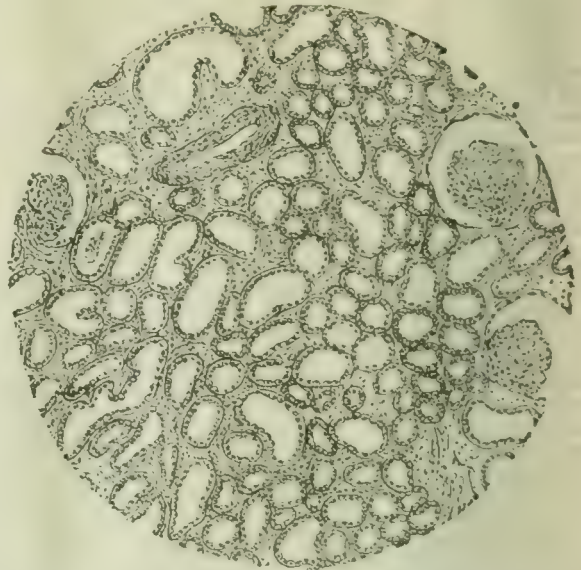


FIG. 2.—Case II: Section of portion of kidney removed during almost complete post-eclamptic suppression of urine. Relative size of dilated tubules obtained from section by tracing. Nephrotomy. Recovery.

increased in amount, contains round cells, and is slightly oedematous. The blood vessels show no marked changes, and no thrombosis is present. The glomerular cells are normal; each glomerulus is surrounded by a considerable clear space. The most marked changes are in the tubules. These are everywhere dilated, so that the section has a more open appearance than usual; this is due to the size of the tubular lumina, and not to the state of the interstitial tissue. Some of the tubules contain blood and others granular debris. Some cells have partly or wholly desquamated, but in most tubules the majority of the cells are healthy looking and stain well.

#### CONCLUSIONS.

Suppression of urine in some cases of pregnancy toxæmia is caused by pressure on the collecting tubules due to increased tension inside the fibrous capsule of the kidney. It can be treated successfully by nephrotomy after symptoms have persisted for many days. As a prophylactic measure nephrotomy may be combined with Caesarean section advantageously in suitable cases.

#### REFERENCE.

<sup>1</sup> *Lancet*, 1909, vol. i, p. 602.

## TINEL'S SIGN IN PERIPHERAL NERVE LESIONS.

By W. M. MACDONALD, B.Sc., M.D., M.R.C.P.,  
TEMPORARY LIEUT.-COLONEL, N.Z.M.C., CONSULTING PHYSICIAN,  
N.Z.E.F.

Two aphorisms with regard to peripheral nerve injuries appear to have a wide vogue in England at the present time—namely, (1) that an electrical examination of one kind or another is in itself the best, if not the only criterion of the physiological continuity of a nerve, and (2) that when the reaction of degeneration is found to be present at several examinations conducted within a brief space of time, or when there is much pain in the course or territory of a wounded nerve, it is the duty of the surgeon to explore. The reason commonly given is that "no harm can be done by the operation." But there are two serious objections to early operation—the risk of injuring muscular branches which are intact, and the danger of damaging a nerve trunk in process of natural recovery. Of all the lessons



that this war has taught us in neurology, there is none so striking as that of the tendency to natural recovery in nerves which have been concussed, contused, compressed, lacerated, or even divided, and this recovery may begin to assert itself as late as ten or twelve weeks, or even longer, after the injury. Nerve tissue which is in the act of regeneration or recovery is specially susceptible to mechanical injury, and it is impossible to avoid some degree of this in the investigation of a nerve in a healed gunshot wound. Gosset has recorded a case<sup>1</sup> in which in operating on an ulnar nerve he held the median lightly in his forceps, and it subsequently showed signs of irritation and remained paralysed for two months. The use of periosteum elevators for gouging injured nerves out of dense scar tissue has probably been abandoned, but it is not yet perhaps sufficiently realized how important it is not to lift or touch a nerve with instruments during an operation. Even where the surgeon scrupulously avoids touching the nerve with his instruments, the disturbance of the blood supply, of the sympathetic fibres, and of the nervi nervorum must cause considerable interference with function.

A further justification of the "look and see" as opposed to the "wait and see" policy is offered by the tempting facility for applying naked electrodes to the exposed nerve at or above the site of lesion. This is probably the best way of testing the physiological continuity of a nerve, but it is open to the objection that in order to carry out the procedure one has to operate on the nerve first in order to determine by electro-diagnosis whether the case is one for operation.

So long ago as February, 1915, Dejerine<sup>2</sup> enunciated the proposition that the electrical reaction of the muscles supplied by a wounded nerve are not in themselves a guide as to the nature of the lesion, nor are they a measure of its severity. This striking example of Dejerine's acumen and prescience has since received abundant confirmation among military neurologists on the Continent, and it has gained a measure of support from Captain Adrian, R.A.M.C.<sup>3</sup> In explanation of Dejerine's somewhat paradoxical contention I may point out first that the muscles supplied by nerves which are the subject of perineural or neuritic irritation sometimes show marked atrophy and reaction of degeneration even when they have not quite lost the power of voluntary contraction. Secondly, nerves which have been severely contused or compressed but which have no anatomical solution of continuity may show reaction of degeneration. Erb long ago called attention to the "paradoxical reaction" in musculo-spiral compression in which it is impossible to stimulate the nerve with faradism above the lesion, although the muscles retain their faradic response to ordinary currents. In the third place, the reaction of degeneration does not always follow the section of a nerve. Recently I have obtained a well-marked faradic response with a Gaiffe's chariot and trembler (fine wire, large model) in two cases in which the nerve was completely divided. The first case came from Tooting Military Hospital, with a note that "at a recent operation the musculo-spiral nerve was found to be completely divided in the arm," and yet both the extensors of the wrist responded well to faradism, and all the extensors gave a brisk galvanic response. In the other case I had myself seen an inch completely resected from the ulnar nerve two weeks previously, and yet all the interossei stood out well on faradic stimulation. Electrical tests are of great assistance in arriving at a complete conclusion when taken in conjunction with other methods of examination, but they should not be regarded as final, and it is important that the other methods of diagnosing the interruption of a nerve should have their true value recognized.

Of these the most important is what Tinel calls *le signe du fourmillement*, which may be translated as "distal tingling on percussion" (and abbreviated as D.T.P.). This sign depends on the fact that when young axis cylinders are percussed there is a sensation of tingling in the cutaneous area corresponding to the ultimate distribution of the axis cylinders. Thus if the musculo-spiral nerve is cut across in the arm and the proximal end is percussed no tingling will be felt by the patient. The lower segment of the nerve then degenerates, and a very short portion of the upper segment of the nerve, as well as the muscles, tendons, skin, etc., supplied by that nerve exclusively, become insensitive. After a time regeneration commences

at the lower end of the proximal segment, and new axis cylinders grow down to and beyond the point of section. In from four to six weeks there will be bundles of new axis cylinders at this point, and if they are firmly tapped with the forefinger the patient will experience a sensation of tingling or "pins and needles" in the skin over the dorsum of the first and second metacarpals. When tingling in the hand follows tapping on the arm this indicates not—as I have heard suggested—continuity of the neurone between the arm and the hand but between the arm and the brain. If the new axis cylinders are arrested or twisted back to form a neuroma by a fibrosis or keloid mass at the end of the lower segment, or if they cannot reach the latter owing to extensive destruction, the portion of nerve from which D.T.P. can be elicited is never longer than 2 or 3 cm., and is situated at the site of the lesion. That is what is commonly found in interruption by neuroma or section.

If, however, the new axis cylinders succeed in growing down the trunk, or if the latter has only been contused and has preserved its anatomical continuity, then *pari passu* with the growth of the cylinders there occurs a downward extension of the D.T.P. In young healthy subjects this growth takes place at the rate of 1 or 2 mm. a day, and in cases which are regenerating the growth of the new cylinders may be regularly followed down the limb by this simple test. It will be found further that when the new axis cylinders have completely developed their function, the D.T.P. disappears. This usually occurs in about 100 days, so that when the cylinders have travelled about 10 cm. down the nerve trunk the site of the lesion is beginning to lose its D.T.P. In another 100 days the first 10 cm. of the nerve below the lesion will not show D.T.P., while the next 10 cm. will do so. Thus in nerves which are regenerating one will always find an area some 10 cm. long where D.T.P. can be elicited, and this area travels gradually down the nerve until it reaches the lower end and finally disappears. In a sciatic lesion, for example, from a wound in the buttock, where regeneration is taking place, at the end of twelve months there will still be paralysis, atrophy, and reaction of degeneration in the leg muscles. But if an area of D.T.P. some 10 cm. long is found about the level of the popliteal space, a good prognosis can be given and a needless operation avoided. As this sign always precedes the return of muscular tonus, voluntary movement and normal electrical reactions by a considerable interval it will be seen to be an indication of great value after operation for nerve graft or suture. In Tinel's service at Le Mans it is constantly used and has amply proved its worth.

Another example of the utility of this sign is afforded by cases in which a nerve lesion has occurred in a limb with multiple wounds. The site of the D.T.P. indicates which wound is responsible for the lesion. In lengthy wounds also it indicates the exact level of the nerve injury.

D.T.P. is also found in neuritic irritation, but in that case it can be elicited along the whole length of the irritated nerve, and, further, the percussion causes pain and tingling at the point percussed. This form of D.T.P. is therefore easily distinguished from that due to regeneration. A modified form of it is also found after recent injuries where a nerve has been concussed, contused, or compressed so as to cause paralysis without reaction of degeneration, or at least with only partial reaction of degeneration. When such a case is examined a month or so later it will be found that D.T.P. can be elicited over the greater part of the nerve, or at least for several inches below the lesion. When D.T.P. can be obtained early in the second month for more than 10 cm. below the lesion, then, without any electrical examination at all, one can affirm that complete recovery will take place in a few months.

In testing for D.T.P. there are one or two practical points to be observed. The first is that percussion must always be begun from the distal end and proceeded with slowly, as an unintelligent patient may have a persistent sensation of tingling once it has been obtained and so give fallacious responses. Secondly, too much shaking of the limb must be avoided, as in a sensitive patient the shock may set up tingling in an area other than the one percussed. Thirdly, care must be taken not to set up tingling in another nerve. Thus, with a complete ulnar and an incomplete median, the patient may answer for the median when the ulnar is percussed. In the leg also patients are



apt to confuse tingling in the sole and on the dorsum of the foot (internal and external popliteals). Another source of confusion is the downward growth of stray fibres while the bulk of the nerve remains interrupted. This error can be rectified by later examinations when the bulk of the D.T.P. is found to be at the site of the lesion, while that obtained lower down is indistinct and irregular. I must confess to several mistakes of this sort, which, however, were all rectified at subsequent examinations. Sometimes small bundles grow across the limb, or, in musculo-spiral wounds above the elbow, may even turn back and ascend over the outer head of the triceps. In such cases the bundles can be traced by testing for D.T.P. and are easily recognized as wandering fibres. In dissociated lesions where different portions of the nerve are wounded at different levels there is a real difficulty which cannot be overcome by any method of examination.

In elderly, alcoholic, or debilitated subjects nerve regeneration is very imperfect, or may altogether fail. In these cases D.T.P. does not occur, and its complete absence is usually a sign of grave prognostic import, but on the whole it is of more value as a positive than as a negative sign. The other signs of interruption of a nerve can only briefly be enumerated here. In addition to paralysis, reaction of degeneration and atrophy (which are not pathognomonic), may be mentioned insensibility of the nerve and its muscles, fixity of the area of anaesthesia or hypoaesthesia, delayed epithelial scaling, and loss of tonus as shown by altered position, as, for example, in the simian hand, dorsal tumour of the carpus and tarsus, dropped foot and dropped wrist. Incomplete dropped wrist is always a sign of an incomplete lesion (unless due to articular stiffness), but the converse is not true, as complete dropped wrist may be due either to organic or to functional hypotony.

Having carefully considered all these points, one is then in a position to reply to the important questions, Why and when should operation be advocated? On the Continent there is a growing tendency to restrict operation to those cases in which resection and suture are required. Delagenière,<sup>4</sup> whose results in nerve surgery are unsurpassed, writing of cases whose after-progress had been studied for two years and a half, states that 113 cases in which liberation of the nerve was practised did not on the whole seem to do any better than cases which were left alone. Falcone<sup>5</sup> states that after an early period of *entusiasmo interventivo* he came to the conclusion that it was better as a rule to postpone operation so as not to run the risk of cutting unaltered fibres and damaging those which were in process of regeneration. He considers that the most favourable time for intervention, based on a wide clinical experience, is the fifth or sixth month. Delagenière does not usually operate before the end of the third month. These opinions are borne out in our experience in the Neurological Service, N.Z.E.F., Brockenhurst, where a number of cases showing reaction of degeneration have begun to recover in the fourth month and have made very rapid progress thereafter. Of Delagenière's cases, 245 were sutures, 181 of them being practised in favourable conditions with 120 excellent results, 41 moderate successes, and 20 failures. Of 9 grafts from the musculo-cutaneous, 3 were almost complete successes.

With regard to cases in which pain is a prominent feature, as in causalgia, early operation is advisable, and may take the form of arterial decortication (Leriche),<sup>6</sup> catgut ligature of the nerve above the lesion (Lortat-Jacob and Hallez),<sup>7</sup> distal section and immediate suture of the nerve (Tinel and Delagenière), or injection into the nerve of 65 per cent. alcohol (Sicard).<sup>8</sup> Leriche's operation is extensive and tedious, but sometimes gives good results. In the Neurological Service, N.Z.E.F., we have always succeeded with alcohol injections. Sicard recommends 60 per cent. alcohol (not alcohol at 60° C., as it is usually translated), but the experience of Lieut.-Colonel Arkland and Major Stout of the N.Z.M.C. has shown that 65 per cent. alcohol is more effective in calming the pain and does not paralyse the motor fibres. Tinel claims that section and immediate suture of the nerve at the wrist or ankle is always successful, but I have seen it fail in one case, as also, in another, the distal injection of alcohol. In a recent very acute case of musculo-spiral causalgia, which is a rare condition, proximal injection of alcohol was immediately successful.

It would be unwise to expect the patient aloofness of

Falcone to find many emulators in England, where, even in orthopaedic hospitals, healed nerve injuries are admitted directly into the surgical, and not, as in France, into the medical, service, but it is not too much to ask that the surgeon shall hold his hand for some months when there is voluntary contraction in some of the muscles or even when there is faradic response. In these cases operation is not justifiable, and in many others an unnecessary or harmful operation would be avoided by the intelligent use of Tinel's sign.

## REFERENCES.

- <sup>1</sup> *Presse Medicale*, 1915. <sup>2</sup> *Ibid.* <sup>3</sup> *Journal of the R.A.M.C.*, July 1917. <sup>4</sup> *Societe de Chirurgie, Paris*, March 6th, 1918. <sup>5</sup> *Riforma Medica*, February 2nd, 1918. <sup>6</sup> *Presse Medicale*, September 10th, 1917. <sup>7</sup> *Bull. Soc. Med. des Hopitaux*, March 8th, 1918. <sup>8</sup> *Presse Medicale*, June 1st, 1916.

## A SPORADIC CASE OF POLIOENCEPHALITIS.

BY

J. N. MARSHALL, M.D.,

ROTHESAY, BUTE.

A CASE presenting many of the features described as botulism or polioencephalitis has occurred in Rothesay, Isle of Bute, and seems worth recording.

The disease, which occurred in a girl aged 8, ran a course of about three weeks and ended in recovery; the beginning and the end of the illness were both rather abrupt.

The most marked symptoms throughout were bilateral ptosis with nystagmus and profound stupor, amounting at one time almost to coma. The clinical picture presented a marked contrast to that of meningitis. Instead of irritability, restlessness, and mental aberration, there was comparative placidity throughout, and when it was possible to rouse her the intellect seemed clear.

The girl belonged to a good working class family. The home conditions were good, and there was no history of eating sausages or tinned meat of any description, nor had she been from home for some months before her illness.

While at school on May 24th she complained of headache and of not seeing well, and was found bathing her head with cold water.

Two days later I saw her and found V.A. for left eye  $\frac{1}{2}$ , and for right  $\frac{1}{4}$ . Her sight had been examined in school a short time before and found perfect. She looked dull and tired and complained of headache. There was no vomiting either then or later.

On May 28th I found her in bed and stuporose, with marked bilateral ptosis. There was also nystagmus and slight internal strabismus of left eye; this last-mentioned symptom did not persist long. The pupils were slightly dilated and sluggish to light. She was easily roused and answered questions intelligently and did not complain of headache or of pain anywhere. Kernig's sign was present, but not in a marked degree. The patellar tendon reflexes were exaggerated, and there were occasional startings involving the whole body. Later on involuntary contractions of muscle could be produced by suddenly grasping any of the limbs. There was delirium during sleep with clawing of the bed and clutching of the hands. The temperature was 100°; the pulse 84 and regular; the respirations 22.

During the next week the condition became much worse. Stupor was profound, though some response could still be obtained when she was asked to put out her tongue. She did not speak nor answer questions. The temperature ranged from 101° to 102° and the pulse from 114 to 128. Retention of urine necessitated the use of the catheter twice a day. The urine was natural and free from albumin. There was considerable difficulty in swallowing, but by persistently feeding with a spoon small quantities of milk were got down. The tongue was at first rather furred and the breath foul, but with regular cleansing of the mouth this condition improved. By the end of the second week the child was almost comatose and no response could be obtained. There was great emaciation. At this time, however, the temperature began to fall, and at the beginning of the third week was below normal. In the middle of the third week she quite suddenly began to cry with pain in the head and back of the neck, and there was retraction of the head. The pain was so severe that emipon was given on two occasions, and sleep thus obtained. Involuntary contraction of the upper labial muscles caused an intermittent appearance of risus sardonicus.

At the end of the third week she began to yawn, to move her arms, and to speak. The ptosis disappeared, and from this time on improvement was rapid. At first she spoke in a shrill, unmodulated voice, calling persistently "Mummy" for hours on end, though when spoken to sharply she stopped and answered questions. The urine was now passed naturally and the bowels moved spontaneously. The appetite became voracious, and in another week the child seemed practically well. There seemed



to be no impairment of the senses or of the intellect, but there was great muscular weakness and some tremor when the arms were used.

Practically all the treatment in the case consisted of careful nursing, feeding, and catheterization, all carried out very efficiently by the Queen's nurse of the district.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### PRIMARY SUTURE OF GUNSHOT WOUNDS.

Much has recently been written on primary suture of wounds, carried out so successfully by our French *chirurgiens* and by British surgeons at certain casualty clearing stations in France.

Ample statistics prove unquestionably that the number of successful results varies inversely as the delay between the receipt of the wound and the time when the "toilet" operation is carried out. Many observers question the advisability of primary suture if an interval of more than twenty-four hours has elapsed. My own experience, at a base hospital in France, hardly bears this out, for I have found that even as late as thirty-six or forty-eight hours after infliction a considerable number of wounds may safely be subjected to primary suture; hence it appears to be not unreasonable to suggest that a hide-bound time limit should not become established.

Since the commencement of the German offensive a large number of cases have come through to the base unoperated upon. Many of these wounds have been attacked with a similar, though perhaps more thorough, excision procedure than I was accustomed to carry out at a casualty clearing station; wherever possible, without damaging important structures, the *en bloc* method has been adopted. In a large majority of cases the results have justified the step, and in only a small minority has it been necessary to remove stitches to allow escape of discharges.

In not a single case has gas gangrene occurred, or has there been cause for alarm owing to general or local inflammatory complications. In some cases, even where a shell fragment was surrounded by pus, lodged at the end of a dirty wound track, and although the skin around already exhibited some inflammatory changes (redness and oedema), primary suture has succeeded, and the surrounding inflammation has subsided in a remarkable way.

The importance of most careful selection of the type of case warranting primary suture cannot be over-emphasized, and only a very considerable experience of the clinical phenomena and operative technique of excision of war wounds justifies this procedure.

At the base hospitals forced evacuation is unusual, and cases can therefore generally be kept under closest observation until the danger period is passed. This being so, no great harm has been done should the primary suture be unsuccessful; if it succeeds, weeks of painful dressing may be saved, and a speedier return to the fighting line expected.

A point I have not seen mentioned, but one to my mind of great practical importance, is the direction the missile takes in the muscle it penetrates. Where the track is in the line of the muscle fibres a clean excision can be guaranteed, and all necrotic tissue easily removed. On the other hand, if the track is at right angles to the direction of the fibres, especially those of thick long-fibred muscles such as the hamstrings, septic material will be carried far away from the line of the track as the cut fibres retract. Primary suture in the latter type of case is dangerous, and would most probably be followed by far-reaching burrowing spread of sepsis. The former type of wound lends itself well to primary suture.

For a very considerable time it has been customary to perform primary suture on penetrating joint cases at the base, and I have now before me notes on 22 such cases recently operated on by me. In this series (mostly knees) healing by first intention took place in 19, while 3 were unsuccessful. In 11 of the cases there was damage to bone.

My object is to advocate the consideration of primary suture of selected wounds, even though the cleansing

operation has not been done until as late as thirty-six to forty-eight hours after the receipt of the wound. If the effort is doomed to failure little harm will be done provided the surgeon in charge of the case is fully alive to the possibilities of non-success, and loses no time in removing stitches. To my mind it is safer in these late cases to use an antiseptic. For this reason, after having procured absolute haemostasis, I swab the whole surface of the apparently healthy tissue left after wound excision with mercury biniodide in spirit (1 in 1,000), mop up excess with a dry swab, and then lightly bipp the surfaces. I use no buried sutures, and generally leave in a rubber tissue drain for twenty-four hours.

JOHN EVERIDGE, Major R.A.M.C.(T.),  
In charge Surgical Division, — General Hospital.

#### DOUBLE RUPTURE OF THE URETHRA DUE TO GUNSHOT INJURY.

PRIVATE A. McM. was admitted into a casualty clearing station on February 22nd, 1918, with a machine-gun bullet wound of the right buttock. The wound of exit was situated in the left inguinal region, and the left spermatic cord was completely divided; the left testicle had been blown out of its bed and was hanging from the wound by the loose tissue of the scrotal tunics. The relative position of the wounds of entry and exit and the bruising of the perineum and the region of the symphysis pubis at once suggested the possibility of damage to the urethra. The patient had not passed urine since the receipt of the wound some four and a half hours previously; an attempt to pass a catheter into the bladder failed and provoked haemorrhage from the urethra.

The patient was placed in the lithotomy position and an incision made in the perineum; the right pubic and ischial rami bounding the pelvic outlet on that side were found to be severely comminuted, and a number of loose fragments of bone were removed. The triangular ligament on the right side was disorganized and the fibres of the right levator ani and the right side of the prostate gland were visible in the depth of the wound. The extravasated blood was washed and sponged away, and two complete ruptures of the urethra were found; the more anterior was situated near the lower border of the symphysis, where the corpus spongiosum merged into the bulb, the more posterior about an inch further back near the junction of the prostatic and membranous portions of the urethra. Suprapubic cystotomy was performed and two end-to-end unions of the urethra made over a catheter introduced through the external urinary meatus into the bladder. The fascia of Colles was brought together by catgut and a glove drain introduced into the perineal pouch. The skin was then sutured and a drain left in the bladder.

The patient was placed on internal urinary antiseptic medication, and all went well for three days; but the temperature rose, and, in spite of the removal of the catheter, still remained high. An anaesthetic was administered and the wound examined; this was found to have "fouled"; the edges of the anterior rupture had again separated, but the posterior junction was still holding. Two Carrel's tubes were introduced into the right side of the cave of Retzius from above and two from below, and Carrel's treatment vigorously instituted.

The case is incomplete, as my inquiries have failed to obtain any account of the patient after he was prematurely evacuated from the clearing station, but his general condition a week after the injury, before he was sent to the base, did not suggest the prospect of a fatal termination. Doubtless, protracted treatment must have been in store for him at the hands of those entrusted with his subsequent surgical care.

The position of the anterior wound in relation to the wound of entry and exit pointed to its direct causation by the missile, but the mechanism of the production of the posterior rupture is less clear; most probably it was due to a spicule of bone which had transfixed the tube, but which was not evident at the time of operation, or the rupture of this posterior and more fixed portion of the urethra may have been in some way connected with its attachment to the triangular ligament, which was destroyed by the missile in its flight.

Double rupture of the urethra must be a very rare gunshot injury, and still more rare as an injury under



peace conditions; the case therefore seems worthy of record as a contribution, imperfect though it may be, to the surgery of the male urethra.

GORDON TAYLOR, M.S.Lond., F.R.C.S.Eng.,  
Major R.A.M.C.(T.C.),  
Senior Assistant Surgeon, Middlesex Hospital.

#### TUBAL TWIN PREGNANCY.

I HAVE read with interest the description of the case of tubal twin pregnancy narrated by Mr. Gordon Taylor in the JOURNAL of June 29th.

There is in the museum of the Royal College of Surgeons of England a specimen of tubal twin pregnancy which I removed some years ago and presented to the College. In this specimen there are two fetuses occupying the same amniotic sac, and attached by separate umbilical cords to the placenta. In other words, it is an example of uniovular tubal twin pregnancy. Binovular tubal twin pregnancy also occurs, and examples are recorded.

It is not clear from the description of Mr. Taylor's specimen whether the place of insertion of the umbilical cords had been noted; in other words, whether his specimen is uniovular or binovular. The latter would appear to be the more common.

May I add that triplets have also been observed in the tube.

London, W.

F. J. McCANN.

## Reviews.

#### MEDICINE AT THE FRONT.

THE little book, *Medical Service at the Front*,<sup>1</sup> is written by two officers of the Canadian Army Medical Corps, Lieut.-Colonel J. McCOMBE and Captain A. F. MENZIES. It is designed to reveal the procedure by which the sick and wounded are cared for in the battle area. The book has the flavour of the field. It is redolent of blood and sweat, petrol, horses, and the mephitic atmosphere of the underground. It is done with much skill, and its impression is made by close attention to the smallest details, by which a vivid picture is created.

The book contains an opening word by Surgeon-General J. T. FOTHERINGHAM, the initials of whose name, it may be noted, are incorrectly given. "Gentle reader," he begins with grave courtesy, "for this great war makes most participants who survive it gentle, and particularly those engaged in repairing its ravages in the bodies and minds of its victims." His single page is written with the feeling which comes to one who has seen with his eyes and handled with his hands the things of which he writes. One may well ask why it is that a like gentleness has not been instilled into the hearts of the enemy. Their condemnation lies in that.

War is so new a thing to this generation that the authors have found it necessary to describe the military formations by which the business of war is carried on, and even a civilian reader would derive profit from the precise account which is given. Correspondents at the front would do well to descend occasionally from their high ecstasy, and give some solidity to their writing by a like description of the background to the daily life of the army.

But in this book there is more than description. There is a consideration of various methods which may be employed for effecting a given purpose, and reasons are assigned for following one course or the other. Shall there be a divisional or corps advanced dressing station? Shall the stretcher-bearers proceed by continuous carry or by relay? Shall a regimental medical officer remain in his dressing station during an advance or go over with the troops? To what extent shall surgery be carried in the aid posts? These are a few of the many similar problems that are considered. The answer invariably depends upon circumstances against which no forethought can completely provide, and the action taken in any given case must depend upon the quality of the personnel. One medical officer with a genius for his work will save lives by extensive surgical procedure in his aid post. Another will serve best by contenting himself with much less inter-

ference. The lesson is that intelligence cannot be replaced by machinery, and that experience is worse than useless if it dulls the mind to a perception of the factor which is new. What a man did at Ypres with success may be a failure on the Somme. In the early years of the war the practice in the Boer war was remembered with complacent satisfaction, and probably in South Africa there were men who relied fondly upon an experience acquired in the Crimea or the Indian Mutiny.

This book concerns itself for the main part with divisional arrangements, but as the army has begun to think in terms of corps rather than of divisions, a chapter is added on the medical service in the corps, and also a chapter upon casualty clearing stations which are traditionally on the lines of communication. Although the methods described and the illustrations given are drawn from the Canadian Corps, they apply also to the English army, as the practice is identical. Indeed, for many years the C.A.M.C. has modelled itself on the R.A.M.C. To the newer armies, especially to the American, the book will prove a trustworthy guide.

#### DISEASES OF THE STOMACH, INTESTINES, AND PANCREAS.

THE third edition of Professor KEMP's *Diseases of the Stomach and Intestines*<sup>2</sup> contains a section of a hundred pages on diseases of the pancreas, and is a bulky volume weighing five and a half pounds. The diseases of the liver might just as appropriately have been added, but this would necessarily have further increased the size, and rendered it even more unwieldy. The work is encyclopaedic in its way, and mentions an enormous number of diseases, giving accounts of typhoid and paratyphoid fever, of Brill's disease, and of obesity, which perhaps hardly come within the scope of the subject matter. It of course conveys a great deal of information, and the author's indebtedness to other writers is freely acknowledged. It is intended for the general practitioner who is unable "to take a clinical course in gastro-enterology," and on this account there are numerous illustrations, especially of x-ray results and of gastro-intestinal lavage, for example, of the author's well-known recurrent rectal irrigators. Among the sixteen figures illustrating gastric lavage there are two impressive pictures of a patient undergoing lavage through the nostril at the hands of four nurses, two being detailed to control the arms and legs, while the other two look after the tube and the fluid. There is an up-to-date account of Sir Arbuthnot Lane's views on intestinal stasis, with which the author is not entirely in accord, for during his fourteen years' service as enterologist to the Manhattan State Hospital for the Insane, with its 4,600 beds, he has never heard of suicide from this cause, and he does not advocate Lane's radical procedures except in rare instances of progressive obturation or of cancer. In the section on infections by the colon bacillus the author states that he has not been successful in the treatment of bacilluria by alkalis, and has obtained his best results with sodium benzoate and hexamine. The work is painstaking, and though not attractive must in fairness be admitted to be a source of reference on the subjects treated.

#### SANATORIUM LIFE FROM BEHIND THE SCENES.

UNDER the military title of *The Battle with Tuberculosis, and How to Win It*,<sup>3</sup> Dr. McDUGAL KING, of Denver, Colorado, has set forth his experiences as a patient at sanatoriums and health resorts for the guidance of fellow sufferers undergoing similar courses of treatment.

Throughout the work he makes use of the military metaphor, the enemy being represented by the germ. In turn he shows how the outposts of ordinary precaution too often fail to check the advance, and how the lines of communication, represented by the lymphatic channels, are invaded until the first resistance is met with in the lymphatic glands. The means whereby the home forces may be strengthened, and further advance checked, are

<sup>1</sup> *Medical Service at the Front*. By Lieut.-Colonel John McCombe, C.A.M.C., and Captain A. F. Menzies, M.C., C.A.M.C. Philadelphia and New York: Lea and Febiger. 1918. (4½ x 5½, pp. 128; 24 figures. 1.25 dols.)

<sup>2</sup> *Diseases of the Stomach, Intestines, and Pancreas*. By Robert Coleman Kemp, M.D., Professor of Gastro-Intestinal Diseases at the Fordham University Medical School. Third edition. Philadelphia and London: W. B. Saunders Co. 1917. (Roy. 8vo, pp. 1036; 438 figures. 30s. net.)

<sup>3</sup> *The Battle with Tuberculosis, and How to Win It*. A book for the Patient and his Friends. By Dr. McDugal King, M.B. Philadelphia and London: J. B. Lippincott Co. 1917. (Cr. 8vo, pp. 258. 6s. net.)



followed out with much ingenuity. Attention to detail is as essential in the conflict with the pathological as with the human enemy, and personal experience has proved that disaster is apt to follow any neglect of simple precaution in dealing with so insidious a foe as tuberculosis.

The inner life of the institutions which profess to apply and even to enforce the rules of strict hygiene is only known to those who take personal part in it, and a large proportion of such persons neither know nor understand the reasons underlying the instructions that they are bidden to obey. Perusal of Dr. King's book will enlighten everyone who may be willing to learn. All the essential points are set forth in plain terms, albeit in military guise. Addressed not only to patients, but also to patients' friends, the work contains some wholesome cautions against the acceptance of well-meant but ignorant advice. Incidentally much light is thrown upon the hidden defects and irregularities of sanatorium life in general.

#### AMPUTATION STUMPS.

CAPTAIN MARTIN HUGGINS has written an excellent little book on *Amputation Stumps: their Care and After-treatment*,<sup>4</sup> based on a very large experience gained at the Pavilion Hospital, Brighton, where he was surgical specialist for thirteen months, and on a familiarity with the fitting of artificial limbs acquired by frequent visits to Queen Mary's Hospital at Roehampton. There was great need of such a concise guide not only to the treatment of faulty and painful stumps, but also to the selection of the best methods of amputating in the casualty clearing station and the hospitals at the back of the front. We can cordially recommend the book to all surgeons who have to perform primary amputations, or to improve the results of such amputations later on. In particular we would direct attention to the advice given as to very short thigh stumps and disarticulation at the hip, and as to Syme's amputation. Captain Huggins truly says that a Syme's stump which is not entirely end-bearing—and, unfortunately, a good many reach the fitting hospitals which are not—is inferior for functional purposes to an amputation through the leg. After discussing the surgeon's responsibilities in respect to the site and mode of amputation, the author in each instance deals with the type of artificial limb that can best be applied. The illustrations are excellent and much enhance the value of the book, which we hope will soon be found in the possession of every operating military surgeon.

#### SWINE FEVER.

In a further contribution to the pathology and epidemiology of swine fever, containing observations on epidemics in 1916 and elaborate bacteriological investigations, Dr. J. P. MCGOWAN<sup>5</sup> brings out some new points which have an important bearing on the prevention of the disease. The causal organism, the *Bacillus suisepitius*, is a Gram-negative coccus-bacillus, pleomorphic and polar staining. It forms small dewdrop colonies, rapidly dying out even if frequently subcultured at short intervals, and giving a different type of growth at different times on different samples of agar, possibly in response to a slight variation in reaction. The classical type of *B. suisepitius* and the distemper bacillus were each found in two cases only. Pathologically the disease is a haemorrhagic septicaemia, and the haemorrhages in all parts of the body give rise to the various lesions, especially the necrotic "button ulcers" in the colon regarded as characteristic of swine fever, and responsible for the diarrhoea so frequent in suckling pigs, which is really a latent manifestation of the disease, though escaping recognition as the animals are spoken of as "wasters" or "piners." As the pigs get older acute pneumonia and pericarditis occur. These have previously been regarded as accidents due to secondary infection, but Dr. McGowan has found the *B. suisepitius* present in pure culture and other bacterial causes of pneumonia absent. In older pigs the lung lesions gradually resolve. Swine fever is thus more or less endemic in a

latent form whenever numbers of pigs are kept together, and is lighted up by unfavourable conditions so that fatal cases occur, and the existence of the disease then becomes obvious. It is therefore important to recognize the latent and hitherto overlooked manifestations of swine fever, to look after the affected pigs, and to protect them from injurious conditions such as sudden exposure to extreme cold, especially when associated with rain or snow. Protective vaccination exerted a very unfavourable influence on pigs between two and four months old, and it is a question whether those over four months would not have done much better without it. The younger pigs may have had too large a dose, and others may have been unrecognized subjects of swine fever and so unduly sensitive. It appears certain to Dr. McGowan that an epidemic was due to the administration of vaccine to pigs with latent and unrecognized swine fever, as the first demonstrable cases occurred after the second administration of the vaccine.

#### NOTES ON BOOKS.

DR. E. L. ELIASON'S *First Aid in Emergencies*<sup>6</sup> appears to have been written for persons in out-of-the-way places who may be called upon to do the best they can in a serious emergency. We are led to this conclusion by the introduction of articles on the treatment of fractures of the thigh and of the leg, and on some other conditions which no wise person would attempt to treat if skilled medical advice were available. The book has reached a second edition, which is evidence that it has met a want. It has a good index and a thumb nail index.

Since its first appearance, rather over ten years ago, DR. HARVEY W. WILEY'S book on *Foods and their Adulteration*<sup>7</sup> has been recognized as a useful work of reference. A third edition has now been issued, but the author in his preface admits that much has been discovered during the last six or seven years which would have made it desirable to rewrite the text; this he has not been able to undertake, but he has sought to embody the main conclusions that have been accepted. The book is very comprehensive and differs from others on the same subject by the amount of space given to what may be called the mechanical details of the growth and collection of foods and their preparation for the market and the table. The illustrations are very numerous and, on the whole, helpful.

<sup>6</sup> *First Aid in Emergencies*. By E. L. Eliason, A.B., M.D. Second edition, enlarged. Philadelphia and London: J. B. Lippincott Co. (Fcap. 8vo, pp. xi + 235, 6s. net.)

<sup>7</sup> *Foods and their Adulteration*. By Harvey W. Wiley, M.D., Ph.D. Third edition. London: J. and A. Churchill. (Medium 8vo, pp. xiv + 646; 11 coloured plates and 87 other illustrations. 24s.)

#### MEDICAL AND SURGICAL APPLIANCES.

##### *Amputation Shield Retractor.*

MR. VALENTINE H. BLAKE, M.B., R.S.Lond., has devised an amputation shield retractor which consists of two dished metal wings with a take-off joint swing over the stump flaps and locked by a ratchet into a firm circular shield on which traction is made by a pair of handles. He has used it for over a year and considers that it has the following advantages over other retractors: It is lighter than the average shield; it will go into the standard army sterilizer; there are no parts that offer difficulty in cleaning; it adjusts itself to the size of the bone and can be applied with the least amount of manipulation. The shield is made by Messrs. Down Bros., St. Thomas's Street, S.E.

As part of its child welfare scheme the Corporation of Edinburgh has recently established a country home for ailing city children at Gogarburn House, a short distance from the city; the house stands in about sixty acres of land; it cost £8,500, and the alterations fitted for its new purpose £1,500. It provides accommodation for 160 children, from infancy upwards, but at present only 100 will be admitted. At the formal opening on June 15th Councillor Young, convener of the Public Health Committee, paid a tribute to Dr. Maxwell Williamson, M.O.H., who had drafted a scheme which was so far the most complete in the United Kingdom; in addition to the sick children's hospital and the maternity hospital there were twelve centres for preventive and curative work. Nurseries have been established, and the playgrounds of the city are being utilized.

<sup>4</sup> *Amputation Stumps: Their Care and After-treatment*. By G. Martin Huggins, F.R.C.S., Medical Officer to the Government Schools, Salisbury, Rhodesia, etc. London: Henry Frowde, and Hodder and Stoughton. 1918. (Fcap. 8vo, pp. xv + 223; 95 figures. 7s. 6d. net.)

<sup>5</sup> *A Further Contribution to the Pathology and Epidemiology of Swine Fever*. By J. P. McGowan, M.A., M.D., M.R.C.P.E. Edinburgh and East of Scotland College of Agriculture. (Pp. 74; 20 figures.)



## THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND

### AN APPEAL

#### TO ALL MEMBERS OF THE MEDICAL AND PHARMACEUTICAL PROFESSIONS

*In 1914, by resisting Germany, Belgium saved you from starvation and ruin.*

*In 1915 you honourably responded to an appeal by subscribing a fund for your Belgian colleagues in their distress.*

*During 1915, 1916, and 1917 this money was sent in instalments to Brussels—at first £800 per month, later £400. The Fund is now exhausted, all but £700.*

***In 1918 will you leave your Belgian colleagues to starve?***

Subscriptions may be sent to the Honorary Treasurer, Dr. H. A. DES VŒUX,  
14, Buckingham Gate, London, S.W. 1.

In a letter which we printed last week, Sir Rickman Godlee asked our readers to come to the help of the Belgian doctors and pharmacists in Belgium, who are in urgent need of relief. In order to clear up certain misconceptions which we believe have stood in the way of the second appeal, we may tell very briefly the history of the Belgian Doctors' and Pharmacists' Relief Fund.

The Fund was started at the close of 1914, and the liberal response to the first appeal by the Executive Committee was adequate to the needs of that time. Nearly £20,000 was raised before the end of 1916. This sum was contributed almost entirely by members of the medical and pharmaceutical professions, and included generous donations from the Dominions and India, and from the United States. At first some money was spent in relieving immediate distress among the Belgian doctors and pharmacists who were refugees in this country, and in putting them in the way of making a fresh start in life. These needs were met without difficulty, and for a long while the assistance to the refugees over here has been a trivial charge upon the Fund. The real work of the Fund has been on behalf of the Belgian doctors and pharmacists remaining in Belgium and trying to carry on their work under the brutal heel of German military occupation. This does not appear to be generally understood. Indeed, there would seem to be a mistaken idea among some medical men that the Relief Fund is being frittered away in doles to refugees in this country. The facts are very different.

In 1916 the Committee of the Fund learnt from Mr. Herbert Hoover—at that time Director of the Commission for Relief in Belgium—that it would be possible to supply the Belgian doctors and pharmacists remaining in their own country with material assistance in money and drugs, and he undertook that any subsidies entrusted to him should be forwarded to safe hands for wise and proper distribution. Accordingly the Committee began to send every month £500 to a representative committee of Belgian doctors and pharmacists sitting in Brussels. This went on until

the close of 1917, but in January last the monthly remittances had to be reduced to £400, with every prospect of a standstill at an early date. Just at the time when the Fund was compelled to halve its monthly remittance news came from the Commission for Relief in Belgium through Mr. W. B. Poland, who had succeeded Mr. Hoover, that the need for money and moral support had become even more acute than before. "If the supporters of your Fund knew how much actual suffering they had allayed, and how much potential moral and physical suffering they had prevented, they would not cease to continue their support, many as are the claims now made upon them."

A second appeal was made to enable the work of the Fund to be continued, but the result has been disappointing. Individual support has been prompt and generous, but there has been no general response, and the executive committee of the Fund finds itself to-day just about where it was at the beginning of the year before the second appeal was issued. There is enough money to pay one more monthly sum of £400; after that the subsidies must cease unless further help is forthcoming on a large scale. Sir Rickman Godlee, as chairman of the Fund, put the gist of the matter last week in two sentences: "Do British doctors and pharmacists really know (1) that money is urgently needed, (2) that it goes to Belgium, and not to doctors and pharmacists in this country, and (3) that it really reaches the Belgians and is not pocketed by the Germans? If they did they would surely never allow these remittances to be stopped."

It is a commonplace that no time could be less propitious than the present for any kind of charitable appeal, however worthy of support. Nevertheless, it must be looked upon as a debt of honour to continue regular and substantial aid to our unfortunate colleagues in Belgium. Therefore, together with the *Lancet* and the *Pharmaceutical Journal* and *Pharmacist*, we are this week supporting the appeal for the Belgian Doctors' and Pharmacists' Relief Fund with all the emphasis that springs from conviction.



# British Medical Journal.

SATURDAY, JULY 6TH, 1918.

## THE FUTURE OF THE INDIAN MEDICAL SERVICE.

THE Secretary of State for India gave a very sympathetic reception to the deputation which, on June 27th, laid before him the views of the British Medical Association on the present unhappy state of the Indian Medical Service. It was gratifying to find in Mr. Montagu a statesman who has a high appreciation of the benefits which medicine, both preventive and curative, can confer on the community, who understands the motives by which members of the profession are actuated, and fully recognizes the obligation on every modern Government to have always at its disposal expert advice on matters affecting the health and welfare of the peoples committed to its care.

The British Medical Association, which has long taken a deep interest in the progress of medical affairs in India, was, some five years ago, invited by the Secretary of State for India to assist him in ascertaining the causes of the very serious falling off in the number and quality of the candidates for positions in the Indian Medical Service. It has submitted several memorandums, and evidence was given four years ago on its behalf by Colonel Elliot, chairman of its Naval and Military Committee, before the Royal Commission on Public Services in India. In October last the Association asked the Secretary of State to receive a deputation; to this request he at once acceded, but, being then on the eve of his departure for India, decided to postpone its reception until his return. The delay has had this great advantage, that it has given Mr. Montagu the opportunity of seeing for himself the condition of affairs in India and discussing it with the Viceroy and the members of his Government. Mr. Montagu showed in his reply to the deputation that he had grasped the situation and fully understood the urgent need for reforms.

Mr. Montagu made it plain that he had carefully weighed the arguments advanced by the Association in the several memorandums it had presented to the Secretary of State, and had given very full consideration to the matter both during his recent visit to India and since his return. His considered opinion is that the Indian Medical Service is essential to India, and that the conditions under which it is recruited and works must be such as to enable it to attain the highest efficiency. He showed that he understood the conditions that must be fulfilled if the Service is to attract and retain the type of man that India needs, not only to take an important part in providing for the medical care of its peoples, but also for systematic scientific research into the many problems in epidemiology and pathology which still await solution in that country. No one who heard Mr. Montagu's speech or reads the verbatim report published in the SUPPLEMENT for this week can doubt the sincerity of his desire to have the co-operation of the medical profession, or of his wish to be guided by the expert advice tendered to him through the British Medical Association. Mr. Montagu spoke with much deliberation and in terms

which had evidently been carefully chosen. His statements will be as carefully weighed, not only by the officers directly concerned, but by all within and without the profession in this country or in India who hold it the duty of the Government to maintain in India a service that shall be a competent exponent of the highest standard of Western medicine. Nothing less would be worth having.

We shall not attempt to follow Mr. Montagu through his long reasoned statement, but may briefly direct attention to the four main principles he laid down. The first was that it must be worth the while, professionally and scientifically, of a medical man to enter the Indian Medical Service and to remain in it. One deduction he made from this principle was that it would not be desirable to separate the military side of the Service from the civil, since in his opinion neither the one nor the other would alone fulfil the principle. Another deduction was with reference to private practice. He accepted the opinion of his legal advisers that there was no statutory right, but he went on to say that having considered the matter very carefully he was personally satisfied that as a practical matter of policy the present arrangement, giving, save in the case of certain special reserved appointments, freedom to practise privately within well-recognized and wide limits, was open to no serious objection, either from the point of view of the interests of the Service or from that of the peoples of India. To quote his own words, "I see, therefore, no reason for curtailing the present privileges of the Indian Medical Service in the matter of private practice, and many reasons against doing so." The second principle was that the remuneration offered should be adequate, and on this point he expressed his own opinion that the pay and emoluments are inadequate at present and need revision. War conditions, under which 339 officers have reverted from civil to military duties, had, he recognized, aggravated the discontent, for reasons which he mentioned; but he expressed the hope that so much of this discontent as was due to abnormal conditions had been mitigated by certain improvements in the military situation of I.M.S. officers. With regard to ordinary leave he was quite clear. The cadre, he said, must provide for an adequate leave reserve, because sufficient periodic holidays at home are necessary for Europeans serving in India. The third principle was that the Service must afford in its organization increased and increasing opportunities for Indians to enter. The fourth principle was that the minor causes of irritation, friction, and annoyance, should be done away with.

Taking up the point made by Sir Berkeley Moynihan, in a speech which admirably presented the aspirations of the service, Mr. Montagu said he had carefully discussed while in India the relations between the R.A.M.C. employed in India and the I.M.S., and that he agreed with prominent members of the I.M.S. and with the military authorities in India that prompt action was necessary; he added that he believed the Government of India realized the urgency of the case as fully as he did himself.

One of the points put by the Association in its memorandums, and by speakers at the deputation, dealt with the present unsatisfactory status of the chief medical advisers of governments. Mr. Montagu expressed his entire agreement with the principle that the Secretary of State, the Government of India, and the Local Governments should be in a position to obtain the best and most accessible advice available on the various medical and sanitary problems with



which a modern government is called upon to deal. As an example of what was needed he said that the Medical Adviser of the Secretary of State for India had recently been liberated from routine duties and had the powers and responsibilities the Association desired. The India Office at home having set this example, he was of opinion that the determination of the exact relations between the Government of India and the Local Governments and their respective medical advisers must be left to be worked out locally.

Both Sir Clifford Allbutt and Sir Berkeley Moynihan had laid stress on the importance of providing that officers of the I.M.S. should have study periods, which they urged should not be regarded as furlough nor allowed to count against ordinary leave, and also upon the importance of the organization of systematic research with rewards and recognition to those who engaged in it. Mr. Montagu on these points said that the Service already had an arrangement under which officers could obtain special leave to undertake courses of study, and that this leave carried allowances with it, was not debited against ordinary leave, and qualified for accelerated promotion. This arrangement, under which in the year before the war eighty officers went through these courses of study, had, he admitted, been suspended during the war, and we are bound to add that our information is that study leave was often very difficult to obtain before—a fact which affords additional reason for increasing the cadre of the service; such increase, in the opinion of the Association, should be not less than 25 per cent. With regard to research, Mr. Montagu referred to the Imperial Research Association established some seven years ago by the Government of India. It may be remembered that for this purpose a grant of 5 lakhs (£33,000) was made and that schemes of research were at once put in hand, though their full fruition has been arrested by the war. We may also recall the fact that in 1905 a sum of £5,000 a year was placed at the disposal of the Advisory Committee for Plague Investigation in India. Mr. Montagu said that he was himself in complete agreement with the deputation in thinking that opportunities for research and rewards for research formed an important part of the considerations necessary to ensure a good medical service in India.

The matter is advanced one stage by the speech, and a very important stage. Though nothing is settled, the Secretary of State probably went as far as the constitutional limitations of his office permitted. Disappointment will, we know, be caused by his inability to make any definite statement with regard to pay and emoluments. We are clear that if the second principle enunciated by Mr. Montagu is to be fulfilled the augmentation must be substantial. There are other matters upon which criticisms will be heard, but we are glad to recognize that Mr. Montagu expressed his own opinion frankly, and, though not in a position to put forward a settled policy, promised to send a full report of the proceedings of the deputation to the Government of India, and to use his influence to ensure that the reforms he agreed to be essential should be carried out. The final decision can only be reached in consultation with the Government of India. Mr. Montagu, however, said that his recent conversations with the Viceroy had shown that they were in complete accord on general principles, and that he awaited the proposals of the Government of India in an optimistic spirit. In any event, it is satisfactory to have a Secretary of State for India who has a mind open to modern ideas, and in sympathy with the progress of medical science.

Shortly it seems to come to this, that the Secretary of State and the Viceroy are agreed that it is necessary, in the interests of the indigenous population and also of the European community in India, that the Indian Medical Service should be continued on terms and conditions which will enable it to attain the high standard of the past, an aspiration not incompatible with the policy of affording Indian medical practitioners increased opportunities to enter it.

The policy to be pursued in respect of all public services in India must be governed by the terms of the pronouncement of August 20th, 1917. Mr. Montagu then said that "The policy of His Majesty's Government, with which the Government of India are in complete accord, is that of the increasing association of Indians in every branch of the administration, and the gradual development of self-governing institutions, with a view to the progressive realization of responsible government in India as an integral part of the British Empire." He said that it had been decided to take substantial steps in this direction as soon as possible, and added "that progress in this policy can only be achieved by successive stages." Any profitable discussion to-day must start from this, and we will observe only that there seems no reason for making a special case of the medical service, or choosing it as a particular subject for experiment.

#### PLAGUE IN SUFFOLK.

It was stated last week that two cases of illness believed to be pneumonic plague, in one of which the diagnosis has been confirmed bacteriologically, had occurred at Erwarton, a small Suffolk village near the top of the peninsula formed by the confluence of the rivers Orwell and Stour, and on the bank of the latter river. The patients were two women living in a lonely pair of semi-detached cottages. The first patient died on June 13th and the other six days afterwards; the latter appears to have contracted the disease as the result of nursing her neighbour. No further cases have so far been reported, either among the inmates of the two cottages or among other persons in the neighbourhood. Active precautionary measures are being taken under the guidance of the medical department of the Local Government Board and the county medical officer of health. The interesting point about these fatal cases of plague is that they have occurred in the narrow strip of land in which four deaths from pneumonic plague occurred in the autumn of 1910. That outbreak was very fully investigated at the time by the late Dr. Bulstrode, and formed the subject of a special report.<sup>1</sup> The inquiries then made brought to light the possibility that two previous small outbreaks of illness in the same corner of East Suffolk were also plague. As the investigation proceeded it was found that rodents in that part of East Anglia—particularly rats—were widely infected with plague. Some months later a further case of plague occurred at Shotley, which is on the Orwell near its junction with the Stour, and therefore in the area within which plague-infected rats and other rodents were found. Energetic steps were taken to cope with the situation, with the result that for seven years nothing more was heard of plague in Suffolk, but it is significant that Erwarton is only about two miles from Shotley. Rat destruction was carried out very thoroughly in the infected area, accompanied by measures for preventing these pests from obtaining access to food supplies. Systematic examinations were made of rats derived from a belt of country surrounding the known infected area,

<sup>1</sup> Reports to the Local Government Board on Public Health and Medical Subjects. New Series (No. 52, 1911). BRITISH MEDICAL JOURNAL, August 26th, 1911, p. 448.



while the rat-fleas of the district were investigated by Drs. C. J. Martin and Sydney Rowland. The evidence as to the channels by which plague may have been introduced among the rodents in the neighbourhood of the rivers Stour and Orwell was very carefully sifted by Dr. Bulstrode, and it seemed probable that the source of the epizootic must have been infected rats imported with foreign grain coming from plague-infected countries. All the signs indicated that rat plague had been present for several years in Suffolk; yet during that time only three very limited outbreaks of human plague arose, thus confirming the view that for administrative purposes plague in this country may be regarded as a disease of rats which attacks man only incidentally and occasionally. If the fleas of infected rats are excluded from access to human beings, plague in man seldom occurs, the pneumonic form alone being directly infectious from patient to patient in the ordinary way. Nevertheless, since almost all human outbreaks of the present day are found on diligent inquiry to be preceded by an epizootic of plague amongst rats or other rodents in the neighbourhood, Dr. Bulstrode recommended that every sanitary authority should take steps to obtain the earliest intimation of unusual mortality amongst these creatures, and to send to the Local Government Board specimens of them for bacteriological examination. But, above all, persistent efforts should be made to destroy rats, and as this is most desirable from the economic as well as from the sanitary point of view, a leaflet<sup>1</sup> has been revised and reissued by the Board of Agriculture, giving simple and straightforward advice on preventive and remedial measures against rats. Since in pneumonic plague direct personal infection is known to occur, such outbreaks—of which the present seems to be an instance—should be dealt with by isolation of patients and destruction of infected material. Fortunately the *Bacillus pestis* does not live long outside the animal body, and with vigilance and prompt action there need be no apprehension of a serious outbreak, either now or in the future.

#### STATISTICS OF NOTIFIABLE DISEASES, 1917.

THE Local Government Board has issued the statistics of the incidence of notifiable infectious disease in England and Wales during 1917.<sup>2</sup> This is the seventh year for which such statistics have been published. Figures are given for each sanitary area in England and Wales, which may be useful locally, but the numbers are often very small, and those for administrative counties and county boroughs are of more value; the general summary for the whole country will, however, be sufficient for most purposes. The cases of measles and German measles, between which no distinction is made, numbered over half a million, and constituted a rate of 15.84 per 1,000 of population; but these returns are on a different footing from those of other infectious diseases, inasmuch as notifications by parents and guardians are included and are not distinguished from the notifications made by medical practitioners. There were 48,817 cases of scarlet fever, as compared with 75,722 in 1916, and 43,315 of diphtheria, as compared with 51,707 in 1916. The rate per 1,000 of population was, for scarlet fever 1.45, and for diphtheria 1.28. The contrast between the seasonal incidence is shown in a table, in which the rates are calculated in relation to the average weekly number of cases taken as 100. The highest number of cases of scarlet fever was notified from the middle of October to the middle of December; of diphtheria from the middle of November to the middle of December, but the great incidence of measles and German measles was from the beginning of March to the end of June. The number of cases of cerebro-spinal fever notified was 1,465,

as compared with 1,306 in 1916, 2,566 in 1915, and 315 in 1914; the rate for 1917 was 0.04 per 1,000; the greatest incidence was in the first four months of the year, especially from the end of February to the middle of April. The number of cases of poliomyelitis notified was 357, giving a rate of 0.01 per 1,000; the greatest number of cases occurred from about the middle of July to the end of November. The number of cases of tuberculosis notified was 95,750, and in 22,096 the lesions were other than pulmonary. The statistics include a considerable number of duplicate notifications; the number varies greatly in different areas, but is particularly large in London. Nevertheless, there seems to be a remarkable decline in the rate for pulmonary tuberculosis in London; it was 7.39 in 1912 and 3.69 in 1917. In England, excluding London, the rate was 2.44 in 1912 and 2.01 in 1917. In Wales the rates were 2.01 and 1.57 respectively. For the whole country, including cases notified in port sanitary districts, the rate declined from 3.03 in 1912 to 2.18 in 1917. The rate, however, has been fairly steady since 1914, when it was 2.20. There is no distinct movement in the rates for tuberculosis of other organs than the lungs. In neither case is it clear what value should be attached to the slight variations noted. No cases of cholera occurred during 1917, and there were only four cases of typhus fever and seven of small-pox; eight cases of plague occurred in the port of London. The number of cases of ophthalmia neonatorum notified was 6,716, as compared with 7,613 in 1916, and 6,806 in 1915. The statistics so far quoted do not include cases of infectious diseases arising in barracks, camps, etc., in the occupation of the military forces; among them the cases of scarlet fever numbered 1,244, of diphtheria 1,296, enteric fever 177, erysipelas 442, and cerebro-spinal fever 1,023. The total number of cases of tuberculosis was 2,332, all save 122 pulmonary.

#### THE REDUCING BODY IN THE CEREBRO-SPINAL FLUID.

THE presence of the normal reducing agent (glucose) in the cerebro-spinal fluid has been used as a means of distinguishing meningism from meningitis in which this body is diminished or absent. Weil<sup>1</sup> has investigated the glucose content of the cerebro-spinal fluid in various conditions. In irritation of the meninges and the resulting congestion the amount of glucose in the cerebro-spinal fluid is increased, and this holds good in meningism. But when the cause of the irritation is microbic, the fermentative action of the micro-organisms reduces the amount of the glucose; this is specially seen in meningococcic meningitis. In tuberculous meningitis diminution in glucose content is the rule; but in some instances the microbic activity is not sufficient to overbalance the influence of meningeal congestion, and at some stages of the disease the glucose content may be almost normal. In syphilitic meningitis the glucose content of the cerebro-spinal fluid is excessive, and in explanation it may be suggested either that the *Spirochaeta pallida* does not ferment the glucose or that the meningeal reactions of syphilitics are aseptic and secondary to infective processes in the medulla or brain. In the early stage of cerebro-spinal fever, when the fluid is clear and shows a number of mononuclear cells, there may be a preliminary excess of glucose; later this disappears, but as the patient recovers the glucose reappears in the cerebro-spinal fluid, increases, and during convalescence may, from the predominance of congestion over bacterial glycolysis, be in excess of the normal, as in the preliminary stage. In epilepsy an excess of glucose is the rule, but in hysterical seizures, however frequent and apparently serious, the glucose content of the cerebro-spinal fluid is always normal. In increased intracranial pressure the glucose content is raised, and probably

<sup>1</sup> Leaflet No. 244; to be obtained free of charge and post free from the Secretary, Board of Agriculture and Fisheries, 3, St. James's Square, London, S.W.1.  
<sup>2</sup> H.M. S. Stationery Office. To be purchased through any bookseller. (Price 9d.)

<sup>1</sup> M. P. Weil, *Compt. rend. Soc. de Biol.*, Paris, 1918, lxxx, 456.



as the result of irritation of the floor of the fourth ventricle rather than of meningeal hyperaemia. In concussion Mestrezat, Bonttier, and Logre<sup>2</sup> describe a characteristic change in the cerebro-spinal fluid, which comes on in the course of two or three days and disappears after some weeks or months. This change consists in an excess of cerebro-spinal fluid, as shown by high pressure, and increased amount of sugar, associated with an excess of albumin and a smaller number of cells than normal. This characteristic change in the cerebro-spinal fluid, found in 80 per cent. of the 30 cases examined, is regarded as due to foci of destruction of nervous tissue, with an evidence of meningeal inflammation or infection. Thus there is no leucocytosis or fibrin, and the glucose content is not diminished.

#### MEDICINE AND GOVERNMENT.

THE Secretary of State for India, in the course of the remarkable speech he delivered to the deputation from the British Medical Association which waited upon him with reference to the present position of the Indian Medical Service, enunciated the doctrine that a modern government required, and should take all suitable means to obtain, the best and most accessible advice on the very various medical and sanitary problems with which every such government is called upon to deal. This doctrine has a general application, and its truth has been more or less fully accepted in this country, in France, in Germany, and in the United States of America. The special application with which Mr. Montagu was concerned was to the Secretary of State for India, the Government of India, and the Local Governments in that country. He was able to say that the India Office had already shown the way to the Government of India and the Local Governments. The duties of the medical personnel of the India Office were considered and more particularly defined by Mr. Austen Chamberlain. The policy has been continued by Mr. Montagu, and the medical adviser to the Secretary of State has been liberated from the routine duties of the presidency of the medical board, although he continues to act as an appeal board. He has been given the larger powers and responsibilities with which the Association desired to see him entrusted. The incumbent of this office, who is now Surgeon-General Sir Havelock Charles, G.C.V.O., is at the head of a distinct department of the India Office to which all proposals affecting medical and sanitary matters are referred for advice. No order, minute, or other document relating directly or indirectly to any medical or sanitary matter is now issued by the India Office until his observations thereon have been considered by the Secretary of State, to whom, as the head of a department, he has direct access. At present this is not the position of the medical advisers of the Government of India or of the Local Governments. The advice, comments, and recommendations of the Director-General of the Indian Medical Service must reach the Council of the Governor-General and the Viceroy through a member who has no expert acquaintance with medicine or sanitation. The position of the chief medical adviser of Local Governments is similar. Surgeon-General Benson, speaking at the deputation from his own personal experience as the chief medical adviser to the Government of Madras, said that that officer had no access to the members of Council or the Governor. All his proposals were dealt with by a junior civilian and afterwards handed over to a member of Council, who was not possessed of the technical and scientific knowledge required; consequently the proposals were very apt to be shelved without proper consideration and on insufficient grounds. This must be regarded as one of the reasons why the progress of preventive

medicine has not been as rapid in India as the people of that country have a right to demand. It seems to be abundantly clear that the chief medical adviser to the Government of India should be at the head of a special department with the status of a secretary to the Government, and that in the Local Governments as well as in central government the chief medical adviser should be in a position to take a direct part in discussions preceding the decisions of the executive authority. To the Medical Adviser of the Secretary of State are now referred, we may add, all matters affecting the organization, personnel, recruitment and appointments of officers in the Indian Medical Service, and of persons in the nursing and sanitary services. He supervises the recruitment of the Indian Medical Service and is instructed to bring to the notice of the Secretary of State all questions connected therewith. His task in this last respect has been simplified for the moment by the representations made in his presence to the Secretary of State by the deputation, and while the war lasts the ordinary method of recruiting must be suspended. When normal times return the advice he will be able to give to the Secretary of State and to the medical profession and the heads of the medical schools must be determined by the action taken by the Government of India on the representations made to it—representations which we are glad to know have won the full and cordial approval of the Secretary of State.

#### EPSOM COLLEGE.

THE annual general meeting of Epsom College was held on June 28th, when the report was presented by Sir Henry Morris, treasurer, who was in the chair. It stated that the work of the School had been satisfactory in spite of numerous difficulties due to the war. The records of scholarships and other distinctions obtained by old boys were set out, and it was stated that over 700 old Epsomians are serving, of whom 600 had joined since the outbreak of war. In the roll of honour are included 75 who have been killed in action, 4 who have died in hospital, 7 accidentally killed, 10 who have died of wounds, 6 missing, and 5 prisoners; in addition, 120 have been wounded. The old Epsomians mentioned in dispatches numbered 53, one (Brigadier-General R. B. Bradford, since killed) was awarded the Victoria Cross, 7 have received the Distinguished Service Order, 2 with bars, one the Distinguished Service Cross, 47 the Military Cross, and one the Croix de Guerre. To commemorate those who have lost their lives in the war a war memorial fund has been established, which will be used to rebuild the nave of the chapel in harmony with the chancel, and to place in it a suitable monument. It was necessary to collect a sum of £4,500 in annual contributions in order to maintain at the School fifty necessitous sons of medical men and to provide pensions of £30 each for fifty-eight aged members or widows of members of the medical profession in reduced circumstances. The report contained a reference to the proposal which has been put forward for the adoption of some method of arbitration within the profession to which disputes between Epsom College and the Royal Medical Benevolent Fund as to testamentary benefactions could be referred for final decision. A discussion was raised on this point by Dr. Haslip, chairman of the Medical Insurance Agency, and after some remarks from the vice-chairman, Mr. Ernest Page, K.C., Sir Douglas Powell suggested the formation of a conciliation committee composed of a few members of the council of Epsom College and of the committee of the Royal Medical Benevolent Fund. The chairman said that if Sir Douglas Powell would move a resolution to that effect and it was carried by the annual general meeting, he was sure it would have the greatest influence in determining the council towards carrying out such an arrangement. Thereupon the following resolution was carried

<sup>2</sup> Mestrezat, Bonttier, et Logre. *Bull. Acad. de Méd.*, Paris, 1918, 3<sup>e</sup> sér., lxxix, 373-5.



unanimously: "That the Council be and is hereby requested and authorized to take such steps as they may think best calculated to avoid friction arising between them and the Royal Medical Benevolent Fund on any questions that may hereafter arise as to the title to funds in which either body may from time to time consider itself interested." The results of the election were reported to the meeting and will be found in our advertisement pages. The proceedings terminated with a vote of thanks to Sir Henry Morris for the great services rendered by him to the College as its treasurer.

#### THE ELSIE INGLIS CHAIR OF MEDICINE.

THE London Units of the Scottish Women's Hospitals, as we stated last week, are appealing for a fund to establish a Chair of Medicine in the University of Belgrade, after the war, as a memorial to Dr. Elsie Inglis, their late commanding medical officer. Dr. Inglis gave the last years of her life to Serbia, and worked with a courage which called forth the admiration of a race of soldiers, which counts personal bravery as the highest of human attributes: for Serbia she suffered with a devotion which has enshrined her in the hearts of a people sensitive to all beautiful and noble qualities. The welcome which the Serbian authorities are prepared to extend to the scheme will be particularly warm in view of the fact that the establishment of a Faculty of Medicine in the University of Belgrade is to be the first work of reconstruction undertaken after the war. It has long been felt that Serbian medical students should have facilities for studying at home instead of at foreign universities, and, since Vienna and Berlin were the schools of medicine most frequented by Serbians, the desirability for providing these facilities has become a vital necessity. In response to a graceful suggestion from the Serbian Minister, it is proposed that the Chair of Medicine at Belgrade shall be held by a woman. Contributions to the fund—which is being inaugurated this week at the Mansion House—should be sent to the Countess of Selborne, honorary treasurer, at 66, Victoria Street, S.W.1.

#### THE HALF-YEARLY INDEXES FOR 1918.

THE usual half-yearly indexes to the JOURNAL and to the SUPPLEMENT have been prepared and will be printed. They will, however, not be issued with all copies of the JOURNAL. Any member or subscriber who desires to have one or both of the indexes can obtain a copy of what he wants, post free, by sending a post-card notifying his desire to the Acting Financial Secretary and Business Manager, British Medical Association, 429, Strand, W.C.2. Such copies will be dispatched shortly after the middle of July.

WE are asked to state that Sir Bertrand Dawson, finding it impossible to deal fully in the Cavendish Lecture before the West London Medico-Chirurgical Society with the subject of "the future of the medical profession," it has been arranged that he shall give a second lecture, dealing further with the same subject, at the Royal Society of Medicine on Thursday, July 11th, at 8.15 p.m. This second lecture will be followed by a discussion, and it is hoped that all interested will attend both lectures and take part in the discussion.

COLONEL WILLIAM HUNTER, C.B., M.D., president of the Advisory Committee for the Prevention of Epidemic Diseases in the Eastern War Areas, 1915-17, and in charge of the British Military Mission to Serbia, 1915, will give a lecture, illustrated by lantern slides, on the prevention and arrest of lice-borne diseases, at a meeting of the Royal Society of Medicine on Wednesday, July 17th, at 5.30 p.m. The lecture will deal with barrel disinfectors, railway van disinfectors, and van baths, devised and used by the British

Sanitary Mission to Serbia in 1915. The nature and working capacity of the new methods will be described, as well as their application to the prevention of typhus, relapsing fever, and trench fever.

## Medical Notes in Parliament.

### National Service Medical Boards.

As a result of the debate on the vote for the Ministry of National Service, on June 27th, raising questions as to medical grading, an arrangement was made that those members of Parliament who are chairmen of appeal tribunals and two M.P.'s representative of the medical profession (Sir Watson Cheyne and Sir William Collins) should meet Sir Auckland Geddes in conference. The suggestion came from Sir Donald Maclean, and was welcomed by the Prime Minister on behalf of Sir Auckland Geddes, who had already spoken.

At the outset of the debate Sir Auckland took up matters raised in the discussion of the previous week. In the grading of men for the army there were two considerations—how fit a man was, and how the man possessing such fitness could best be employed in the army. Posting was a separate function. When the War Office was responsible for the medical examination an attempt was made to get the doctors working on the medical board to decide not only the medical problem, how fit a man was, but also the class of work a man was most suitable to do in the army. That meant that civilian medical practitioners were being asked to decide something which required military experience. When the examination was transferred to the civil department it was decided, after full consideration by the department, the Medical Advisory Board, and by a large number of competent civil consultants, that the furthest a medical board composed of civil medical practitioners should be expected to go was to say whether a man was fit for his age or not. The National Service Boards were, in fact, placing men in three grades for every year of the ages under consideration. There were now from the ages of 18 to 50 inclusive 33 ages, each with three departments, making 99 in all. The posting was now done as the result of consideration of grade and age. He admitted that the instruction quoted in the House in the previous week about the equivalent between the grades and the old categories was misleading, because there had been a change in the practical meaning of the term "category." The term "Category A" and so forth had been retained by the army, but a different meaning was now applied. If an army was to be maintained in the field there must be, at monthly intervals at least, consideration of the type of men coming forward, and the supply of men of any class or grade or age available, so that the best men available might be posted to that arm which required the best physique. The whole of the posting of the men was carried out under most careful supervision. When they passed from the control of the National Service Ministry to the War Office, to the Air Ministry, or to the Navy, they went to reception stations, and at the reception stations, in the case of the army, there was a posting board, consisting of a field officer who either had personal experience of the present war or full information as to how the men of various ages were standing it, a medical officer, and a posting officer with full information given him every month as to the requirements of each arm of the service and the classes of men who should be posted to each arm. Most of the members of the medical boards were civil practitioners, provided by the profession itself, through local medical organizations. They were not servants of the Ministry of National Service. The general directions with regard to the working of these boards were issued from the Ministry of National Service after consultation with the Medical Advisory Boards and, in cases touching certain physical disabilities, with recognized specialists. The responsibility for the instructions belonged, of course, to the Ministry of National Service. Once the instructions were issued, the whole of the medical boards were expected to conform to them. The medical boards had been working very well in the overwhelming majority of cases. The criticism about the grading of the older men that had been hurled at these boards had, in his opinion, been directed to the wrong place. It ought to have been directed against the Ministry. Practitioners had been accused of grading men without proper examination, and so on. That might have happened in the case of one or two boards, but certainly was not the case with regard to the vast majority. There were no fewer than 2,500 medical practitioners from civil practice, the very salt of the profession on the general practice side, working on these boards, and they did it, not because it paid them, but out of a spirit of patriotism. It had been said that a very large number of men of the new age were being taken for the army, and also that a disproportionately large number of them were being passed into the higher grades. The fact was that 11.2 per cent. of the men had been medically examined, and less than one-third of 1 per cent. had been posted. Where possible, the Ministry arranged for a second examination by a National Service Board if this was asked for—it was not possible in London for the moment, but it was done where there were enough medical men for the purpose. A man then had the



right to go to the Appeal Tribunal, and that tribunal had the right of saying whether he should be examined again, and if the man objected to going back to the National Service Board could send him to the assessors, who were under the control of the Local Government Board. That did not end the medical safeguards. If a man were posted, he had immediately another medical examination by the naval or military authorities, as the case might be. If he were young, he was simply marched past the doctors to see that he had no infectious disease, but with older men the medical eye was again passed over a man and his physical condition again assessed at the posting station. The medical officer at the reception (posting) station could not classify a man; he could not put a man up, but only send him back. In regard to the men in lower grades, if there was any question of their being graded high, they were sent to recruit distribution battalions, where they were kept under observation for a period. He believed that the minimum was two months before regrading could be effected. As for the complaint that the National Service Ministry were taking the older men and leaving the young, he said that for every man of the new age period taken so far approximately just under thirty young men had been called upon. It was because they were getting so short of younger men that men of the new age period were required for secondary and subsidiary services in the army. Sir Charles Hobbouse asked whether the safeguards enumerated by Sir Auckland Geddes were in practice observed. Sir Donald Maclean, after thanking Sir Auckland for what he had said in exoneration of tribunals, recalled the instruction M.N.S.R. 24 issued after the passing of the last Military Service Act, stating that men fulfilling the conditions of Grade I would also be fit for general service in the army. He then read the document issued on April 29th, which did not say anything about men of Grade I being fit for general service, but that "the physical training for the older men in this grade would be carried out under special medical supervision." He held that a change had been made in the physical standard for men examined after the Act was passed as compared with what it was when the bill was before Parliament.

Sir William Collins considered that an impossible task had been put upon the medical men. In the older ages there must be a larger proportion who, though they might be fit for their age, might not be fit for any military purpose. The instructions suggested that though boards were not free agents, the medical profession itself required no justification.

The Prime Minister believed that much of the trouble had been due to misunderstanding. The older men were under the impression that when they were graded as described they were to pass into the fighting line. That was not so. When 7 per cent. was spoken of it did not mean 7 per cent. for the fighting line. There was no intention of that kind. The use to be made of these men was rather in the services behind the line and in services in this country, but it did enable the military authorities to comb out men who would be fit to be put into the fighting line if there were other fit men to take their places behind the line. To that extent it was increasing the combatant strength of the army. To put men between 45 and 50 years of age to fight in the front trenches would be folly, and it was quite unnecessary. He welcomed the idea of a conference between chairmen of tribunals and the Minister for National Service. The vote would not be passed that evening and the subject could come up again.

Sir Watson Cheyne said he had received a number of letters from members of the medical profession, asking him to represent various points to Sir Auckland Geddes. The point every one made was, Is it really necessary that I should be conscripted? The writers had heard reports from medical men in the army that many of them were nearly idle; men who had left busy practices, and were of great use to the nation when at home, were sent to eat out their hearts because they had thrown away these practices and were doing no good to the nation. The delay in the publication of the report of the Commission that went to France was giving rise to a great deal of dissatisfaction. His correspondents suggested either that the report contained something which was bad for the public to know, or something which was bad for the army. He did not think that either of those observations was true. Another point was that doctors, certainly those over 50 years of age, strongly objected to anything like industrial conscription. They were filled with anxiety lest they should be asked to leave their practices and take up some other practice. At that age they were not in many cases physically strong enough to carry on a heavy practice in, say, a mining district. Some of his correspondents suggested that temporary employment in the R.A.M.C. should be offered to enable them to take military work abroad during the summer months, and return to work in the winter when they were more urgently required at home. That suggestion had already been made, and the army authorities in France seemed to think it might be accepted to a certain extent. Sir Watson went on to say that his own solution of the difficulty was that at the age named a man should not be asked to leave his practice, but that, as far as possible, he should be given part-time work in his immediate neighbourhood, so that he could give some hours a day to national work, and be allowed to carry on his own practice, which, after all, was a national work.

Mr. Albion Richardson paid a tribute to the doctors. On a visit to Conduit Street he had been struck with the consideration and courtesy shown. But the point was that the doctors were put under limitations which made a proper examination in the present circumstances impossible. That was in the matter of time. Further, he believed that in grading they acted under the spur of the Minister of National Service.

## THE WAR.

### CASUALTIES IN THE MEDICAL SERVICES.

#### ARMY.

##### *Died on Service.*

#### CAPTAIN J. T. W. BOYD, C.A.M.C.

Captain James Tennant Whitworth Boyd, C.A.M.C., aged 27, whose death on June 16th from nephritis we announced last week, was born at Glenelg, Nova Scotia, the son of the Rev. Andrew Boyd of Port Arthur, Ontario, and graduated M.D., C.M. at the Queen's University, Kingston, in 1914. After serving for a year in the Kingston General Hospital, he enlisted in the C.A.M.C. and came overseas in February, 1916, being drafted to the No. 7 Canadian General Hospital (Queen's University Unit) at Etaples. He worked in the laboratory there until February, 1917, when ill health necessitated his return to England. During the past fifteen months he had been a member of the laboratory staff of the Kitchener Hospital.

#### CAPTAIN W. F. HALE, C.A.M.C.

Captain William Fraser Hale, C.A.M.C., whose death on service we recorded last week, was born at Springhill, Nova Scotia, on June 8th, 1876, the son of the Rev. Joseph Hale of Louisburgh, Nova Scotia. He graduated in medicine at Baltimore in 1902, and joined the C.A.M.C. in January, 1917, and subsequently served with a general hospital. He died as the result of accidental injuries.

##### *Wounded.*

Major R. H. Hodges, M.C., R.A.M.C. (S.R.).

Major A. E. P. McConnell, M.C., R.A.M.C. (T.F.).

Captain R. Craig, R.A.M.C. (temporary).

Captain J. W. Darling, M.C., R.A.M.C. (temporary).

Captain A. Malseed, M.C., R.A.M.C. (temporary).

#### DEATHS OF SONS OF MEDICAL MEN.

Campbell, Kenneth Turner, Lieutenant Royal Air Force, only son of Lieut.-Colonel Spurgeon Campbell, C.A.M.C., of Winnipeg, killed in an air action on June 17th, aged 19. He joined in 1917, and had only recently gone to France.

Northcote, James FitzGaulfrid, Second Lieutenant West Yorkshire Regiment, younger son of Captain A. B. Northcote, R.A.M.C., of Monkgate, York, reported missing at Passchendaele on October 9th, 1917, now presumed killed on that date, aged 22. He was educated at St. Peter's School, York, joined the Inns of Court O.T.C. in 1915, got his commission in the West Yorks, and went to France in 1917. He was serving with a trench mortar battery when killed.

Nuttall, Eric J., Lieutenant Machine Gun Corps, attached West Yorkshire Regiment, son of Dr. Nuttall of Gainsborough, killed recently, aged 24. He enlisted early in the war.

Pockley, John Graham Antill, Lieutenant Australian Imperial Force, whose death in action on March 30th we announced in our issue of April 27th, was the third and youngest son of Dr. F. Antill Pockley, past president of the New South Wales Branch of the British Medical Association and president of the Australian Medical Congress in 1911. At first attached to the A.A.M.C., he enlisted as a private in a fighting unit, and soon obtained a commission. He was a fine athlete and horseman, and had passed at the head of the list in examinations in several branches of military service. He leaves a widow and an infant son. His elder brother, Captain B. C. Antill Pockley, who was the first member of the Australian Imperial Force to fall in this war, was killed in September, 1914, in the taking of German New Guinea.

Thomas, Francis Gerald, Mercantile Marine, fifth son of Dr. William Thomas, F.R.C.S., of Birmingham, killed on duty by his ship being torpedoed, June 8th, aged 37.

Wilson, Geoffrey, Lieutenant Royal Air Force, younger son of Dr. H. Wilson of Cheadle, Cheshire, killed May 15th, aged 23. He was farming in Saskatchewan when the war began, came home in October, 1914, and enlisted in the Army Service Corps, got a commission in that corps on December 28th, 1914, and after eighteen months' active service in France was transferred to the Royal Flying Corps.

With reference to the death of Edward Hughes Dodgson, younger son of the late Dr. Dodgson of Cockermouth, announced in our issue of June 1st, we are informed that he died of cerebro-spinal meningitis at a casualty clearing station in France, and not of wounds.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]



## England and Wales.

### HOSPITAL FOR PENSIONERS AT BIRMINGHAM.

THE Ministry of Pensions, which realizes the necessity for providing beds for pensioners requiring medical or surgical treatment, has taken an important step in this direction at Birmingham. With the advice and assistance of Dr. Robertson, M.O.H., it has been arranged to use the Old Lodge Road Fever Hospital for this purpose. It will provide 200 beds with possibilities of extension. A resident medical officer has been appointed, and Dr. W. R. Jordan has accepted the post of consulting physician and Mr. Albert Lucas that of consulting surgeon. Miss Webb, matron of Cheltenham General Hospital, and late assistant matron of the General Hospital, Birmingham, has been appointed matron. It is expected that arrangements will be made with the civil hospitals to reserve beds for the treatment of severe cases and those calling for serious operation.

### CLINIC FOR ORTHOPAEDICS AT LIVERPOOL.

The Local War Pensions Committee, in view of the number of men discharged from the services still requiring treatment, has prevailed upon the governing authority of the Royal Infirmary to open an orthopaedic department. On June 29th Colonel Sir Robert Jones inaugurated this new undertaking, which has been thoroughly equipped for the treatment of these cases. It is gratifying to record that the clinic has been started free of debt through the munificence of friends of the hospital. It was stated that between 3,000 and 4,000 men in Liverpool had been discharged on account of wounds received in action. Sir Robert Jones paid a tribute to Mr. Rushton Parker, who was the first to introduce the Thomas splint to any institution in Liverpool. It was only natural that Liverpool, where the famous surgeon, Hugh Owen Thomas, the inventor of the well-known appliances associated with his name, practised so successfully, should be a centre for orthopaedics. Every large hospital should possess such a department, for in this branch of remedial surgery the improvements were illimitable. Alluding to the value of the Thomas splint, Sir Robert Jones mentioned some forty cases of fractured femur in wounded soldiers treated in Thomas splints in which there was not half an inch of shortening. Mr. Thelwall Thomas, President of the Liverpool Medical Institution, in supporting a vote of thanks to Colonel Sir Robert Jones, paid a graceful tribute to the work the latter had been doing during the war and the signal services he had rendered in advancing our knowledge of orthopaedics.

## Scotland.

### BANGOUR MILITARY ORTHOPAEDIC HOSPITAL.

AN important addition to the installation for the orthopaedic treatment of wounded soldiers at the Edinburgh Military Hospital, Bangour, was, on June 24th, formally handed over by Lord Mackenzie, on behalf of the Edinburgh Red Cross Committee, to Colonel Keay, the officer commanding the hospital. Bangour, Lord Mackenzie said, was one of the three great orthopaedic centres of Scotland, the others being Bellahouston and Aberdeen. The Edinburgh Red Cross Committee had previously contributed £500 for the manual curative workshops; it had now provided £6,000 to erect and equip a building for hydrotherapy, massage, and electrical treatment on a large scale on a site granted by the Local District Board of Control. In accepting the gift Colonel Keay described the various kinds of baths and the treatment in use.

### EPIDEMIC NERVOUS DISEASE IN GLASGOW.

Dr. A. K. Chalmers, M.O.H. Glasgow, and Drs. Picken and MacLean, members of the public health staff of the city, have made valuable contributions to the perplexing problems raised by the nervous disorder which has pre-

vailed recently in various cities. The conclusions reached may be summarized as follows:

During May several incidents combined to direct attention to the occurrence of certain forms of illness associated in some instances with severe nervous symptoms and a high rate of mortality. These were isolated in their occurrence, but almost contemporaneous with certain other cases which were definitely grouped in places of employment and in residential institutions. Some of these were probably influenzal in character, while others assumed the clinical features of an outbreak at an industrial school in Glasgow in 1888, at an industrial school at Tipton in 1911, and at various times in industrial schools in England. It is believed to be the first occasion in which factories and works have been invaded. Coincident with these occurrences, the number of deaths registered in the first fortnight of May rose to 886, in place of 663 in the preceding fortnight, and the rate to 20, in place of 15 per 1,000. The largest increase in the grouped causes of death was ascribed to cerebral haemorrhage and respiratory disease, and the chief incidence was at ages under 25.

At this period cases believed to be due to botulism were reported in London, Sheffield, and other cities, and three cases admitted to the fever hospitals under other names (typhus and cerebro-spinal fever), together with one seen by Dr. Picken in consultation, presented some of the features elsewhere ascribed to this affection, but without any association with food as a likely explanation of the illness.

An inquiry into the isolated cases was conducted by Dr. Picken, and by Dr. MacLean into the grouped industrial and institutional cases. The latter mostly occurred in Lanarkshire, but had relationship with certain antecedent cases in Glasgow. In the inquiries beyond Glasgow Dr. MacLean was associated with the public health staff of the county. The evidence in both reports gave grounds for the opinion that at least two types of affection of the nervous system apart from influenza had occurred.

*Isolated Cases.*—In the cases investigated by Dr. Picken nervous symptoms were a predominant feature. Sometimes they took the form of rigidity of certain groups of muscles, chiefly of the arms or legs. In some the rigidity was followed by paralysis; in others paralysis occurred without any antecedent rigidity. In two cases the paralysis was facial, and produced the mask-like expression associated with botulism; in others the paralysis more obviously affected the limbs as in ordinary infantile paralysis. In a few the onset was sudden, but in the majority the symptoms developed gradually but rapidly. Altogether eleven cases in this group were recognized, and five died within five, six, eight, eleven, and twenty-four days respectively. Information received since the date of the report has added to the number.

*Grouped Cases.*—In Dr. MacLean's inquiry the majority of the cases occurred among groups of workers in industrial establishments. All these cases were of a mild type, characterized by sudden onset, severe headache, prostration, and rapid recovery, usually within two to four days. This group contained 420 persons, and the symptoms suggested influenza. But there were further groups occurring in institutions outwith Glasgow which receive inmates from a working boys' home, where 16 cases with symptoms similar to those of the factory workers occurred. The institutional cases, however, were not all equally mild, and 8 deaths are known to have occurred among them.

*Symptoms and Pathology.*—Excluding the influenza element, we would seem to have to deal with a form of affection which attacks the central nervous system, alternately the brain or cord, and falls within the group of affections for which the name "Heine-Medin" (a combination of the names of two observers of outbreaks in the last century) has been adopted. Of these, the form best known is where the cord is the chief seat of the disease (infantile paralysis or poliomyelitis), of which the outbreak in New York in 1916 is probably the most recent on a large scale. It is possible, as Dr. Picken has suggested, that the form simulating "botulism" is an aberrant form of this, chiefly affecting the brain. In any case it would appear to be an affection of the grey matter of the brain, as distinct from disease of the corresponding portion of the cord.

*Prevention.*—The precise methods of spread are somewhat obscure. The occurrence of isolated cases has suggested the agency of insects, and the stable-fly has come under suspicion. It would seem obvious that the best defence of the population against the spread of the disease lies in a rigid attention to the details of personal and domestic cleanliness, including vigorous action against vermin and insect pests of all sorts. The disease tends



to increase during warm weather, and court and stair cleansing and the frequent removal of stable litter should be rigorously enforced.

*Notification.*—In order also to bring the attendant conditions of each case under review, there would, Dr. Chalmers considers, be advantage in including both forms of the disease within the Notification Act. Poliomyelitis has been notifiable in England since 1912, but the resolution should include the aberrant brain form known as poli-encephalitis or lethargic encephalitis.

## Ireland.

### REMUNERATION OF POOR LAW MEDICAL OFFICERS IN IRELAND.

At the annual meeting of the Leinster Branch of the British Medical Association, held on June 24th at the Irish offices, 16, South Frederick Street, Dublin, Surgeon A. BLAYNEY in the chair, the following resolutions were passed and copies were ordered to be sent to the Local Government Board and the Press:

1. That the annual meeting of the Leinster Branch of the British Medical Association endorses the resolution passed at the recent meeting of delegates of the medical profession regarding the salaries of Poor Law medical officers—namely, in dispensary districts, an initial salary of £200 per annum, increasing to a maximum of £500 after fifteen years' service, with retrospective application in the case of existing officers.
2. That the meeting learned with much disappointment and regret the refusal of the Local Government Board to sanction the maximum salary of £300 which has been passed by certain boards of guardians for their Poor Law medical officers, and we strongly urge them to reconsider their decision, as we are of opinion a maximum salary of £300, after fifteen years' service, is very moderate, particularly as 50 per cent., and in many places over it, of the population in Ireland receive their treatment under the Medical Charities Acts.
3. That the meeting urges the Local Government Board, if it expects efficient treatment for those who receive medical attendance under the Medical Charities Acts, it must not only sanction adequate salaries when passed by boards of guardians, but it must exercise its right to fix such salaries where boards of guardians refuse them.

A resolution was also passed dealing with the retrospective payment of doctors attached to V.A.D. hospitals.

A deputation of Poor Law medical officers, accompanied by the Right Hon. M. F. Cox, M.D., and Dr. T. Hennessy, Irish Medical Secretary, waited recently on the Local Government Board regarding the refusal of this Board to sanction graded scales of salaries, on the ground of their being excessive, which have been passed by certain boards of guardians. The deputation gave a detailed account of the financial difficulties of Poor Law medical officers in discharging efficiently their duties owing to their totally inadequate salaries, even in peace times, and that since the outbreak of the war these difficulties have become impossibilities as the result of the enormous increase in the cost of living and travelling.

The Commissioners of the Local Government Board stated in reply to the deputation that they would give their representations very careful consideration and expressed their desire to remedy the grievances of Poor Law medical officers in every way possible.

## Correspondence.

### THE VALUE OF TUBERCULIN IN PULMONARY TUBERCULOSIS.

SIR,—Is it not time that a protest should be made against the abuse of tuberculin in the treatment of tuberculosis of the lungs?

The remedy—if such it can be called in this connexion—is less used than formerly, but it is to be feared that it is still employed much too extensively and that the results are in many cases injurious. The practice of sanatoriums varies. Some do not use it at all; others use it very sparingly; others, again, use it more freely. I have seen no evidence to suggest that the results are better in the sanatoriums employing tuberculin than in those which dispense with

it. I notice that recently some sanatoriums advertise: "Tuberculin used only in suitable cases." Are we to infer that it was formerly used in unsuitable cases, or only that the profession and the public are getting shy of the remedy?

Some advocates of tuberculin give it in such infinitesimal doses and so severely restrict its employment to favourable types of phthisis that their advocacy carries no conviction.

It is significant that there is no consensus of opinion either as regards the proper variety of tuberculin or the correct dosage. One foremost advocate of tuberculin—a foreigner—once informed me that he could get good results only with one particular brand of tuberculin. Another authority—also foreign, and equally eminent—once gave me his opinion that all brands of tuberculin were much alike, and that he had no preference. Why this discrepancy? Both the above authorities enjoy a world-wide reputation.

The question at issue is one of considerable practical importance, and an expression of opinion from those best qualified to speak would serve to guide the practice of the profession in this department.—I am, etc.,

Belfast, June 29th.

JAMES ALEX. LINDSAY.

### THE BURDEN OF COSTLY REMEDIES.

SIR,—In your editorial in last week's issue of the BRITISH MEDICAL JOURNAL, in the case of Dr. Fisher and the judgement given in his appeal by Dr. J. Smith Whitaker, the Medical Commissioner, I venture to think that you hardly do justice to the decision when you state that "from the technical point of view" it "may be correct." Surely it is not only technically, but absolutely, legally right and proper. However much we can all sympathize with Dr. Fisher, it must be acknowledged that the issues before the Commissioner were very simple. Was the antitoxin a drug or medicine within the terms of the Act? If it were, then Dr. Fisher had a contractual obligation to provide it, whatever the cost. If it were not, the Insurance Committee would have acted illegally if they had supplied it at the cost of their funds. The case will, I hope, prevent medical practitioners in future from entering into legal agreements and contracts the extent and bearing of which they do not estimate or understand. The only fault which can be attributed to the decision of the Commissioner lies in the length of the document and the mass of words, which obscure the issue. Time, energy, money, and paper might have been saved had it been very considerably curtailed, without any detriment to its force and legal effect.—I am, etc.,

London, W.C., July 1st.

A. G. BATEMAN.

SIR,—The leading article in the issue of June 29th opens up a very unpleasant aspect of the Insurance Commissioners towards the insured. In the case of Dr. F. C. Fisher—I presume he appealed to the final Court of Insurance—the result to a man who does his duty is insult and injury. Insult, because such decision teems with the dictatorial and is only fitted for schoolboys, and let us remember that the decision is addressed to the whole profession.

I venture to say that this matter must be ended or mended. If the Insurance Commissioners are determined to stick to this decision, there can be only one interpretation—"that the insured is quite an unimportant person, and any treatment is good enough for him." There is only one thing that the profession can do—every doctor working a panel should send to the County Insurance Committee a slip that they decline to provide serums, antitoxins, or similar remedies for intramuscular or intrathecal injections; surely the profession can manage to be united on this. For all such remedies, when needed, they would apply to the Commissioners or to any authority they chose to appoint.

Failing such arrangement, then the patient must be told that the Commissioners have not arranged for the treatment by serums, etc., and they must pay for such, or enter an action against the Insurance Commissioners for insufficient treatment, if it so please them. I, as doctor, cannot afford to buy these necessary things on the capitation fee.

The profession would win all along the line, and,



backed by the British Medical Association, the point would soon be settled: one must remember this is not a fight for money—it is a fight for the sick and ignorant—I am, etc.,

Indicatrix, Bantony, July 2nd

F. B. JUDGE BALDWIN.

### MILK SUBSTITUTES.

Sir,—I should be much obliged if you would correct the unfortunate omission of five words in my letter on liquid oatmeal as printed in the JOURNAL on June 29th. The passage should read:

*Instructions.*—Boil three ounces of fine oatmeal in a pint of water in a double saucepan for at least an hour. Then cool to 140° F., and strain two or three teaspoonfuls of extract of malt, or of finely ground malt. The jelly-like mass will speedily change to a syrupy liquid. Let it remain for an hour at the same temperature. It is then ready for use and should measure one pint.

—I am, etc.,

Chilton Bristol, July 5th

GEORGE PARKER.

## Universities and Colleges.

### UNIVERSITY OF OXFORD.

THE following candidates have been approved at the examinations indicated:

SECOND M.B.—*Materia Medica and Pharmacology*: I. Harris, B. G. von B. Melle, K. F. D. Waters.  
*Pathology*—B. G. von B. Melle.  
*Forensic Medicine and Public Health*—E. H. Cluver, J. C. Dixey, S. C. Dyke, C. F. Krize, J. E. B. Morton, T. Patterson, W. V. Robinson, A. E. Thomas, K. F. D. Waters.  
*Medicine, Surgery, and Midwifery*—E. H. Cluver, S. C. Dyke, T. Patterson, W. V. Robinson, J. J. Savage, K. F. D. Waters, E. A. Woods.

### UNIVERSITY OF MANCHESTER.

THE following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—T. H. Almond, Sybil Bailey, Mary G. Cartwell, T. Colley, S. E. Critchley, F. L. Heap, J. Mills, Kathleen O'Donnell, Norah H. Schuster, L. J. Schwartz, V. T. Smith, F. L. Whimpey.  
*Obstetrics*: J. O'Grady, B. Walley.  
*Forensic Medicine and Toxicology*: Noomen Abdooh, Mary E. Bealton, Elizabeth C. Davies, Kathleen Doyle, Georgiana M. Duthie, Olive M. Gunson, F. G. Hammett, A. Harris, S. Kelly, J. G. Nolan, J. O'Grady, Olga G. M. Payne, F. L. Platt, F. Platt, W. Rekan, A. El H. Sadek, Annie G. Thompson, Doris M. R. Tompkin, B. Walley, Ethel D. Willis, Ruth A. Wilson.  
THIRD M.B., CH.B.—*Pharmacology, Therapeutics, and Hygiene*: S. Adler, May Ashburner, F. A. van Colter, Phyllis M. Congdon, J. W. Crawshaw, K. V. Deakin, A. M. El-Aguizy, F. R. Ferguson, Evelyn A. Garnett, J. Harris, G. E. Hayward, Sylvia K. Harrison, J. B. Higgins, F. S. Horrocks, Irma M. C. Jehansart, F. C. Jones, Mary S. Jones, H. A. Lomax, W. E. Mason, Doris B. Norman, L. R. Ormerod, Emily M. Peach, H. D. Preston, H. Rosenthal, G. Sheehan, Annie E. Somerford, G. Talbot, Doris A. Taylor, G. L. Taylor, H. W. Taylor, Mary I. Turner, R. Williamson.  
*Hygiene*: Martha F. Barritt, Florence M. L. Graham, A. S. Leigh, Bertha Renshaw.

\* Awarded distinction.

### UNIVERSITY OF LEEDS.

At the congregation on June 29th the following were among the degrees conferred:

M.D.—H. L. Flint, E. W. Reed.  
M.B., CH.B.—G. R. Baxter (with second class honours), Jane Bamford, Marion Draper, R. Graham.

### UNIVERSITY OF DURHAM.

THE following degrees were conferred at the convocation held on June 25th:

M.D. (for Practitioners of Fifteen Years' Standing).—K. C. Edwards, P. A. Storey.  
M.B.—Dorothy E. Butcher, C. C. H. Cuff, W. A. Freedman, Mary K. Henegan, W. A. Hewison, W. A. Jaques, B. Sergeant, W. E. M. Wardill.  
B.S.—Dorothy E. Butcher, C. C. H. Cuff, Stephanie P. L. H. T. Daniel, W. A. Freedman, Mary K. Henegan, W. A. Hewison, W. A. Jaques, B. Sergeant, W. E. M. Wardill.  
B.H. and D.P.H.—H. M. Leete.

The following candidates have been approved at the examination indicated:

THIRD M.B. (*Materia Medica, Pharmacology and Pharmacy, Public Health, Medical Jurisprudence, Pathology and Elementary Bacteriology*).—A. G. Weston, R. C. Brown, T. H. R. Anderson, P. C. Arnold, N. R. Beattie, S. W. Davidson, M. J. Erdberg, A. S. Graham, Mary L. Griffiths, Kate Gray, Dorothy Holmes, G. Hurrell, Edith C. M. Jones, M. A. R. Mansoor, T. N. V. Potts, May Raw, J. Silverston, H. R. Smith, J. Stonehouse, A. Woodman, Kathleen M. W. Watts.

\* With second class honours.

### UNIVERSITY OF GLASGOW.

A SERVICE in commemoration of past benefactors and of graduates and students who have fallen in the war, held in the Bute Hall of Glasgow University on June 26th, was attended by a large number of the general public. The Vice-Chancellor in the course of his address said: "As is fitting in this hour of the nation's trial, we lift our hearts in thankfulness for the courage and devotion of our graduates and students who have given their lives for the cause of right and freedom. The memory of their fortitude has become our glory, their high example our incentive to nobler endeavour in the time to come."

A graduation ceremony followed, when the following degrees were conferred:

M.D.—T. S. Macaulay (with distinction), T. Baxter.

The Bellahouston gold medal for eminent merit in thesis for the M.D. degree has been awarded to Dr. R. T. Leiper, D.Sc., and the Asher Asher gold medal for laryngology and rhinology to Mr. John Pollock.

### SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

*Surgery*.—†G. H. Fitzgerald, †H. M. Waller.  
*Medicine*.—W. E. P. Briggs, †N. Chica, †D. A. Dyer, †G. H. Fitzgerald, \*F. W. Kemp.  
*Forensic Medicine*.—H. Carter, F. W. Kemp.  
*Midwifery*.—W. E. P. Briggs, J. F. E. Burns, J. Gorsky, F. W. Kemp, E. H. Musgrove.  
\* Section I. † Section II.

The diploma of the Society has been granted to Messrs W. E. P. Briggs, D. A. Dyer, G. H. Fitzgerald, and H. M. Waller.

## Obituary.

It is with great regret that we record the death, at the age of 66, of Dr. CHARLES PARKER, of Gosforth, Cumberland, on June 22nd, after a painful illness of three months. Dr. Parker was born at Chatham in 1851, was educated at Ipswich Grammar School and Wellington College, and matriculated at Edinburgh University in 1869, where he graduated M.B. and C.M. in 1875. He took the M.D. and F.R.C.S. Edin. in 1884. After visiting the principal medical schools of London, Paris, and Vienna, he settled in practice in Dumfriesshire in 1875. In 1876 he married the eldest daughter of Dr. John Smith, dental surgeon to the Edinburgh Royal Infirmary. In 1877 he moved to Gosforth, where he speedily obtained an extensive practice. His scant leisure was devoted to antiquarian research, and he soon became the authority on the antiquities of the district, and was in 1885 elected a Fellow of the Scottish Antiquarian Society. He was for many years a member of the council of the Cumberland and Westmorland Antiquarian Society and contributed many papers to its *Transactions*, the latest in the volume just published being in collaboration with Mr. W. G. Collingwood, F.S.A., on the ancient Runic Cross in Gosforth Churchyard. He also published essays on the Runic Crosses of Gosforth; the Ancient Crosses of Gosforth, Cumberland (1896); the Gosforth District (1904); and Shelagh, Olaf Cuaran's Daughter (1909). He took an active part in the public work of the district, being especially interested in the church and the schools, and in 1883 was appointed J.P. for the county of Cumberland. The Chairman of the Whitehaven Justices at their first meeting after his death paid a warm tribute to his memory, stating that "he was highly respected wherever he was known, that he was the friend of every one, the enemy of none." He leaves behind him a widow, one daughter, and three sons. The daughter's husband is a lieutenant on active service, his eldest son served through the East African campaign, the second son is a Commander R.N., and the youngest is a captain in the R.A.M.C. serving in France.

THE United States Secretary for War has authorized Surgeon-General Gorgas to establish an army school of nursing for the training of women for service in military hospitals.

THE National League for Health, Maternity, and Child Welfare, 4, Tavistock Square, W.C.1, has prepared leaflets and posters dealing with the dangers due to body vermin, and setting forth the best practical methods for counteracting them. Specimen copies will be forwarded on application to the secretary. The leaflet entitled "How to prevent the spread of epidemics by insects in war time" has been approved by the trustees of the Natural History Museum.



## Medical News.

THE Royal Medical Benevolent Fund Guild among its many useful activities undertakes the training of girls to be self-supporting or to assist their mothers. The committee is very anxious that efforts in this direction should not slacken; but the Training Fund is in debt, and in the hope of putting it in funds again a garden party is to be held at the Royal Botanic Gardens, Regent's Park, on the afternoon of Tuesday, July 16th, at which a number of well-known artists will appear. Tickets of admission can be obtained through the usual agents, and from a number of ladies interested in the fund.

Sir Frederick Taylor and Sir Alfred Pearce Gould have been appointed to serve on the Officers' Pensions Appeal Tribunal.

Brevet Colonel R. Heard, I.M.S., has been appointed an Honorary Surgeon to His Excellency the Viceroy of India.

Major John Orton, R.A.M.C.T., and Dr. H. J. Thornton have been appointed justices of the peace for the city of Coventry and the county of Middlesex respectively.

THE annual meeting of the Medico-Psychological Association of Great Britain and Ireland will take place in Edinburgh on July 23rd and 24th, under the presidency of Lieut.-Colonel John Keay, R.A.M.C.

THE degree of M.D. (*honoris causa*) has been conferred by the National University of Ireland upon Colonel R. J. Blackham, C.M.G., C.I.E., D.S.O., who is now serving as D.D.M.S. of an army corps in France.

THE New York Chapter of Hadassah, the Women's Zionist organization, is forming a medical unit for Palestine. It will consist of fifty-one doctors and nurses, and will be a foundation for a large and permanent system of medical relief work which will be conducted on a basis of assistance to all in need of it, irrespective of race or religion.

A STEADY rise in the frequency of strangulated hernia and intestinal obstruction in Germany is attributed to food shortage. In a hospital in Lübeck there were only 11 such cases in 1913 and 1914. In 1915 they rose to 34, and in 1916 to 45. In the first seven months of 1917 they totalled 50. The causes of this abrupt rise are thought to be loss of subcutaneous and mesenteric fat and, in the case of volvulus, the abnormal distension of the gut by vegetable foods.

THE close medical supervision of workers in munition factories has had the very satisfactory result that the cases of T.N.T. poisoning, which numbered 169 from October, 1916, to March, 1917, fell to forty-two in the corresponding six months of 1917-18. Factory medical officers have now been authorized to permit continuous employment of persons upon T.N.T. work, which will have the effect of halving the number of workers coming into actual contact with this explosive.

THE Germans in continuation of their policy of ruthlessness have torpedoed the *Llandovery Castle*, a hospital ship in the service of the Canadian Government. The ship being homeward bound from Canada had no sick or wounded on board; she had a crew of 164 officers and men, 80 members of the Canadian Army Medical Corps, and 14 nursing sisters. Of this total only 24 in a single boat have been saved. The usual excuses that the boat carried combatant units and munitions are being made by the Germans, but, as is absolutely clear, without any particle of justification.

THE Royal Sanitary Institute, 90, Buckingham Palace Road, London, S.W.1, announces that men discharged from the navy or army on account of wounds, disease, or other disablement contracted during naval or military service, may enter for the institute's course of lectures and examinations at half fees, provided that their disability is not such as to prevent them carrying out the duties of the office to which the examination applies. Sailors' or soldiers' widows whose husbands have been killed or have died during the present war, and wives whose husbands have been permanently disabled during the present war, are admitted to the courses of lectures and examinations at two-thirds of the ordinary fees.

THE annual meeting of the British Orthopaedic Association will be held on Friday, July 26th, and Saturday, July 27th, at the rooms of the Medical Society of London, 11, Chandos Street, W.1. On the morning of the first day the President of the Association, Mr. E. Muirhead Little, F.R.C.S., will deliver an address; this will be followed by a discussion on the indications, technique, and end results of tendon transplantation in gunshot injuries of nerves, to be opened by Captain T. P. McMurray, R.A.M.C., of

Liverpool. On the second day Mr. D. M. Aitken, F.R.C.S., will open a discussion on the Abbott treatment of scoliosis. The programme on both days will include short communications from other members of the association.

A REVIEW of the housing question as it is likely to present itself at the close of the war, drawn up by a special panel of the Reconstruction Committee appointed by that Ministry, has been issued. It has long been known to every one who gave any attention to the subject that the condition as to rural housing is most unsatisfactory and that it is one of the factors which have driven men from the land in the past. But it is something to have it now officially stated that if this country is to be self-supporting in the matter of food, or approach that condition, there must be a very considerable increase in the number of men working on the land. As to the number of houses that will eventually be required the report does not go further than to register its opinion that the lowest number of houses which should have been built this year, had the war ended last year, was 300,000. It advises that the state should provide the cost of the building, and should own the houses for a period of, say, five years after the war, at the end of which time prices might be expected to have attained a normal level. During this transitional period it is proposed that the local authority should act as agents of the state, and that at the end of the period the ownership of the houses should be transferred to them at a price to be settled. The estimate for the provision of 300,000 houses is £100,000,000, of which the state would have eventually to find one-quarter.

## Letters, Notes, and Answers.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitology*, Westrand, London; telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra*, Westrand, London; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### LETTERS, NOTES, ETC.

#### THE "MEDICAL DIRECTORY."

THE Editors of the *Medical Directory* inform us that the annual circular has been sent to every member of the profession, and that prompt return of the circular will help them considerably. If any practitioner who has not received a copy will communicate with them at 7, Great Marlborough Street, London, W.1, a duplicate will be forwarded.

#### WHITE FLOUR.

A CORRESPONDENT in Northumberland sends us as a curiosity, the following letter he recently received from a panel patient whom he has been attending for the past twenty-two months:

"I have decided to have another doctor. With your medical attention I find no fault, but I am not satisfied that you did all you might have done in assisting me in my effort to obtain white flour, therefore I have concluded that there is no other course open to me but to get some one who will help me in such matters as this."

THE appointment of certifying factory surgeon for East Nottingham is vacant.

### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	...	...	0 6 0
Each additional line	...	...	0 0 9
Whole single column	...	...	4 0 0
Whole page	...	...	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.



## An Address

ON

## THE FUTURE OF THE MEDICAL PROFESSION.

BEING THE CAVENDISH LECTURE DELIVERED BEFORE  
THE WEST LONDON MEDICO-CHIRURGICAL  
SOCIETY ON JULY 4TH,

BY

MAJOR-GENERAL SIR BERTRAND DAWSON, G.C.V.O.,  
C.B., M.D., F.R.C.P.,

ARMY MEDICAL SERVICE; PHYSICIAN IN ORDINARY TO H.M. THE KING;  
PHYSICIAN TO THE LONDON HOSPITAL.

## PART I.

[AFTER thanking the Society for the honour it had done him in appointing him Cavendish lecturer, Sir Bertrand Dawson said that the subject had been selected with a view to encouraging deliberation and discussion, and from these the united action so urgently needed. The range and complexity of the subject was so great that it had not been possible to confine all he had to say within the compass of an hour, and consequently it had been arranged that he should deliver the second part of the lecture at the house of the Royal Society of Medicine on July 11th.]

The changes which have long been germinating and which are soon to see the light, are, as I conceive, the result of the following causes:

I. A growing appreciation of the fact by the profession and the public that much disease is preventable; a growing sense that health is of supreme interest alike to the state and the individual; that the best means for preserving health and curing disease should be available for (I do not say given to) every citizen, irrespective of his position, and by right and not by favour; I venture to think that this last will be an article of faith of every political party.

II. Now put, side by side with the foregoing, the fact that the growth of knowledge makes measures for preventing and curing disease more complex; that these measures are no longer within the power of individual effort; that they need combination of effort—in short, team work; that for such work equipment and apparatus are needed, and these in turn need organization and involve increased cost. If you admit that these organized measures are to be within the reach of all members of the community, two things follow—namely, that efficient medical service cannot be self-supporting; that its provision implies not only men but equipment, and that both must be distributed according to the needs of the community.

There is an interesting parallel between provision for education and health, both as regards historical development and present needs. Education was at one time patchy, unorganized, and dependent on voluntary effort. In 1870 Parliament stepped in, with the result that state and voluntary education proceeded side by side. Since then the state service has gradually overgrown the voluntary one, because it has been recognized that education should be available for all, that the state is responsible for the education of its citizens, and that the cost is too great to be supported by fees or by voluntary effort alone. This cost is in part defrayed by an education rate chargeable on householders, and Dr. Gordon Dill's suggestion\* that a similar rate should be charged for health has a great deal to recommend it; it would be a local contribution to the cost and would not be altogether an additional burden, for its application would soon be followed by a diminution in the poor rate.

Health organization is following a similar development, though tardily and at a distance. Yet in reality health is a more fundamental need than education, and without doubt the two together form the foundation stone of the state. Notwithstanding, there exists no Ministry of Health, and even now, when it is proposed to form one, such a ministry is to be tied politically to the Local Government Board.

\* To Dr. Gordon Dill's work and memorandum on this subject I owe a debt.

## THE NEEDS.

One is thus forced to the conclusion that medical services must have some kind of state aid and central control; that for their efficiency they need co-ordinated effort installed in specially equipped institutions. We thus reach, as I would suggest, by the irresistible logic of facts, the following conclusions:

1. State aid: central control.
2. Co-ordinated effort—team work.
3. Development of institutions specially designed for diagnosis and treatment, styled for brevity institutional treatment.

To the foregoing I will add a fourth—that curative and preventive medicine are no longer separated in accordance with any sound principle, and should be brought together in thought, teaching, and organization.

There is nothing revolutionary or new in these propositions, and the directions of progress in recent days have conformed to them. What is needed is their wider recognition and systematic application.

## Team Work.

Let me view the above propositions in the light of concrete examples. Take the history of the diagnosis and treatment of phthisis. At one time the treatment was home, shut windows, and cod-liver oil. Next, following the discovery of the tubercle bacillus, it was an occasional open window and cod-liver oil, but still at home. Then came the sanatorium, and with it the dawn of hope and progress. Who would dream now of treating phthisis outside such a special institution or colony? And what all admit is true of phthisis is equally true of other diseases. Let us look at phthisis from the point of view of diagnosis. At one time the only investigation available was clinical, and in skilled hands it was, and is, most valuable. Now the evidence of physical signs is marshalled side by side with that of bacteriology and radiography. In other words, whereas one individual formerly sufficed, three are now required. And viewing the matter from the point of view of cost, formerly it was one fee, now it is three. Diagnosis, in short, needs the work of a team, and a team works best in the harness of the same institution. One more look at phthisis from the point of view of prevention. An organization has grown up whereby contacts are examined and families instructed—namely, the tuberculosis dispensary, in which preventive and curative medicine are working side by side.

Consider venereal diseases: with the growth of knowledge they require a team for their proper diagnosis, and a special equipment for their treatment, and in their case, too, prevention would be more closely allied with cure but for the fact that our pastors and masters are not endowed with grace, wisdom, and understanding.

Or, again, heart affections. These may require, in addition to clinical investigation, the use of radiography and the electrocardiograph; and for the cure of those which have not grave structural lesions we need, not bed and drugs, but an ordered régime in the open air with graduated exercises and amusements, which serve to tone up the body, of which the heart is a part, to remove the heart from the realm of the patient's consciousness, and restore confidence to his mental outlook. In the treatment of such patients drugs play no part of primary importance.

Take many gastro-intestinal maladies: such may need the clinical physician, the radiographer, the bacteriologist, the chemist, and the surgeon—some or all of them working in co-ordination in specially equipped clinics, where the investigations and treatment can be carried out.

Lastly, take a recent and striking example of the advantage of organized team work—the orthopaedic centres set up by the Army Medical Service under the inspiring leadership of Colonel Sir Robert Jones. Here there is the complete equipment for dealing with injured limbs, including surgeon, neurologist, and special surgeon for dealing with nerve injuries, departments for massage and remedial exercises, electrical treatment, curative workshops; and the results achieved far out-distance those obtained by unorganized individual effort, however brilliant.

Such advantages are seldom available, for the reason that the need has far outstepped the provision. For the masses the few voluntary hospitals are wholly inadequate.



Recall the list of patients waiting weeks, and even months, before they can be admitted for medical treatment or some necessary operation. The middle classes of moderate means who do not think it right to go to hospital fare worse. And even the rich man who can afford whatever cost is needed suffers from the investigations not being carried out in a clinic where results can be placed side by side and a collective judgement given.

#### *The Place of the General Practitioner.*

Looking to the future, it is certain that investigations will become increasingly technical and collective. Likewise, efficient treatment will more and more require regimen, special environment, and special equipment. What must be the result? The home will become less and less suitable for the sick; the custom will grow of the patient going to the doctor instead of the doctor to the patient.

After all, if you wish to be educated you go to school or college; if you wish to see the drama you go to the theatre. Why, then, if you want to be restored to health should you not go to a hospital? Why is a room in a dwelling made to suffice? Why not the best?

And this insufficiency in our organization has another serious aspect—namely, that adequate opportunities are not afforded to the general practitioner to do the best work. As a result he is apt to get disheartened and to deteriorate as a workman would without the best tools or an adequate workshop. Team work and organized equipment should be available, though in varying degree, in the same way as schools are provided. Though it is quite right that consultants and specialists should be available to help the general practitioner, these are not nearly so important as providing the means for the general practitioner to help himself. The general practitioner is a central pillar of any scheme of reconstruction, and nothing is more important to the public and profession alike than to attract the best type of brain and character to the profession of medicine. To do this there must be provided opportunities for doing good work; opportunities for observation, self-improvement and research, adequate repose and adequate remuneration. It is interesting to note amongst the doctors serving with the army abroad a realization of the deficiencies of existing civilian practice and a growing desire for a better system, which, though preserving liberty of thought and action, will provide the organization necessary for worthy achievement.

The general practitioner's outlook needs to be more comprehensive. In him should be realized the correlation of preventive and curative medicine. He should concern himself with measures for the maintenance of health as well as the curing of disease; he must be brought into the position of a rightful leader and skilled adviser in all that appertains to the social service and welfare of his district; in matters of health he should be the father of his people. This means that his education needs modification; it must take more account of preventive medicine and social service. In the organized effort for the rearing and preserving of a healthy race the general practitioner will take a leading part. The losses in the war will make this a dominant interest. The maternity centre, the school clinic where early defects and deviations from health are dealt with before disease develops, the institute of physical culture which will guide the physical training and games of the local community, will all need his skilled leadership. It is clear, then, that if an adequate medical service is to be available for the population, and if the doctors are to be enabled to staff that service efficiently, there must be in each local community adequate buildings and equipment where patients will go for diagnosis and treatment, and where health services will be housed. This medical service will need state aid and central guidance.

#### *THE ORGANIZATION REQUIRED.*

Such medical service will comprise organization, (a) at the centre, and (b) at the periphery—that is, in local communities.

Although it would be premature, if not harmful, to draw up any detailed scheme of organization, it will be useful to discuss the lines along which development should proceed. Indeed, any scheme should be established gradually, will improve with experience, and no doubt vary in its details according to local needs.

#### *Hospitals and Clinics.*

The hospitals required will consist of local hospitals, central hospitals, and teaching hospitals.

Let me mention first a fact finally established by this war—that hospitals are best built on the hut system, with ample provision for open-air treatment; that such hospitals are inexpensive and can easily be replaced or extended should the progress of knowledge or the changing needs of a community so demand.

No doubt existing cottage hospitals, the larger voluntary hospitals and certain hospitals previously used by the Poor Law authorities might be available for the service, but a large number of hatted hospitals with adjacent clinics would need to be erected. In this connexion let me call attention to a valuable pamphlet, "Hospitals, Yesterday, To-day and Forever," by Colonel Joseph Griffiths of Cambridge.

#### *Organization at the Periphery—in Local Communities.*

The first essential is the concentration of what may be called the machinery of health in one or more localities. This would secure efficiency and economy of administration, co-ordination of effort, and good fellowship amongst the doctors and other workers.

In a small town the buildings for the health service would be all located at one spot, whereas in larger towns there would need to be two or more clinics, each serving a group of doctors. The doctors would further co-operate in running hospital accommodation for their private patients.

I will briefly sketch the accommodation in a small town served, say, by six doctors. It would comprise consulting rooms, examining rooms, minor operating room, x-ray equipment, a laboratory, provision for nurses, a room for notes and records, and adjacent to it a common room for the medical officers. In the proximity would be the hospital, baths and other remedial equipments, and the centres for maternity care, infant welfare, and school hygiene, etc. Rather more remote would be the covered and open grounds for physical culture, and adjacent to these the playing grounds. In short, the health organization of that community and the intellectual life of the doctors would find a home and mutual inspiration in the settlement. Incidentally this arrangement would lead to close co-operation in work amongst the doctors and allow them more freedom for recreation and repose. There will still be home visiting and treatment, but these will tend to diminish as the benefits of such a scheme become apparent.

Though such settlements could be founded in all towns they would differ in form. In larger towns the clinics and their equipment would often have to be separated from the hospital and open-air services on account of the difficulty of obtaining adequate space near the heart of the town. That is as it should be, for I venture to think that most hospitals in the future will be built on the outskirts of towns where air and space will be available, and will be linked up by rapid transport with clinics and out-patient departments distributed amongst the population.

These local hospitals will be related in groups to central hospitals situated in larger towns. The staff of a central hospital will provide the consultants and specialists for the local hospitals of its district. These specialists will serve on a whole or part time service according to the nature of their work.

Round the central hospital should be gathered health services, both preventive and curative, and these would be more amply provided, both as regards equipment and personnel, than those of the local hospitals.

Although specialists will thus be available for each local hospital, there will be nothing to prevent a doctor sending cases to other consultants should he or the patient so wish. These central hospitals might in turn be subordinate to still larger provincial hospitals.

#### *THE ADMINISTRATION OF THE MEDICAL SERVICES.*

This is admittedly a most thorny question, beyond possibility of detailed discussion at the present juncture. But there are certain conditions essential to any plan.

All the buildings and equipments, such as hospitals, clinics, laboratories, necessary for the medical services will be constructed and maintained by the new health



authority. They would be available for all citizens, though in practice they would be only partially used by the well-to-do. It might be wise to charge the doctors small rents for their clinics, in consideration of the fact that they would use them for their private patients, and no doubt paying wards would grow up in proximity to the public-provided hospitals. Be it noted, however, that the provision by the health authority of good buildings and equipment would be an investment yielding a profitable return in the shape of better work by the doctors, and therefore improved health of the community.

All professional and technical questions must be determined alone by the doctors, and administrative questions by a health board composed of both lay and professional members. Neither the professional nor lay members should be chosen from any area smaller than a county or large borough. They would be in part elected and in part *ex officio*. Amongst the doctors determining matters of administration great care must be taken to avoid undue predominance of either the preventive or curative sides of medicine as such. Though granted adequate powers, the health boards should be controlled, as regards larger questions of policy, by the Ministry of Health.

By this plan of choosing big areas for the Health Board electorate, one would hope to avoid the evils of local politics and to secure a better type of representative. By retaining the determination of policy and the confirmation of the more important administrative acts at the Health Ministry one would secure control without over-centralization. The only alternative I see is to put more of the administration at the centre.

#### *Technical Matters must be Decided by Medical Men.*

But, whatever the actual plan, the principle that technical matters should be decided by medical men must be adhered to, and thus one of the errors of the Insurance Act put right.

The practice of putting the skilled under the control of the unskilled must cease. The thing is so clear.

What would engineers say if their shop was run by an assortment of painters, tailors, and doctors? Would they like to use the bridge or locomotive constructed under amateur advice? Or the shipwrights, if they were told their business would be conducted by grocers, clergymen, and chemists? Would they enjoy a trip in a ship designed by the parson?

Well, this "settlement" will be our shop where we put the human machine into repair, and we are the only people who know enough about the subject to say how it is to be done and what equipment we require, and it is to the advantage of our patients to be treated by people who know their job.

Imagine the law courts superintended by doctors! But no one is allowed to control the lawyers—in fact, the cleverest thing about them is that they manage to mind their own business and every one else's as well.

Although we claim that our workshops—namely, the clinics and other institutions—should be controlled by doctors, we quite see that those doctors should be subject to a court of appeal; but here again it must appeal to people who know, not to amateurs. There should be a system of medical administration and appeal right up to the Central Medical Board, which will advise and have direct access to the Minister. Either the permanent under secretary should be a medical man or the professional Chairman of the Central Medical Board should have executive powers. On the administrative side there should be a mixture of doctors and trained laymen, but on strictly health matters the men who know must be in control throughout, and the supply of good men will be ample, if only we go wide enough and are not afraid of youth.

#### *How would this Scheme Work Side by Side with the Insurance Act Administration?*

This problem would no doubt be difficult, but should be capable of adjustment. Insured persons would have the right of all citizens to the advantages of the buildings and equipment of the medical services. They would be on the panel of the doctor of their choice as heretofore, and if they required institutional treatment, perhaps some contribution from the insurance authorities should be made to the attending doctors and the Health Board.

The insurance authority should be represented on the county or borough Health Board, but it should on no account directly control the local clinics and hospitals. Its interests are too material and commercial to make it suitable for direct control, and it is too devoid of medical knowledge.

The doctors would be under control as regards efficient and regular attendance at the hospitals and clinics. Their service would be part or whole time according to their work; they would treat their own cases in the local hospital. This is essential if a high standard of professional work is to be maintained, for good men are only engendered by good work. Moreover, specialists would be available when needed.

#### *Staffing of Local Clinics.*

Turning now to the local clinics serving preventive medicine—clinics for maternity care, infant welfare, school hygiene, physical culture, tuberculosis, etc.—all these, except in the larger communities, should be staffed where possible by the medical men of the district on the basis of a part-time service paid by salary. It should be a *sine qua non* that candidates for any of these posts should hold a certificate of efficiency in the special subject concerned, and education in these subjects would be one of the functions of the teaching hospitals. Appointments to these posts should be subject to confirmation by the Health Ministry, acting through its medical advisers.

These posts would afford scope and encouragement to good work and therefore attract the best class of doctors. Moreover, it is essential that the local doctors should be associated with the health interests of their people.

From the foregoing it will be seen that a larger proportion of a doctor's earnings will be by salary and a smaller proportion by fees than heretofore—in other words, there will be a part-time salaried service. In the case of specialists in preventive medicine—radiographers, chemists, bacteriologists, and pathologists—their services will be mainly whole-time and paid correspondingly by salary. Speaking generally, the number of whole-time men will be greater within larger towns than in the smaller communities.

There are some who think that the ends we seek would best be attained by a full-time salaried service for all doctors, private practice being abolished. Although for many varieties and conditions of medical work such a whole-time service is advantageous, on the clinical side it would be gravely detrimental to the best interests of both patients and doctors. In few callings is there such a wide gap between the minimum and the maximum efforts—efforts which make demands upon heart as well as head. The distinction between the performance of a routine duty and the fixing of the mind on each individual problem is vital. Liberty of action, the stimulating force of rivalry, and the personal touch are essential. The patient needs not only advice but confidence—the human being of his own choice, not the official of some one else's choice. Medicine stereotyped under such a salaried service would become a machine without a soul or hope of salvation.

The term "State Service" is constantly misunderstood. For years past Government departments have been forming medical services. At first these services were confined to preventive medicine, but for some time past they have also drawn, and in increasing degree, curative medicine within their orbit: witness tubercle, venereal disease, and the state aid given to insured persons. This "State Service" still grows, and with each accretion becomes more cumbersome, and increasingly in need of recognition and organization. State service, strictly speaking, is service under the central government as distinct from local or municipal service, and either may be part or whole time.

Imagine, too, how invaluable these hospitals and clinics would be from the point of view of the progress of knowledge. They would encourage a spirit of inquiry. Their unified system of records would enable information to be continuous and interchangeable; lines of investigation would suggest themselves and be fruitful in results. Take as an example the question of "after-results," about which accurate information is so important and yet so deficient. Supposing information were needed on the worth of this or that treatment or operative procedure, an answer would be forthcoming based on full and



accurate data—an answer which might on the one hand be an encouragement or on the other hand a wholesome check on ill-judged procedures and unbridled enthusiasms. The Medical Research Committee has founded and staffed for the benefit of the Army Medical Service a statistical department worthy of imitation. It is easy to see what fruitful fields of collective investigation would open out under the guidance of a skilled staff, and, again, what favourable opportunities would be afforded to clever men to make manifest their worth.

#### *Advantages to the Public and the Profession.*

What advantages would accrue to members of the public and doctors by such a change in medical organization? As regards the public, their health would be guarded and the beginnings of disease would be detected and dealt with at a stage when treatment is likely to be effective; there would be at their disposal the means of collective investigation and buildings equipped for the purpose, and institutional treatment where necessary.

But not the least of the advantages would be that the trusted medical men of their choice would be more efficient because they would have the opportunities of doing good work which are so often now denied them. Can anything be more heartbreaking and ultimately more dulling to the intelligence than constantly to feel you are prevented probing to the bottom of a problem?

The suggested plan would bring more interest and stimulus into the life of the doctor—he would continue to develop; he would have the inspiration and opportunities of good work, could follow up his cases and exchange ideas with his colleagues in the "settlement," which would become a centre of intellectual life.

#### *Financial Rewards.*

And how would he stand as regards material prosperity? He would do his work in less time with less fatigue and at less expense because more of it would be ordered and localized. He would have the advantage of the clinic and equipment for his private patients, and without doubt private hospital wards should be established by co-operation or otherwise. Salaried posts in the health service would be open to him, and salary has the advantage of greater security. If a doctor under the Insurance Act, he would have the proceeds of his panel or any modification of the panel system that might come about. He would certainly get more repose, for the association of doctors would be much closer, and therefore mutual help easier.

As regards remuneration justice demands reform. When you consider the exacting nature of a doctor's life—the long hours, disturbed nights, high tension of his work—it is only just he should be so paid as to live a reasonable life without anxiety. That is not so now. Take the salary of the Poor Law medical officer. Compare the salary and responsibilities of many a medical officer of health with those of a County Court judge—deplorable. Take a doctor who may get £30 a year net for a panel of 350 patients, or innumerable instances of doctors being paid salaries which workmen would reject with contumely.

These things must be changed. If only the truth is presented they cannot continue. It is unthinkable that friendly societies, insurance authorities, trades unions—so many of whose members have fought strongly and justly for better pay and shorter hours for their class—should be unwilling that doctors, to whom they owe so much, should have adequate remuneration and reasonable conditions.

On the other hand, there should be a more strict limitation of the number of the patients which a doctor may place on his panel. While huge panels are permissible, pecuniary reward goes too much to the man with physical endurance and plausible tongue and too little to the man possessed of brain and conscience.

#### *Ministry of Health.*

It is obvious that such a body politic would need a brain at the centre to inspire, guide, and control its activities. This would be the purpose of the Ministry of Health, the foundation of which is the most pressing of all reconstructive problems. With so much of the flower of our manhood sacrificed for the great cause, the rearing of a healthy race has become a supreme necessity.

How is that ministry to be established?

Doubtless an independent department unencumbered by vested interests and prejudices would be best; but with a Parliament which has long lost the faith and enthusiasm of youth, the difficulties of passing such a scheme might be great. On grounds of expediency the administrative association of the new Ministry with the Local Government Board and the Insurance Commission has something to recommend it as offering a line of lesser resistance. But if the adoption of this plan is not merely for convenience of organization, but means that the Ministry of Health is not going to have a bigger horizon than that of the Local Government Board and Insurance Commission, then we must emphatically say "No." And alas! there are evidences that such is the prevalent spirit; witness the departmental obstruction to the formation of a Health Ministry and the introduction of pettifogging measures seemingly actuated by the desire rather of vested interests to dig themselves in, than for real progress.

We should all be prepared to give and take and subordinate predilection to the attainment of a great object. But on principles there can be no compromise. The needs of the nation require a comprehensive reorganization of the medical services. That reorganization, involving, as it must, every branch of the profession, can only succeed if it enlists the confidence and support of the doctors. The Ministry will need to draw to its counsels representatives from all departments of medicine, both preventive and curative, and these counsellors must have real power, with direct access to the Minister, in contrast to the baneful tradition at the Local Government Board whereby the medical officer can only advise the Minister through the intermediary of a lay official.

The profession for its part needs to realize the weight of its responsibility, close its ranks, work out a sound policy, improve its organization for expressing its views, and thus secure that proper influence in public affairs which, to the detriment of the state, is now so sadly lacking.

In the United States the medical profession occupies a leading position in the life and counsels of the American nation. In England, although doctors in their individual capacity enjoy the confidence and even the affection of their patients, yet as a profession their influence is small and their advice regarded as of small account. This must change, and let us see to it that we come into our kingdom.

## THE CLINICAL ORGANIZATION OF THE PROFESSION FROM A GENERAL PRACTITIONER'S POINT OF VIEW.

BEING THE PRESIDENTIAL ADDRESS TO THE METROPOLITAN  
COUNTIES BRANCH OF THE BRITISH MEDICAL  
ASSOCIATION.

By M. G. BIGGS, M.D.

ORGANIZATION of the profession in all its details essentially belongs to the British Medical Association; the only reason that the clinical side has not been so carefully looked after is due to pre-occupation during the last few years with two serious crises—the Insurance Act and its developments, and the great war still going on its way; even so, however, this side of the work has been by no means overlooked, and it is my special wish to point out that general practitioners must take the matter in hand themselves and work out their own salvation by elaborating a reasonable scheme.

The question may naturally be asked, What are the reasons for organizing the clinical work of the profession?

The answer in its most general terms is that our knowledge of the extremely complex and elusive organism with which all our work is associated has been so enormously enlarged and so many instrumental means of investigating disease have been introduced that it is beyond any ordinary man's power to use all successfully, and many, if not most of them, require the whole service of one individual, in order that he may become expert and possess the necessary experience which shall enable him to interpret his results accurately.



In my opinion it will be necessary for general practitioners to specialize to some extent in the future, and then by team work, either in partnerships or some other way convenient to all, to enable mutual work to be done amongst and for ourselves, and to the great advantage of our patients. Cannot general practitioners do something themselves to promote this pooling of clinical work?

Before we can move to any advantage we must throw overboard one fetish—namely, the all-sufficiency of the individual practitioner. Such a claim might be set up for a Boerhaave, but it is frankly impossible in our day. This also leads to an intensely individualistic outlook.

My predecessor pointed out that the local hospital should be the highest unit, and from it should radiate all the energies devoted to the prevention and healing of disease, and with this I cordially agree. Such hospital should be thoroughly organized, with a full staff of specialists, all apparatus for examination and treatment, laboratories, clinical and pathological, so that all doubtful and difficult cases and those requiring special treatment should find all required for their successful healing. At the present time, however, all are not so equipped. The staff should do everything to encourage post-graduate study by lectures, demonstrations, etc., and to this end the out-patient department should be consultative, and every encouragement held out to practitioners to bring their patients, and so get the full advantage of the consultation.

The necessity of arranging some means by which the general practitioner should be able to dovetail in with his clinical work preventive medicine is urgent, and no great improvement in this branch will result until this is done.

Such an arrangement would make it clear beyond cavil that the real aim of medicine is to prevent disease, and that our clinical efforts must be infused with the full recognition that our duty is not done when we have prescribed medicine or treatment, as we are bound to explain that sickness is the outcome of breaches of hygienic laws; we must act as hygienic missionaries and so bring about a fruitful marriage between clinical and preventive medicine.

Men must also work together—team work as against individual—team work between consultant and general practitioner, nurse and doctor, qualified and unqualified persons. Much of a doctor's time could be saved by utilizing the services of assistants, such as dressers under qualified medical supervision, and between general practitioners themselves. A form of team work would be to encourage partnerships, each partner developing his own special line and attending those cases that fell within his sphere. For example, three men might easily join together, one a general practitioner taking ordinary work, a second doing nose, ear, and throat work, and a third eye work. Such partnerships would, I believe, be very successful, and would tend to keep in our own hands much work that now finds its way into the practice of the unqualified.

Before the Insurance Acts became law, it was my opinion that local clinics would tend to solve many of our problems, and now such clinics are the order of the day under the names of Poor Law, maternity and child welfare, and venereal.

These local clinics should be centrally situated so as easily to be reached—well adapted for their purpose, thoroughly hygienic, with a sufficiency of rooms so that several doctors might be seeing patients at the same time.

Special rooms for ophthalmic, microscopic, and x-ray work should be provided, and one or two beds, so that, for instance, a patient might be taken in at night, given a test meal, and in the morning the test duly applied. A nurse should also be in attendance whenever patients are being seen.

In this way men would be brought together in one building, and this would make it easier to develop mutual help and assistance. There ought to be no illusions. We may either lead the way of and by ourselves or we shall assuredly be forced into a way devised for us by those who do not understand the position, because they are united, whilst we present an unorganized mob, riddled with doubts and differences, the result being easy defeat because of the failure to grasp the emergency and deal with it properly.

This address is intended to be suggestive, to cause all practitioners to think and act so as to preserve their independence by agreeing upon a common course of action.

## THE SYMPATHETIC NERVOUS SYSTEM AND THE "IRRITABLE HEART OF SOLDIERS."

BY  
FRANCIS FRASER, M.B., CH.B., F.R.C.P. EDIN.,

TEMPORARY CAPTAIN R.A.M.C.,

AND

R. M. WILSON, M.B., CH.B.,

TEMPORARY LIEUTENANT R.A.M.C.

(From the Military Hospital, Hampstead, Heart Section.)

THE condition known as the "irritable heart of soldiers" is recognized by a symptom complex, consisting of increase of pulse-rate, shortness of breath, palpitation, precordial pain, and dizziness provoked by slight stimulation such as exertion or excitement. The cases that exhibit this complex of symptoms may be divided into two groups, in one of which signs of organic disease can be elicited. The cases in which the investigations to be reported were made belong to the other group, to which for purposes of convenience the term "soldier's heart" is usually confined. This group may be considered to include: (a) Cases with a history of acute rheumatism or allied infections, even if some years before the onset of the symptoms of irritable heart, but without signs of organic disease; (b) cases with a history of an acute infection, such as typhoid fever, dysentery, "influenza," trench fever, etc., or of "gassing" at a short period before the onset of the symptoms, and (c) cases with a history of shell shock or severe physical or mental stress immediately preceding the onset.

These patients appear to differ from healthy men only in that a stimulus, such as excitement or emotion, produces an unusually large response. The usual methods of clinical examination show them to be free from any other signs of disease. Investigations into their condition may be expected therefore to show quantitative but not qualitative divergences from the standards of healthy men.

One of the purposes of this investigation was to find out the mechanism by which certain of the symptoms are produced; the result required was a therapeutic measure of relief. The symptoms by which the condition may be recognized are associated with the organs of circulation and respiration, organs the mechanism of which are related to the involuntary nervous system.<sup>1</sup> Bearing this in mind four drugs have been considered by us to promise means of modifying the innervation of the heart in patients in whom this system is considered disturbed—namely, adrenalin, apocodeine, acetyl-choline, and atropine; the first two affect the sympathetic system, adrenalin by stimulating it, apocodeine by inhibiting it; and the second two affect the vago-sacral system, acetyl-choline by stimulating it, atropine by inhibiting it. We have had opportunities of testing reactions of the first two only.

In all cases the intravenous method of administration was employed as being the most accurate and as imitating the physiological and pharmacological methods by which the actions of the drugs were originally ascertained. Since the patients differ from healthy men in that the "threshold" of reaction to normal stimulus is lower, it has been convenient to determine, if possible, a dose of each drug that would give a reaction in the patients, but not in healthy men, or in healthy men and not in the patients. Such a dose would be the minimal dose producing a reaction in the more susceptible group, but would not necessarily produce all the possible reactions of the drug in question, since different doses are required to produce all the possible reactions. Excitement and emotion produce to a varying degree the symptoms and signs of "irritable heart" and also the symptoms and signs to be expected from stimulation or inhibition of the involuntary nervous system, and since in some of the patients the effect of excitement is great, precautions had to be taken to avoid this reaction interfering with the effect of the drug.

Records of pulse-rate and respiration were made with a Mackenzie ink polygraph, and of the systolic blood pressure by means of the Riva-Rocci type of sphygmomanometer and the auscultatory method of reading. The patient was allowed to lie flat on the bed for ten minutes or more to avoid any disturbances due to exertion, and observations and records were then begun, and continued for a further ten minutes before the arm was cleaned for the injection. The records were continued



without a break through the process of preparation and the introduction of the needle of the hypodermic syringe into the vein of the arm. The needle was allowed to remain there for several minutes until the pulse-rate and blood pressure had reached a constant level, the level of rest, and until the patient was himself resting placidly; the injection was then made without the patient being aware of it. The patient was instructed to mention any discomfort or other sensation as it occurred. The amount of the drug used was contained in 1 c.cm. of solution and the injection occupied half a minute.

The control cases were carefully chosen, only men who had undergone the exertions of military service without developing symptoms of "irritable heart" being selected.

#### Adrenalin.

The 1 in 1,000 solution of adrenalin hydrochloride prepared by Parke, Davis, and Co. was used, and a minimal dose was found to be 0.01 gram. The reaction was observed in fourteen cases, ten of whom had "irritable heart," while four were free from such symptoms. In those with "irritable heart" the usual response was that a few seconds after the injection the skin of the face became momentarily pale, and this paleness was followed by more or less flushing of the face, and a feeling of warmth all over the body. The flushing was never very intense, and gradually passed off in the course of three to five minutes. With the onset of the flushing the patient would speak of a certain degree of throbbing in the chest or head and neck, or both, of a constrictive feeling in the chest and of a feeling as of sinking through the bed. An increased pulsation was visible in the vessels of the neck or of the precordial region, and in one instance in all the larger superficial arteries. As with the flushing, these phenomena were transient, gradually passing off in three to five minutes. In the four cases which did not suffer from irritable heart the momentary pallor appeared, but this was not followed by flushing, throbbing, or discomfort of any kind.

From the polygraphic records the pulse-rate for each six seconds' period was estimated, and the rise of pulse-rate in each patient calculated. In the case of the pulse-rate before the administration of the drug the rate during the eighth minute before the injection was taken, since at this time it had become constant and was at the level of rest. As the pulse-rate after the injection, the highest rate for a six seconds' period was taken, and this always occurred within the first minute after the injection. The rise in rate is given in the first column of Table I, and the figures show a wide variation, from 7 to 52 beats a minute, and the average rise (31.1) for the ten cases (1 to 10) of "irritable heart" is practically the same as the rise (28.0) for the four (11 to 14) control cases.

In calculating the change of systolic pressure, the level at which the pressure remained for a few minutes before the preparations for injection was taken as the pressure before injection, and the highest reading immediately after the injection was taken as the pressure resulting from the injection. In Case 5 a fall resulted, but in the other thirteen cases the injection was followed by a rise, and the figures representing the change in millimetres of Hg are recorded in the second column. The average change for the ten cases of "irritable heart" is practically the same as for the four control cases; but, while the four controls show an almost constant rise of 21 to 25, the figures for the "irritable heart" cases show a variation from a rise of 50 to a fall of 10.

The momentary pallor was not observed in two cases, one of whom was a case of "irritable heart," and the other a control. The flushing of the face was seen in seven of the ten heart cases, and in one of the four controls. Respiratory disturbances of various kinds were seen in seven of the ten heart cases, but not in any of the controls, and while all but one of the heart cases were visibly affected this was not observed in any of the controls. Subjective throbbing of the head or chest or both occurred in all the heart cases but one. It was not mentioned by any of the controls. Table I shows that while no distinction could be drawn between the cases of "irritable heart" and the controls by means of change in pulse-rate or in systolic blood pressure, the other phenomena of the reaction observed in the cases of "irritable heart" with the drug employed were entirely absent in the controls.

Curves showing the changes in pulse-rate, respiration rate, and blood pressure demonstrate great variation in the respiring rate, including a slowing that occurred immediately after the injection in five of the cases, and was followed by a rise in rate, but fail to demonstrate any essential difference in the two groups of cases.

Injections of 1 c.cm. of normal salt solution were carried out in cases 1, 5, 8, and 9, with the same method of procedure as was used with the adrenalin, with an entire absence of objective or subjective reaction.

TABLE I.—Results of Injection of 0.01 gram of Adrenalin.  
(Cases 1-10 "irritable heart"; 11-14 control.)

Case No.	Rise of Pulse-rate.	Rise of Systolic Blood Pressure in mm. of Hg.	Pallor.	Flushing.	Deeper Respirations.	Objective Discomfort.	Subjective Throbbing in Head and Chest.
1	52	27	+	—	+	+	+
2	41	20	+	+	+	+	+
3	20	10	—	+	+	+	+
4	7	10	+	—	+	+	+
5	22	10	+	—	+	+	+
6	25	20	+	+	—	—	—
7	30	22	+	+	—	+	+
8	22	16	+	+	+	+	+
9	19	17	+	+	+	+	+
10	45	25	+	+	—	+	+
11	37	25	—	+	—	—	—
12	27	21	+	—	—	—	—
13	30	24	+	—	—	—	—
14	18	22	+	—	—	—	—

The evidence derived from the large number of investigations by physiologists on the action of adrenalin shows that its action on organs supplied by fibres from the sympathetic nervous system is the same as that obtained by stimulation of the sympathetic fibres.<sup>3</sup> On intravenous injection it constricts the arterioles of the skin, raises the blood pressure, and accelerates and augments the heart-beat. With the minimal dose used in this investigation the pallor, rise of pulse-rate, and rise of systolic blood pressure were present both in the cases of "irritable heart" and in the controls, and to the same extent in the two groups of cases. Augmentation, however, as shown by the throbbing, which was both objective and subjective, was greater in the heart cases than in the controls. The restlessness and the dull flushing may be the result of this increased action, and possibly also the deepened respiration. That one function, augmentation, may be dissociated from another, acceleration, is a phenomenon that has been observed by physiologists in the action of adrenalin, and it is not impossible that with doses other than that employed other functions of the sympathetic system would also show quantitative differences in the reactions of the two groups of cases. Whatever the full explanation of the observed phenomena may be, it would appear that the heart in the cases of "irritable heart" is in some ways more susceptible to the action of adrenalin, and from this it may be deduced that it is in some ways more susceptible to stimulation of its sympathetic nerve supply.

Another explanation is that the action on the heart may be the same in the two groups of cases, but that the mechanism for reception and recognition of sensations is more sensitive in the heart cases, so that they show the effects of the action to a greater extent. This cannot, however, explain the phenomena of the observed increased throbbing of chest and neck.

#### Apocodeine.

A solution of apocodeine chloride in distilled water was used, and a dose of 0.02 gram of the salt was found to give a reaction in cases of "irritable heart," but not in the



other cases investigated. The reaction was observed in ten cases, of whom six had symptoms of "irritable heart" and four had not.

In the heart cases at half to one minute after the injection a bright red blush appeared on the face and neck and spread to a greater or less extent over the trunk as an intense erythema, passing off in the course of four or five minutes and leaving a blotchy erythema on the shoulders that faded more slowly. This was accompanied by a feeling of heat in the head and to a less extent in all parts of the body. In some instances the patient's breathing deepened or quickened, and he spoke of a sensation of dizziness. In the four cases without symptoms of irritable heart no comparable reaction was observed. In two instances a slight flushing of the face was seen, one of the cases speaking of a sensation of heat in all parts of the body and the other of slight warmth of face, while in the remaining two no objective or subjective phenomena of any kind occurred.

The rise of pulse-rate and of systolic blood pressure were calculated as in Table I. The rise of pulse-rate varied from 0 to 60, and was almost consistently greater in the heart cases than in the controls, averaging 25.5 in the first group and 10 in the second. The rise of 60 in Case No. 18 was exceptionally high, and in this case the erythema was exceptionally intense and widespread. The patient was very nervous and changed colour readily under ordinary conditions of emotion and exertion.

The rise of blood pressure varied from 22 to 5 mm. of Hg, and no distinction between the two groups could be ascertained in this direction.

Erythema was absent in one of the six heart cases and but slight in a second, while it was absent in two of the four controls and slight in the other two. The sensation of heat was absent in two of the heart cases but marked in the others, while it was marked in one of the controls, slight in another, and absent in the remaining two. Respiratory hurry and a sense of dizziness was experienced by three of the six heart cases and by none of the controls.

The observations on the ten cases investigated have been tabulated in Table II, Cases 15-20 being cases of "irritable heart." It will be seen that the distinction between the two groups of cases is interfered with by Case 19. This patient was habitually nervous and excited, but immediately following the drug his breathing became easier and he became quite calm. The breathing remained quite easy during the remainder of the forty minutes during which he was under observation, but the nervousness returned ten minutes after the injection.

TABLE II.—Results of Injection of 0.02 gram of Apocodeine.  
(Cases 15-20 "irritable heart"; 21-24 control.)

Case No.	Rise of Pulse-rate.	Rise of Systolic Blood Pressure in mm. of Hg.	Erythema.	Sensation of Heat.	Respiratory Discomfort.	Dizziness.
15	14	5	+	+	+	+
16	16	10	+	—	—	+
17	18	10	+	+	—	—
18	60	21	++	++	—	—
19	17	22	—	—	—	—
20	17	14	Sl.	+	+	+
21	12	8	—	—	—	—
22	16	14	Sl.	+	—	—
23	12	15	Sl.	Sl.	—	—
24	0	7	—	—	—	—

According to Dixon,<sup>8</sup> apocodeine affects the ganglionic junctions of the involuntary nervous system, causing inhibition without preliminary stimulation. A rise in pulse-rate with small doses he considers due to inhibition of the vagus at its ganglionic junctions, while larger doses cause slowing of the heart and an intense redness of the skin from inhibition and paralysis of the sympathetic ganglionic junctions, and later of the nerve endings. The intense

erythema observed in the cases of irritable heart was quite out of proportion to the rise of pulse-rate, and it is difficult to explain it as a result of this rise, but it is reasonable to suppose that it resulted from inhibition of the sympathetic nervous system, causing dilatation of skin vessels. The feeling of warmth may be regarded as arising in the same way.

In dealing with a condition that appears to differ chiefly from that of healthy men in that the threshold for normal reactions is lower, it is difficult to obtain definite and indisputable proof of specific abnormalities, and conclusions not warranted by the methods of investigation must be avoided, but the differences in the reactions of the two groups of cases justify a conclusion that in some respects the sympathetic nervous system is more susceptible to depressing influences in cases of "irritable heart" than in healthy men.

#### Summary.

Cases of "irritable heart" and healthy subjects have been compared in respect to their reaction to adrenalin and apocodeine. In the case of each drug minute doses produced a greater action in the patients than in the controls. It is concluded, therefore, that the sympathetic system of nerve fibres, using the term in its physiological rather than in its anatomical sense, is relatively unstable in that it appears to be more susceptible to the stimulating and depressing influences respectively of these drugs.

#### REFERENCES.

<sup>1</sup> Glick, M. "The Irritable Heart." *Ann. Surg.* 1914, 60: 1-10.  
<sup>2</sup> Glick, M. "The Irritable Heart." *Ann. Surg.* 1914, 60: 1-10.  
<sup>3</sup> Glick, M. "The Irritable Heart." *Ann. Surg.* 1914, 60: 1-10.

## THE PSYCHONEUROTIC FACTOR IN THE "IRRITABLE HEART" OF SOLDIERS.

BY

B. S. OPPENHEIMER, CAPTAIN M.R.C., U.S.A.,

AND

M. A. ROTHSCHILD, 1ST LIEUTENANT M.R.C., U.S.A.

From the Military Heart Hospital, Colchester, England.

In 1871 Da Costa published his observations "on the irritable heart" as seen among soldiers invalided for this malady during the Civil War. During the present war this condition has again become prominent, and names such as "Disordered action of the heart" (D.A.H.), "Effort syndrome," "Debility," "Neuro-circulatory asthenia," etc., are employed to describe the affection or the group of chief symptoms. The class includes all cases which present a well-defined syndrome in which certain nervous and circulatory symptoms are associated with increased susceptibility to fatigue, and in which no definite pathological condition can be found to which to ascribe the clinical symptoms. The underlying pathogenetic process is still unknown; and when we speak of the psychoneurotic factor in the "irritable heart" of soldiers, we do not imply an immediate causal relation between the two, or that the symptoms of the two originate in the same way, but rather that possibly both groups may result from some common but as yet unknown cause.

It is probable that at present under the term "irritable heart" are included types of cases which are fundamentally quite different. The prominence of the nervous symptoms in many instances is so striking that one naturally considers the relation to the psychoneuroses, just as the circulatory phenomena among certain cases of war psychoneuroses must have led neurologists to wonder where the dividing line is to be drawn; in truth there is a borderland where the two dominions overlap. Some even believe that the "irritable heart" represents merely the cardiac difficulties of soldiers suffering from war neuroses. Again, it is evident that a certain number of cases of "irritable heart" have suffered from symptoms of the condition long before enlisting, some dating the onset to the formative period or even to childhood. The question whether some cases are not congenital or even hereditary in character also occurs, particularly when dealing with soldiers who belong to the group called constitutionally asthenic. Then there is the serious and, in the American army, immediate problem of dealing with recruits with such histories who break down in training.



With these matters in mind we decided to analyse the detailed histories of one hundred unselected cases to see whether such an analysis would throw any light on these questions or give definite confirmation to certain impressions which had been gained in the course of daily routine observations. Our study was based upon the clinical material in the large Military Heart Hospital at Colchester, which admits almost exclusively soldiers invalided from the British Expeditionary Force.

For purposes of comparison the same characteristics selected by Captain Julian M. Wolfsohn in his valuable paper<sup>1</sup> on the predisposing factors of war psychoneuroses were utilized, and also the statistics on one hundred wounded soldiers used by him as controls. We have taken the liberty of reprinting two of his tables, but have incorporated our observations on cases of "irritable heart" in a column between those he has published for the psychoneuroses and those for control soldiers. In both tables (I and II) it will be seen that the percentage of the various characteristics named are in general highest in the psychoneurotic group, intermediate in the "irritable heart" group, and lowest in the control group of cases.

#### Family History.

It must be made perfectly clear that we were investigating the family history of cases of "irritable heart" for factors considered causal for psychoneuroses. The cases were invalided for "irritable heart" only, and the statistics obtained from these are placed in the middle column in both tables.

TABLE I.—Percentage of Characteristics named in Family History of Cases suffering from Neurosis, "Irritable Heart" of Soldiers, and Controls.

	Neurosis.	"Irritable Heart."	Controls (Wounded).
	Per cent.	Per cent.	Per cent.
Nervousness ... ..	61	45	15
Alcoholism (parents and grand-parents) ... ..	50	15	24
Teetotalers (parents and grand-parents) ... ..	30	15*	16
Irritability of temper ... ..	36	27	12
Insanity ... ..	34	23	0
Epilepsy ... ..	30	15	0
Tuberculosis (immediate family) ... ..	12	13	4
Tuberculosis (relatives) ... ..	5	15	4
Stigmata ... ..	10	17	0
Positive history for one or several of above ... ..	74	56	38

\* Figure incomplete.

A positive family history (Table I) of one or several of the characteristics selected was obtained in 56 per cent. of cases of "irritable heart" and in 38 per cent. of the controls, but the contrast between the two classes becomes far more striking when certain of the individual items are compared. Thus with reference to nervousness in the family history, there are 45 per cent. among the "irritable heart" group, and only 15 per cent. among the controls; in regard to insanity and epilepsy there are 23 per cent. and 15 per cent. respectively in the families of cases of "irritable heart," and none among the controls.

#### Personal History.

In Table II the contrast between cases of "irritable heart" and the controls is still greater. The percentage of cases with a positive personal history of psychoneuroses is 51 among cases of "irritable heart," 12 among the controls, and of those with positive family and personal history there are 46 per cent. among the former group and but 6 per cent. among the latter. As to the individual items, the predominance of certain characteristics among cases of "irritable heart," as contrasted with the controls, should be especially noted—namely, the prevalence of previous nervousness, of a history of epilepsy or fits, of previous breakdown, of moodiness, and of enuresis. It is well known that sufferers from "irritable heart" are apt to be teetotalers and are sexually not very active; this latter fact may account for the low percentage

TABLE II.—Percentages of Characteristics named in the Personal History of Cases of Neuroses, of "Irritable Heart" of Soldiers, and of Controls (that is, Wounded).

	Neurosis.	"Irritable Heart."	Controls (Wounded).
	Per cent.	Per cent.	Per cent.
Stigmata ... ..	34	12	4
Previous nervousness ... ..	66	46	12
Fears ... ..	50	31	8
Head injury ... ..	38	5	12
Epilepsy and "fits" ... ..	8*	5	0
Tobacco—excessive ... ..	8	1	4
Alcohol—excessive ... ..	6	0	16
Alcohol—teetotaler ... ..	48	36	20
Married ... ..	42	18	28
Moody ... ..	55	27	8
Previous breakdown ... ..	2	21	0
Enuresis ... ..	12	14	4
Frights in childhood ... ..	4	19	0
Excessive religion ... ..	6	6	0
Positive personal history ... ..	76	51	12
Positive family and personal history ... ..	70	46	6

\* As stated in the text, the data in the neuroses and the controls are reprinted from Captain Wolfsohn's valuable paper; in his figures, however, epilepsy only was considered, whereas we have also included "fits" which may or may not have been true epilepsies.

(18 per cent.) of married men in this group as compared with 28 per cent. among the controls and 42 per cent. among the psychoneurotics.

Of the 100 cases analysed, 61 gave a positive family or personal history for psychoneurotic factors. Of these, 46 gave a positive family and personal history—a group which we will call Group I to distinguish it from Group II, which consists of 39 cases with a negative family and personal history. As regards previous occupations in civil life, it is remarkable that cases in Group I followed largely sedentary and light occupations (10 sedentary, 27 light, and 9 heavy), whereas of those in Group II some did light, but more did heavy work (2 sedentary, 17 light, and 20 heavy). The average duration of foreign service proves less in the average in Group I than in Group II; thus the average foreign service of Group I is thirteen months, and of Group II nineteen months; but the real difference between the two types is seen in a comparison of the character of the military service rendered; only 4 out of 46 in Group I did full duty, as contrasted with 33 out of 39 in Group II.

#### Character of Service.

It is very evident, after detailed study of the cases, that the patients in Group I, from a military point of view, gave such a poor account of themselves as to make one doubt whether it was worth the time and expense devoted to them in training, etc. On the other hand, those in Group II certainly did at least the military duty of an average soldier.

#### The Causes of Invaliding.

The causes of invaliding were studied in all the 100 cases, and it is notable that among the cases in Group I there is frequently, in fact in 20 out of 46 cases, nothing definite; on the other hand, in Group II there is more frequently a definite precipitating cause, such as an infection like trench fever or dysentery, prolonged service, gassing, or shell explosion.

#### Constitutional Physical Asthenia.

The sharp contrast between the two groups goes further than difference in their family and personal histories as regards neuropsychic factors, occupations in civil life, or duration and character of foreign service. A history of constitutional asthenia was obtained in almost 70 per cent. of Group I cases and in only 12.8 per cent. of Group II.



By the rather vague term "constitutional" asthenia<sup>\*</sup> is meant an inferiority or anomaly in the assemblage of inherent characteristics, both functional and morphologic, which go to make up the organism. Among the constitutionally asthenic we include those who have always been short of breath, have been unable to play the more strenuous games or keep up physically with the average of their fellows, have fainted or become dizzy easily, have blushed readily, perspired too profusely, and have suffered from cold extremities. There appear to be two types of such individuals—first, those who are weak and poorly built, or may have a "habitus"; and, second, those who to all appearances are muscular, strong, and robust, and yet for some unknown cause have had symptoms such as dyspnoea on exertion from youth up.

One may also include under this term patients who have a habitus, such as the narrow-chested or splanchnoptotic, those who have given evidence of a diathesis such as the haemorrhagic, the exudative, the lymphatic or the spasmodic, and those having a dyscrasia or belonging to certain types such as the vagotonic, angiospastic, erethistic, feminine, eunuchoid, etc., or those showing definite evidence of disturbance of the endocrine organs. Attention has been directed for many years to this whole question of constitution by F. Kraus; it is impossible to enter into the subject here, but it must be emphasized that, apart from neuropsychic factors, there is a constitutional tendency in certain individuals which predisposes them to the development of the "irritable heart" syndrome.

#### *Juvenile or Developmental Vaso-neurotics.*

From a study of the personal histories, it is believed that many cases of "irritable heart" of soldiers are the mature individuals who during their developmental period presented vaso-neurotic symptoms. Of the 46 cases in Group I, 32 cases (70 per cent.) showed symptoms of constitutional physical asthenia before the age of 17. Of these, 13 had symptoms as long as they could remember. Of the remaining 19, the age at which symptoms of constitutional weakness first manifested themselves ranged from 8 to 16, at an average of 11.8 years for those who could recall approximately their age when the symptom or symptoms appeared. (Two other patients dated the appearance of their symptoms to their twenty-second and twenty-third year respectively, but as the symptoms appeared so late, it is not certain they belong to the same group.)

Apparently hitherto no attention has been paid to a very important fact, that a syndrome identical with that of "irritable heart" occurs not infrequently in children<sup>2</sup> especially associated with orthostatic albuminuria.<sup>3</sup> These symptoms usually arise in children at the school age, 8 to 14, and are "chiefly those referable to the cardiovascular system, namely, dyspnoea on exertion, palpitation, precordial pain, headache, fainting, hypersusceptibility to cold."

It seems highly probable to us, therefore, that the adult cases of "irritable heart" which give a previous history of similar symptoms at the prepuberty age, or as far back as they can recall, have been children who are then recognizable as suffering from "vaso-neuroses," "dilatative weakness," etc.

#### *Difference in Symptomatology of the Two Groups.*

In comparing the symptoms in the two groups of cases—that is, those cases with and those without psycho-neurotic factors in their family and personal histories—it is noteworthy that, in general, soldiers in Group I complain almost invariably of chest pain among their other symptoms—indeed, these patients are apt to "stick it" until pain develops, then they become alarmed and report sick. Patients of Group II rarely complain of chest pain, but suffer more from exhaustion and weakness; they are "done up," to use their own expression. One case may be cited belonging to Group II which illustrates that an acute infection may be the cause of the "irritable heart," that these symptoms may then disappear and leave simply

exhaustion. The patient referred to broke down after prolonged service and trench fever with breathlessness, which disappeared after a fortnight, leaving him with weakness, exhaustion, and nervousness, but no dyspnoea or pain. The post-infectious cases of "irritable heart" are more apt to present exhaustion symptoms and only exceptionally pectoral pain.

There is perhaps a certain parallelism between these two groups of "irritable heart" and cases of war neuroses. If we understand Dr. Rivers correctly, certain cases of shell shock result in repression neuroses, the anxiety neuroses, while those resulting from exhaustion or infection manifest themselves as exhaustion neuroses (neurasthenia). Similarly, in a general way among cases of "irritable heart" there are those belonging to the constitutional group, who suffer from chest pain, etc., and those who belong to the exhaustion or the post-infectious group, who have fatigue symptoms, but rarely much pain.

#### REFERENCES.

- <sup>1</sup> Julian M. Wolfsohn, *Lancet*, 1918, cxciv, p. 177, and *Journ. Amer. Med. Assoc.*, 1918, cxx, p. 303. <sup>2</sup> Martius, *Kong. f. Inn. Med.*, 1899, iii, p. 41. <sup>3</sup> Bass and Wessler, *Arch. Int. Med.*, 1913, xi, p. 403-417. (This paper gives the references to the literature on the subject.)

## THE CHEMOTHERAPEUTIC TREATMENT OF GONORRHOEA.

BY

J. E. R. McDONAGH, F.R.C.S.

In two previous articles<sup>1</sup> I have described the action and use of colloidal manganese in gonorrhoea, and shown that this drug was most efficacious in the acute stage. As every day lost before commencing treatment is important, and as there is some delay after injecting manganese before its maximum oxidizing power is reached, it occurred to me to precede manganese by a metal, which would act instantaneously by dissociating certain hydrogen and hydroxyl groups in the serum. For this purpose I used a colloidal preparation of palladium, which is now known as "pallamine."<sup>\*</sup> Palladium has the action of liberating the hydroxyl group (OH) from H.OH and temporarily fixing the hydrogen group (H). The moment the discharge appears 0.5 c.cm. pallamine should be injected intramuscularly, and the same dose repeated two or three days later. In some cases a third injection may be given, but no more than three, because the disease is sure to be aggravated. This aggravation is probably due to the liberation of the temporarily adsorbed hydrogen, which increases the "acidity" of the serum or depresses the important hydroxyl (OH) ion concentration. Irrigations are carried on in the usual way, but the moment the discharge ceases to be purulent, zinc permanganate or zinc sulphate 1 in 10,000 should take the place of potassium permanganate.

Patients get well quicker on a milk than on an ordinary diet, and at present I am prescribing potassium nitrate or methylene blue internally, on the theory that the liberated hydrogen can be used by reducing the former to a nitrite and the latter to its leuco-base, two products less innocuous than hydrogen. When potassium nitrate is being taken sodium chloride should be eliminated from the diet as far as possible.

As to whether these two drugs really aid the cure I am not able to say, as to make sure would necessitate experiments carried over several months. If the case is not well by the sixth day, 0.5 c.cm. colloidal manganese should be injected intramuscularly, and repeated every second or third day until no sign of the disease is left. As a rule one to three injections are necessary. It is unwise to exceed the dose of pallamine above given, except in cases of recurrent purulent urethritis when other methods employed to stop the discharge have proved unavailing. In such a case 1 c.cm. can be injected with benefit. The injection of manganese at the same time as pallamine has not given good results, but injecting them alternately has proved efficacious, though it is not so good as injecting pallamine first and colloidal manganese afterwards. After the first injection of pallamine the discharge becomes thinner, although it may not diminish very much in quantity.

<sup>\*</sup> In the British army "constitutional" is a term used on certain documents of the medical boards as an equivalent of the term "pre-enlistment"; a condition is termed constitutional if it existed before enlistment.

<sup>†</sup> We examined 30 unselected cases of "irritable heart" and found one with orthostatic albuminuria. Orthostatic albuminuria usually disappears at puberty, but may remain in adult life. We have observed Chvostek's sign repeatedly among soldiers suffering from "irritable heart."

<sup>\*</sup> Pallamine can be obtained at Crookes's Laboratories, 50, Elgin Crescent, W.11.



After the second injection the discharge ceases or becomes mucopurulent. The cases which respond least to the treatment are those in which the discharge is very thick, profuse, and of a dark yellow, greenish, or brownish colour.

So far I have treated fifty cases of acute gonorrhoea (first attacks), with an average rate of stay under treatment of 8.5 days. One case relapsed, one case developed epididymitis, and two cases developed prostatitis. I have every reason to hope that when this treatment is perfected we shall be able to get rid of acute gonorrhoea cases in one week.

*From the British Medical Journal, January and May, 1915.*

## THE TREATMENT OF THE PREGNANT AND PARTURIENT WOMAN AND THE PREVENTION OF MATERNAL AND INFANTILE DEATHS.

Several circumstances during the last few weeks have combined to turn the attention of the profession as well as of the public to the need for improvements in current methods of providing for the health and welfare of the mothers of the country and their infants. During Baby Week an immense amount of good propaganda work was done, but such work necessarily involves the repetition of facts and arguments with which those who have given attention to the subject are well acquainted and with which all members of the medical profession are familiar. We do not propose to attempt to report the many meetings held and demonstrations given, but have selected two papers by medical speakers which contain suggestions of value to members of the profession.

### NEONATAL LIFE—AND DEATH.

BY  
DR. J. W. BALLANTYNE,  
Edinburgh.

AMONG the subjects discussed at the annual meeting, named "Baby Week," of the National League for Health, Maternity, and Child Welfare, was that of the factors which go to produce infantile mortality. The subject was introduced by Dr. Ballantyne, who said that if all the work being done, some of which at least was rather outside strictly medical boundaries, was to result in a real and early saving of lives, maternal and infantile, it must be built upon sure and deeply-laid foundations. Dr. Ballantyne raised this aspect of the matter by asking what were the true causes of infantile mortality. Did babies die in the first year of their existence after birth on account of the impact of dangers then coming into play, such as a germ-laden environment and errors in feeding and housing and the like? Or did they die because of morbid influences which had been at work before birth and had acted mainly through the mother who was then the unborn infant's environment? Were both these factors, the post-natal and the ante-natal, at work, and were they in a measure reinforced by the events of birth itself, the intra-natal factor, as it might be called?

#### *The Ante-natal, Intra-natal, and Post-natal Periods.*

The fair conclusion seemed to be that the deaths after the first four weeks of life (the neonatal period) were mainly due to the truly post-natal causes, the zymotic diseases and the health errors, although the dangers arising from these causes were undoubtedly increased or lessened by what had occurred during and before birth. On the other hand, the deaths before birth, as compassed by abortions or seen in stillbirths, were, he believed, mostly caused by ante-natal conditions, and these, in so far as they were not due to the father, were maternal in origin. There was, however, another division of the stillbirths—that in which death only supervened during the act of birth, "the intra-natal stillbirths," and these were obviously due to purely obstetric happenings, disproportion between the size of the pelvis and the child, haemorrhages, etc. The three factors were distributed, therefore, mainly along these lines, the post-natal factor acting mainly after the first four weeks of life, the ante-natal acting chiefly before it, and the intra-natal being at work in the birth itself. Child

welfare work was concerned mainly with the care of the child after the first four weeks (after the neonatal period), whilst mother welfare work was concerned with the child as reached through the mother, before and during birth—that is, before the neonatal period. The two lines of work were allies, the one trying to repel the attacks of disease and death after the neonatal period was over, and the other defending the unborn child against them before it had begun. The allies were pediatrics and obstetrics, and the first four weeks of life constituted their point of contact.

#### *The Neonatal Death-rate.*

Dr. Ballantyne said that this junction would almost certainly be the spot where death's attacks would be most dangerous, and where consequently the health-forces' resistance ought to be strongest. It was, therefore, of immense importance that the state of matters at this junction should be closely scrutinized. In other words, there was need for an intensive study of the neonatal period of life, both scientific and statistical. With regard to the former it must be admitted that everything was not well. Life and death during the first four weeks of life were complicated; all the factors—the post-natal, the intra-natal, and the ante-natal—were at work in this fateful neonatal period, and physiology, pathology, and scientific medicine had not yet evaluated and analysed their respective influence. No one was familiar even with the actual deaths which occurred on an average in these four weeks. Statisticians grouped all the deaths in the first year of life together under the head of infantile mortality, and expressed it by the infantile mortality-rate—that is, the number of deaths per 1,000 live births which occurred in the first year of life. Dr. Ballantyne urged that the neonatal deaths should be separated from those of the remaining forty-eight weeks, and should be stated separately in all health statistics. From the Edinburgh figures, in which this separation had been made for a few years, he had calculated a new rate, the neonatal death-rate. By that was meant the number of deaths per 1,000 live births which occurred in the first four weeks of life. This new rate revealed many interesting features. One was its height. Instead of being, as it might possibly have been expected, one-thirteenth of the total infantile mortality rate, it was over a third of it, and in one year it had come within dangerous proximity to a half. Incidentally it was pointed out that the neonatal rate among the illegitimately born babies had in one year in Edinburgh been exactly double that among the legitimate (as 76 per 1,000 to 38 per 1,000), but in another year they had been the same. So that in this respect the neonatal rate was not behaving like the infantile rate—at least, it was not constantly following it.

It was obvious that the neonatal four weeks called for scrutiny from health workers and from scientific medicine alike, if only for the reason that so many babies died in them. Yet, as a matter of fact, little attention was paid to them. In courses of lectures on obstetrics and pediatrics, for instance, little space was given to the physiology and pathology of the newborn infant. Neonatal diseases lay between the two territories of the obstetrician and the pediatricist and ran the risk of being incompletely occupied by either. Yet they were most interesting weeks, for in them all the factors were seen in action—the post-natal, intra-natal, and ante-natal—and it would be of great value to disentangle these factors and give to each its value as a threat to life. To the complex group of morbid causes thus acting the name "neonatal factor" might be conveniently given.

If this new mortality rate (the neonatal) were supplied, the danger in the first four weeks would be made clear and some of its characters would be recognized. The neonatal period of life should be more carefully studied by the physiologist and the pathologist also. When these and other things springing from them had been accomplished mother and child welfare work would stand on much surer foundations and have greater hopes of striking successes. Already there had been a measure of reward for all the work doing, but, unless the foundations on which the propaganda was being built up were secure, disappointment with the immediate results might lead to discouragement, or, still worse, to discontinuance of effort. Good had already been accomplished and the work must go on, but it would go on all the better if the difficulties were fully known and appreciated.



## THE MATERNITY HOSPITAL AND ANTE-NATAL CENTRES.

BY

DR. COMYN BEECHLEY,

L.D.S.

The following is the substance of an address given at Leeds on June 26th:

The agencies at present concerned with the preservation of the life and health of the pregnant and puerperal mother and her child might be classified into: (1) the workers—midwives, doctors, health visitors, voluntary workers, and the municipal authorities; (2) The pregnant woman herself; (3) The local centres—various associations set up in different parts of the kingdom, of the nature of ante-natal and post-natal maternity centres, child welfare and baby welcomes, etc.; and (4) the consultative centre, including the maternity hospital (or beds set apart in general hospitals or infirmaries).

*Midwives.*

Out of every 100 pregnant women in England and Wales 75 are attended in their confinement by midwives, and the majority of these midwives are untrained. The midwife could help by sending or taking her patient to some local centre in her neighbourhood and by filling up her register in an intelligent manner, so that the health visitor or inspector of midwives would be able to advise her when she should recommend the patient to a local centre. The midwife was thus able through the local centre to give her patient, among other things, the benefit of the service of the consultative centre. With the exception that the pregnant woman could go to an ante-natal centre or not as she pleased, or could decide upon this or that centre if she wished to attend one, of all the people comprised in these schemes for treating or helping the woman, the midwife was the only person whose services the woman could deliberately select. The midwife, therefore, was treated by these women as their confidant, and would have much more influence than, say, the voluntary worker, the doctors at the centres, the health visitor who was an official of the municipal authorities, or the employers. It was most necessary to enlist the sympathies of the midwives, to show them that such schemes, far from interfering with their means of livelihood, would be the means of enhancing it, and far from giving them more trouble, would relieve them of a certain amount of responsibility, especially of that kind which they ought not to undertake. Trained midwives were the better able to judge of the value of such schemes, but the untrained midwives were not unnaturally suspicious of the various agencies at work, more especially when they had an official touch about them as evidenced by the activities of the Public Health Department.

All schemes started for the welfare of the pregnant woman should encourage a larger supply of trained midwives in the district served by the particular scheme. In this way the consultative centre, as a training school, might be of the greatest help.

*Health Visitor.*

The health visitor should be encouraged to work with the midwife, and they should report to one another. The health visitor must not interfere with the medical or surgical treatment of the mother or child; her duty was to watch their surroundings. The majority of children died in their first year from diarrhoea, a result in most cases of deficient personal and domestic cleanliness, and unsatisfactory facilities for storing or preparing food, and bad sanitary arrangements. The health visitor could supply the local centres almost as much as the midwife or doctor, and her presence should always be welcomed at the consultative centre.

*Employers.*

Industrial employment tended to increase infant mortality in various ways. With the present inadequate arrangements for the pregnant factory hand, employers did not care to have such women working for them, and in most cases when their pregnancy became obvious—about

the fourth or fifth month—the services of these women were dispensed with. Pregnant women could not do so much, or, as time went on, such good work. Then, especially with heavy work, there was always the increased risk of miscarriage or premature birth, and the employer was faced with the possibility of a demand for compensation. From the moral point of view, also, many employers objected to have men and pregnant women working together, more especially if the women were not married. Knowing all this, the woman was apt to conceal her condition as long as she could, instead of disclosing it as soon as possible; and, moreover, large numbers of them, undoubtedly for the reasons mentioned, endeavoured to get rid of their pregnancy, in many cases successfully, though too often with serious results to their health.

In the case of a pregnant woman who had to earn her own living, the loss of wages or the insufficient wages she was able to earn in pursuits other than her regular work reacted on her general nutrition and on the well-being of her unborn child. Many a pregnant woman who had already one or more children and a home to keep up would deny herself proper attention and nourishment. Industrial employment also separated the mother from her child after birth and interfered with and often prevented breast feeding.

Employers, therefore, must be encouraged to co-operate and be brought to realize that not only was it their duty as citizens to do all they could to take action to decrease infant mortality and increase the health and well-being of their employees, but also that, as a matter of fact, such action would redound to their individual benefit. In a large factory in Liverpool, the owners of which had entered heart and soul into the ante-natal, and post-natal welfare of their women employees and their children, they found that the work was much better and there was much less trouble.

The Welfare Department of the Ministry of Munitions had a scheme in the three national factories in Leeds, by which women five to seven months pregnant who had been on heavy work were placed on light work, and from the seventh to the ninth month were segregated in a special department, where they did sewing and were paid by piece-work. There were separate dining rooms in which a free meal was provided, and retiring rooms in which the women could rest. They were paid at the rate of 7d. an hour, and the average wage earned was 21s. 6d. a week—a satisfactory result when it was considered that otherwise they would be earning nothing. In addition, a trained woman supervisor looked after these women and arranged for their attendance at local or consultative centres, if necessary. Employers should be encouraged and persuaded to support financially and otherwise the local or consultative centres.

The Notification of Births Act gave certain opportunities and facilities to the municipal authorities. Cases of puerperal sepsis must be reported to the M.O.H., and this enabled him to inquire into the cause. Again, the municipal authorities could make grants to local or consultative centres, reimbursed by the Local Government Board up to 50 per cent. of the total expenditure for the medical treatment and nursing of patients duly recommended, and in the case of syphilis up to 75 per cent. The assistance included the provision of sufficient food and dental treatment. These authorities had the power also to provide a doctor or properly trained midwife in necessitous cases, or to make part payment to doctors and midwives, but for various reasons many municipalities had not been keen to exercise these powers. As stillbirths after the twenty-eighth week must be notified to the M.O.H., the municipal authorities could make a very important contribution towards elucidating the causes of these complications. It was estimated that the total intrauterine deaths during the course of pregnancy equalled the total deaths of children during their first year of life. A large number of these abortious, miscarriages, and stillbirths could be traced through the medium of the doctors, health visitors, midwives, and local centres.

*The Pregnant Woman.*

Everything must be done to encourage the pregnant woman to take an interest in the scheme, and to induce her to notify her pregnancy voluntarily, not compulsorily. The majority of pregnant women did not consult a doctor until in many cases the opportunity of dealing successfully



with complications, such as contracted pelvis and albuminuria, was very much diminished if not lost. Dangerous labours and severe albuminuria complicated with eclampsia were comparatively rare in women of better social position because they had in most cases engaged a doctor early in pregnancy. Pregnant women should be encouraged to attend local centres and so indirectly consultative centres, so that the diseases and complications of pregnancy might be identified and dealt with at the earliest opportunity.

#### *Local Maternity Centre.*

A local maternity centre must be within easy reach of the women it proposes to help, and attendance must be made as easy as possible for them, and they must not be required to spend very much time there.

Each local centre should have a strictly defined area; the best results were to be obtained by co-operation, not competition. Thus in a town there should be a standing committee composed of a representative or representatives from each local centre, and including among its members representatives of the women it was proposed to help, chosen perhaps from women's associations where such existed. Each local centre should be in touch with the doctors and midwives and voluntary workers in its area, as also with the consultative centre. The doctors of the neighbourhood should be encouraged to take a particular interest in these local centres, for it was only so that the consultative centre would be able to do its best work.

"I know," Dr. Berkeley said, "that it is considered by many that as far as the medical part of the work at these local centres is concerned, it should be under the care of a paid officer, preferably a woman, who should be an official of the Public Health Department. Such a provision has doubtless many advantages, but they are out-balanced by disadvantages. The medical practitioners in the neighbourhood should be consulted as regards the organization of the local centre. Members of the civil community, when any of the members of their family fall ill, have to employ a general practitioner. If all the work which really belongs to him is gradually taken out of his hands—and it is necessary only to think of the tuberculous and syphilitic centres and maternity centres, run by a paid official of the municipal authorities, to realize what is meant—the family doctor will become a mere guide to the nearest specialist or institution, and his status and capacity will be gradually undermined."

The medical service at the local centres should therefore be carried out by the local practitioners. They should arrange among themselves a rota by which each agreed to serve for a certain period—not too short—regularly, once or twice a week at a certain specified time, so that the patient on her return visit would be seen as a rule by the same doctor. The danger that the doctor on duty would be seeing the patients of another doctor was not as real as had been assumed; if every practitioner had his chance of being on the staff of the centre, the risk would be the same for all. There could not be a specialist at every woman's door, and if the doctor who must attend her in her emergency or for her so-called trivial complaints had had all the backbone and interest in his work taken out of him by having the really interesting medical work handed over to a paid official, the result to the community must be bad. Not the least important point was that the paid official would be unable to attain that free access to the homes of these pregnant and puerperal women which was open to the family practitioner.

The institution of factory centres or centres between groups of factories was a matter of importance. The work of a particular factory might comprise labour of all kinds—heavy, medium, and light—and in that case it would probably be found that as the women progressed in pregnancy they could be shifted from heavy to light work. In other factories, where only heavy or only light work was done, the employers might be able to arrange among themselves for an interchange of workers. The establishment of such centres would greatly reduce the time the women would have to be away from work, if they asked to attend a centre. If crèches also formed part of such schemes, then the all-important question of breast-feeding would be partly solved. It was now customary to train women to nurse their infants at longer intervals. It was better both for the mother and her child.

#### *The Consultative Centre.*

The functions of a maternity hospital or maternity department of a general hospital were:

1. To act as a consultative centre to the local centres.
2. To act as a training school for midwives, doctors, and health visitors.
3. To undertake research work.
4. To provide beds for pregnant, parturient, and puerperal women.

To the consultative centre pregnant and puerperal women and women in labour, as well as infants and children, could be referred from the local centres or from doctors and midwives for advice and treatment if necessary. Arrangements must be made for a medical practitioner expert in obstetric medicine to be in attendance at a certain hour, for a certain time, on a certain specified day or days each week.

The aim of the consultative centre was to encourage the doctor or midwife, as the case might be, personally to bring the patient, to be present at the necessary examination, to discuss the condition of the patient, and to learn what treatment was advisable, and how best it might be carried out. To meet the case of the doctor or midwife being unfortunately unable to attend with the patient there should be printed forms, the same for all local centres, on which should be entered the reasons why the patient was sent to the consultative centre, and what assistance was required. The medical officer of the consultative centre should write on a special form a full report on the case and the treatment he advised, and should send this form to the doctor or midwife. If it be deemed advisable that the patient should continue to attend the consultative centre the requisite arrangements should be made, and provision made to secure the services of an expert obstetrician for such a patient if confined at her own home.

When a local centre was first started the consultative centre would probably have more work from it than later on. With time and experience, the local centre would treat more cases of its own. There must be a mutual understanding, for the consultative centre must not be a rival to the local centre, neither must pride in the local centre prevent its officials sending their patients to the consultative centre.

#### *Training School for Doctors, Midwives, and Health Visitors.*

To be able to carry out these duties efficiently the maternity hospital must have a local centre of its own, for, though it was the consultative centre for the whole district, nevertheless it was a training school also. The local hospital centre should be a model of what all local centres should be, so that students trained at it would be in a position to help to start or assist the work of local centres on the most approved lines. The local hospital centre, however, must not compete unduly or unfairly with other local centres in its neighbourhood.

The consultative centre should be regarded purely as a teaching centre, and should deal principally with those patients who personally applied direct to the hospital, and not through the midwives and doctors, to be confined either as in-patients or out-patients. Women who were to be confined by midwives or doctors of their own choice should attend the local centre nearest to where they lived. The local centres must look on the consultative centre as their friend, to make use of if they wished, and as really part of their own organization and a place where they were always welcomed. The officials of a consultative centre should be easy of access, in sympathy with the work being done at local centres, and interested in ante-natal and post-natal work beyond the limits of medical and surgical supervision.

#### *Research Work.*

The consultative centre would have pathological and chemical laboratories at which research work could be undertaken. Syphilis, for instance, was a common cause of abortion and miscarriage, and the recognition of this cause would necessitate a clinical examination of the patient at the local centre and a confirmatory diagnosis, either by examination of the products of the pregnancy, which might result in the detection of the spirochaete, or by the examination of the maternal blood for the luetic reaction. Such work was properly carried out at the



consultative centre; the requisite treatment could be applied in the case of a patient of a midwife, or prescribed if the doctor wished to carry out the treatment himself. Again, the toxæmia of pregnancy called for research which could only be carried out at a hospital properly equipped for such purposes.

The various local centres, by making use of their opportunities of obtaining material in cases of abortion and miscarriage, or of stillbirth, and by using the Research Department of the hospital would be doing a great deal for the better understanding and treatment of the diseases causing the death of the child before it was born.

#### *Beds for Complications occurring in Pregnant, Parturient, and Lying-in Women.*

A certain number of beds should be set apart in the maternity hospital for the reception of pregnant, parturient, and lying-in women suffering from complications, and the local centres should have the right to send such patients for admission and treatment without the trouble, some, but perhaps with some hospitals necessary, formality of procuring in-patient letters, or the personal application to the hospital authorities. In Glasgow it had been found that thirty ante-natal beds were sufficient for the service of the large number of local centres there. The local centres should work so well with the hospital that a letter from the proper official of the centre that the case ought to be admitted should at once ensure admission if there were a vacant bed. The maternity hospital should also have beds for the immediate admission of patients of a local centre who were in labour and had some serious complication, and required expert treatment they were not able properly to obtain. It was probable, for instance, that the lives of many women suffering from puerperal sepsis would be saved if they could be admitted to hospital directly the symptoms declared themselves. For such cases separate wards or blocks and separate nursing staffs would be required, but at least 50 per cent. of the expenses could be recovered through the Local Government Board. Again, a laceration of the genital canal might heal without any outward symptoms and yet the health of the patient be handicapped for the rest of her life, whereas, if she could have been admitted to the hospital, the laceration could have been efficiently treated and the patient in the end be none the worse.

Again, with a consultative centre situated at a general hospital or at a maternity hospital working in friendly agreement with a general hospital, facilities would be available for the proper treatment of such illnesses as heart disease or tubercle discovered in patients attending the consultative centre, but not directly attributable to their pregnancy; their in-patient or out-patient treatment could be arranged. Likewise surgical treatment and the treatment of infants and children could be undertaken in the best possible circumstances.

## Reviews.

### THE GERMAN MEDICO-MILITARY MACHINE.

IN a small pocket manual entitled *Lessons from the Enemy*,<sup>1</sup> Major JOHN R. McDILL, of the Medical Reserve Corps, U.S. Army, gives a very compact and readable account of the German medico-military and voluntary aid systems of care for the sick and wounded in the war, compiled from official publications and from first-hand study of the combined systems at work. The administrative methods of the German sanitary service and the general organization of medical units from front to base are clearly described, with copious illustrations and diagrams, including one on a large scale showing the disposition of regimental dressing stations and advanced hospitals, which, whenever possible, are placed beside railways. Special emphasis is laid on the system for re-education of the disabled in orthopaedic hospital schools and workshops. In this section the author shows how Germany has applied all her powers of organization and attention to

detail to the task of caring for and training those disabled in the war, so that they may be fit to do further work for the fatherland. Collaboration between the military and civil authorities, in concert with industrial and trade organizations and with polytechnics and commercial schools, is effected through a body known as the Welfare Commission for the War Disabled, which is organized on the most comprehensive scale throughout the empire.

Almost every page of Major McDill's manual seems to bear witness to his admiration for the efficiency of the German medico-military machine. The only criticism we have to make is that in some respects he may have taken the Germans too much at their own valuation. Thus we are a trifle amused to read, on page 115, that "a new fever has recently been discovered by a pupil of His, which they have named 'Vollhynian fever' (trench fever)." On the same page reference is made to the immediate prophylactic serum injections against gas gangrene, which are given as a routine measure in all shell wounds; but it is impossible to accept the statement that there is now practically no gas gangrene among the wounded in the German army. We note that Dakin's solution is widely used in the treatment of wounds, and bears the name of "Dakin's-lösung" in the official Prussian list of drugs and medicines; it is strange that they have not claimed it as a German discovery.

On the whole it would appear from study of Major McDill's excellent handbook that our own Army Medical Service has little to learn from the enemy, although it may be that methods of organized after-care were got sooner into order in the country which at first "had more of everything in every department," and in which preparations for war had been going on for many years, "not only by the army but by numerous civic organizations preparing to lend essential assistance when a state of war occurred." Whether the position in Germany is now any better than in this country is not very easy to determine, but allowing for differences in the machinery of local administration it would seem to be very much the same. Major McDill has an interesting section on amputations, from which it appears that the use of crutches is discontinued, the patient being encouraged to walk with his thigh stump on a stilt; shortly afterwards he is supplied with a temporary appliance similar to that devised, we believe, first in Belgium, and now in general use in this country. Major McDill gives a long description, with many illustrations, of a working arm, for upper-arm amputations, which can be fitted with appliances suitable for various sorts of work. It is calculated that with it a man can do one-half to two-thirds the work of a normal man, or even more than this. It seems to be practically identical with that described by Captain Martin Huggins as fitted at Roehampton House, and, we believe, at other hospitals for the limbless in Great Britain. Nothing seems to be said as to apparatus for forearm stumps; the Welsh arm, invented by a miner for himself some forty years ago, seems to be the best working arm yet devised for such cases. Those who desire an adequate account of what is being done in Germany in the matter of artificial limbs should consult the June number of the *Medical Supplement* (His Majesty's Stationery Office, 1s. net), compiled by the Medical Research Committee. The most original appliance appears to be Ritschl's spring foot, designed, by the use of steel wires, to yield a little to pressure and to adapt itself to the surface trodden on.

### THE STAGES OF THE WAR WOUND.

If the Collection Horizon had given us no more than Professor POLICARD's little book on the evolution of the war wound,<sup>2</sup> it would have served a great purpose. Judged from the clinical point of view, a dozen different opinions may be held as to the propriety of this and that operative scheme; of this period or that for operation at all; and consequently of this or that position, with regard to the front line, for operating centres.

Any administrative officer who will read and re-read this elementary book until he understands thoroughly what goes on in war wounds will grasp the principles which govern the whole matter. Everybody knows that all wounds must be considered infected; everybody agrees

<sup>1</sup> *Lessons from the Enemy: How Germany Cares for her War Disabled.* By J. R. McDILL, M.D., F.A.C.S. Medical War Manual No. 5, authorized by the Secretary of War and under the supervision of the Surgeon-General and the Council of National Defence. Philadelphia and New York: Lea and Febiger. 1918. 4½ by 6 in., pp. 275; 145 figures. 1.50 dols.

<sup>2</sup> *L'Evolution de la Plaque de Guerre.* By A. Policard, Prof. agrégé à la Faculté de Médecine de Lyon. Paris: Masson et Cie. 1918 (Cr. 3vo, pp. 121, 49 figures. Fr. 1.)



that inert, dead, and infected matter should be removed as soon as possible: everybody thinks he uses an antiseptic fluid at once efficient and innocuous. So far good; but here in simple and easy language is the history of the wound hour by hour, day by day; here is the reason for the faith that is in us, so convincingly put that even if the author be wrong in some of his speculative asides he is certainly right in much that we have all put to the test of experience—sometimes, perhaps, with eyes that see not. The inestimable value of the first eight hours is thrust upon one; the part played by the leucocyte as a unicellular digestive gland, not as a mere glutinous amoeba, needs but the showing. Not that Metchnikoff's descriptions or his beautiful pictures are likely to be forgotten, but it is high time the chemical basis of intoxication should be more fully appreciated and attention be turned to the secretive rather than the physical activities of the cells.

The author gives an original picture of the whole process of repair in wounds, and every word should be read, but it is his crisp, clear account of action and reaction between germ and host we particularly commend to practical attention.

### NOTES ON BOOKS.

THE standard textbook on *Medical Electricity*<sup>2</sup> by the late Dr. LEWIS JONES has been brought up to date and edited by Dr. L. W. BATHURST. Beginning with a general account of the subject and the apparatus employed, extending to about half the volume, it describes the use of electrical treatment of all sorts in disease. Roentgen rays and radium receive a chapter, and the whole book is well illustrated. It should be in the hands of all medical electricians.

A general account of the problems of the science of nutrition and the ways in which they are attacked in the laboratory is given in the third edition of Professor Lusk's *Elements of the Science of Nutrition*.<sup>3</sup> In this scholarly work, with its many references to the enormous literature of the subject, the reader will find a review of the main facts upon which our knowledge of nutrition in health, disease, and starvation is based. Special chapters are devoted to the metabolism in such conditions as anaemia, goitre, fever, diabetes, nephritis, and gout. The book does not pretend to cater for the treatment of disease directly in any way, but it may be recommended to medical men as a useful guide and work of reference.

<sup>2</sup> *Medical Electricity*. A Practical Handbook for Students and Practitioners. By H. Lewis Jones, M.A., M.D., F.R.C.P. Seventh edition, revised and edited by Lullum Wood Bathurst, M.D. London: H. K. Lewis and Co., Ltd. 1918. (Demy 8vo, pp. xvi + 588; 197 figures, 14 plates. 15s. net.)

<sup>3</sup> *The Elements of the Science of Nutrition*. By Graham Lusk, Ph.D., Sc.D., F.R.S. Edin., Professor of Physiology at the Cornell University Medical College, New York City. Third edition, reset. Philadelphia and London: W. B. Saunders Co. 1917. (Med. 8vo, pp. 641. 20s. net.)

## THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

### MEETINGS OF THE EXECUTIVE COMMITTEE.

AT a meeting of the Executive Committee at the *Lancet* office, on June 19th, a letter was read from the Commission for Relief in Belgium stating that the subsidies of the Fund always reached those for whom they were intended, and were of enormous value and moral support. A long statement was enclosed from the Belgian Commission Mixte sitting in Brussels. Dr. Des Voeux stated that the Fund had now only £600 to its credit; a further subsidy was due to the Committee at Brussels in July, which meant the virtual end of the Fund unless appeals proved more fruitful. Dr. Herbert Spencer said that the profession apparently did not believe that the money reached Brussels, but was chiefly distributed among Belgian doctors in this country; and several members agreed that this was a prevalent feeling despite the denial repeated in the medical and pharmaceutical press. It was decided that for the present the appeal should be made to medical men and pharmacists only, but that they should be asked to bring the urgent need of the Fund before their friends.

At a meeting of the Executive Committee on July 1st Dr. Des Voeux reported that Sir Rickman Godlee's letter, published in the *BRITISH MEDICAL JOURNAL* and the

*Lancet*, had produced good results. The publication in the *Pharmaceutical Journal* of excerpts from the statement of the Commission Mixte had also proved useful. The mensuality of £400 for July would be sent off.

The following passages from a letter to Dr. S. Squire Sprigge, Honorary Secretary to the Fund, from the Assistant Director of the Commission for Relief, show the need for further substantial aid:

I need hardly remark that the charities thus in receipt of subsidies through our channels are most carefully administered, and there is no possibility of any leakage on this point. I would like, however, to repeat, not only we ourselves at this point, too strongly—that the need of help for Belgium is very great, and the reports which we receive from all branches of the work are nothing short of heart-breaking. . . . Your Fund is one of the few in a class which can be helped in any other way. For the most part the professional men are too poor to come to the public soup kitchens, and after their months of terrible privation, the little savings which they may have made are now exhausted. But they will not do so until they are helped from your Fund, and I will be assisting them. Even then, there is a most comforting feeling that their happier colleagues overseas are not forgetting them.

The communication from the Commission Mixte appeals for the dispatch to Belgium of supplies of drugs, of which there is a total lack, so that many practitioners have to resort to inferior alternatives, and many antiseptics are practically unobtainable. The Comité National has organized a Medical Secours and Pharmaceutical Secours. Medicines prescribed by the 2,000 doctors of the service are dispensed by 1,500 chemists throughout the country at a uniform rate, and the Comité pays the bill, which averages 1,500,000 francs monthly. In Brussels a Central Pharmacy, administered by the Comité, manufactures and distributes pharmaceutical products to doctors and chemists, and undertakes dispensing.

The closing passages of this document repudiate the suggestion that money or goods intended for the relief of Belgian doctors and pharmacists and of the general population in Belgium get into wrong hands or are improperly administered.

Similar assurance has been regularly given by the *BRITISH MEDICAL JOURNAL*, the *Lancet*, and the *Pharmaceutical Journal*.

### Subscriptions to the Second Appeal.

The following subscriptions and donations were received during the fortnight ending July 6th:

£ s. d.		£ s. d.	
The Right Hon. T. R. Fergus, M.P.	21 0 0	Dr. T. P. Greenwood	0 5 0
The Right Hon. Lord Leverhulme	10 0 0	Dr. W. Petrie Simpson	1 1 0
Dr. A. B. Kingstford	1 1 0	Dr. Arthur Court	1 1 0
Mr. F. Ramsell	10 0 0	Dr. S. M. Salaman	1 1 0
Sir Rickman Godlee	2 2 0	Messrs. Halford, Williamson and Co.	10 0 0
The Lady Betty Leslie Melville	50 0 0	Mr. Harry E. Walters	5 5 0
Dr. Thos. Wingrave	1 1 0	Mr. T. B. F. Eminson	2 2 0
Sir Anderson Critchett	5 0 0	Major J. W. Hope	1 1 0
Dr. F. R. Proctor-Sims	1 1 0	Australian M. Forces	1 1 0
Dr. M. M. Lowlan	5 0 0	Surg.-Gen. P. H. Benson	1 1 0
Dr. Norman Walker	10 10 0	I.V.S. Sect.	1 1 0
Dr. Wherry Wilson	1 1 0	Col. C. J. Jacob-Hood	1 1 0
Dr. Barlow	2 0 0	R.A.M.C. (I.)	1 1 0
Dr. T. Steele Sheldon	1 1 0	Sir Herbert Roberts	5 0 0
Dr. H. G. Turney	3 1 0	Mr. E. Spencer Evans	0 10 0
Dr. H. Lyon-Smith	5 5 0	(monthly)	
Dr. Copeman	5 5 0	Dr. Cameron Kidd	5 0 0
Dr. Victor Philippe	1 1 0	Dr. Alfred Cox (monthly)	1 1 0
Dr. Hervey Bodman	5 0 0	Mr. F. Jones Carter	2 0 0
Lieut.-Col. E. Le Cronier	2 2 0	Dr. E. B. Fennell	1 1 0
Lancaster, R.A.M.C.	2 2 0	Dr. Abraham Cohen	2 2 0
"R"	2 2 0	Dr. Robt. Hutchison	5 0 0
Dr. M. Black Jones	2 2 0	Mr. J. Herbert Parsons	5 5 0
Sir Alfred Pearce Goddard	5 0 0	Mr. J. H. Bishop	1 1 0
Dr. E. Faughan Fitzgerald	5 0 0	Lord Egerton of Tatton	25 0 0
Mr. and Mrs. Herbert Price	1 1 0	Dr. Geo. S. Middleton	5 5 0
Mr. H. J. Price	1 1 0	Dr. W. H. Russell Fox	2 2 0
Dr. Arthur Whitfield	10 0 0	brook	
Dr. John Marshall	1 1 0	Dr. Henry J. May	5 5 0
Dr. Jas. W. Russell	5 0 0	Professor T. K. Monro	10 10 0
Dr. Peter H. Abernethy	1 1 0	Dr. G. D. Thane	2 2 0
Captain J. Thompson	1 1 0	Mr. William F. Rawson	1 1 0
R.A.M.C.	1 1 0	Sir William Osler	20 0 0
Dr. Jackson Bury	3 3 0	Dr. F. W. Penfold	5 0 0
Dr. A. Hugh Thompson	1 0 0	Dr. David Riddell	10 0 0
Dr. W. H. Davies (to be quarterly)	1 10 0	Dr. J. Jordan Coleman	10 0 0
Dr. and Mrs. Meyer	2 2 0	Dr. Austin O'Dowd	2 2 0
Dr. J. W. Browne	1 1 0	Dr. Prosser White	1 0 0
Dr. C. H. Whiteford	2 2 0	Mr. W. Minchin	2 2 0
		Dr. J. R. R. Pollock	2 2 0
		Dr. F. Mariel Morris	1 1 0
		Messrs. Needhams, Ltd.	0 10 0
		Dr. Florence Theobalds	1 1 0

\* Per Sir Thos. Barlow.

\* Per Dr. Des Voeux.

\* Per Sir Rickman Godlee.

\* Per Sir St. Clair Thomson.

Subscriptions should be sent to the Treasurer, Dr. H. A. Des Voeux, at 14, Buckingham Gate, London, S.W.1, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited.



# British Medical Journal.

SATURDAY, JULY 13TH, 1918.

## INSPECTION OF MILITARY HOSPITALS.

INSPECTORS of military hospitals have, we understand, been appointed in the four Commands which cover the whole of England and Wales, with the exception of London and Aldershot. Major-General Bruce Skinner, C.B., C.M.G., is now Inspector of Hospitals in the Northern Command, Major-General R. Porter, C.B., in the Western Command, and Major-General Sir R. H. Whitehead, K.C.B., in the Eastern Command; Sir Tom Percy Woodhouse, K.C.M.G., C.B., has recently been appointed to the Southern Command. These officers have all held very responsible positions with the armies in the field since the outbreak of war. General Skinner was until recently Director of Medical Services, Fifth Army, France; General Porter was long D.M.S. of the Second Army, and General Whitehead was D.M.S. Malta. General Woodhouse went to France in August, 1914, as principal medical officer of the original British Expeditionary Force, and held that position through the trying experience of the retreat to the Marne, and the subsequent advances to the Aisne and to Flanders. At the beginning of January, 1915—the Director-General, Sir Arthur Sloggett, having taken over the command of the Army Medical Services in France—General Woodhouse became D.M.S. Lines of Communication, an appointment he retained until the end of 1917.

We have not noticed any public statement as to the nature of the duties to be discharged by inspectors of hospitals, but the recent experience of conditions abroad which the officers appointed have had cannot fail to be of great value to the administration at home. Each of the four Commands covers a wide area. The Northern extends from the Tweed to south of the Trent and from the North Sea coast to the Pennines. The Western Command, extending from the Solway to the Bristol Channel, includes Lancashire and the whole of Wales and Monmouthshire as well as the English Border counties. The Eastern Command, extending from the southern border of the Northern Command to the Channel, includes the eastern counties, as well as Kent, Surrey, and Sussex. The Southern Command includes the South of England from Warwickshire to Dorsetshire, and all the southern counties from Hampshire to Cornwall. The number of military hospitals of different kinds in each Command is large. They vary very much in the number of beds they provide, in their equipment, and in the way in which they are staffed. Some of them count their beds in thousands, and have a large staff mainly or altogether whole-time and usually resident. At the other end are hospitals of fifty, forty, thirty, or fewer beds established in a public building in a country town, or in a country mansion lent by its owner. Usually the commandant of such an auxiliary hospital is a resident lady, or, in the case of a country house, its mistress. The nurses are mainly V.A.D. workers, and medical attendance is provided by the doctors of the town or neighbourhood.

The spirit which led to the institution of these hospitals, and has continued to inspire the work done in them, reflects undying honour on British women

and on the medical profession. These smaller hospitals are, almost without exception, well managed, and nothing is left undone to make the men feel that they are among friends who desire to do everything possible to make them happy and to restore them to health. They have done well, and without their help the country would have fallen short of its duty to the wounded, the sick, and the broken. But the long continuance of the war and the increased demand each year has made on man power has caused us all to look on many things from a point of view different from that which seemed proper in 1914-15, and it is inevitable that the system which has involved the establishment and maintenance of so large a number of auxiliary hospitals should, along with other administrative matters, be submitted to a closer scrutiny. When this is done two questions arise—one affecting the country generally and the other the medical profession in particular.

The object of hospital treatment is to cure. When in the case of a military hospital this is possible, in the full sense of the word, the man is ready to be sent back to the dépôt of his unit, either direct, or after a time in a convalescent institution or a command dépôt, subject to the customary period of home leave. If a man cannot be cured, the date of his discharge from the army must be arranged and the conditions of his pension settled. The first question is, therefore, whether the best means are being taken for his cure so that he can rejoin his unit, or, in the other alternative, for the greatest amelioration of his condition that medical and surgical treatment can provide, so that he may go back to civil life in the best attainable physical condition and trained to resume his old occupation, or to take up another for which he has become better suited. There are grounds for believing that in not a few instances auxiliary hospitals have been allowed to lapse into being little more than homes affording admirable conditions for recovery if it can be brought about by rest, good nursing, and general medical supervision. But this is not enough, for in such institutions may be found men who have been there too long, whose convalescence is in fact complete, and others who cannot be expected to recover until they have received the treatment provided in a special military institution, of which the neurological and orthopaedic centres may be taken as examples.

Apart from matters relating to the general management and sanitation of an auxiliary hospital, its inspection must be concerned on the clinical side with two related but distinct matters. One is the weeding out of men who have completed their convalescence and are capable of again serving in the army, or, on the other hand, cannot again so serve; and the other the recognition of cases presenting conditions for the proper treatment of which an auxiliary hospital cannot provide adequate facilities. At the present time the arrangements for the inspection of auxiliary hospitals seem to be somewhat complex. If we understand aright, such a hospital may be inspected by an officer sent from the general hospital to which it is auxiliary, by the A.D.M.S. of the district, and by the D.D.M.S. of the Command or the inspector of hospitals to the Command who, it would appear, acts for him; finally, it will be visited from time to time by the consulting surgeon and physician, whose principal function it is to consult with the medical officers of the auxiliary hospital as to the further treatment of cases which are not making satisfactory progress.

The two questions which, as we have endeavoured to show, arise in this connexion both affect man



power. The first concerns the man power of the army and of the civil community, a matter to which reference has already been made, and the other the man power of the medical profession. We know what excellent work is commonly done by the medical officers of these hospitals, but it seems almost inevitable that the length of time during which men are too often allowed to remain in them must involve a waste of medical effort. Such waste is from every point of view to be deprecated at a moment when the medical attendance on the civil population is conducted under a great strain.

## INDIAN CONSTITUTIONAL REFORMS.

THE report of the Secretary of State for India, Mr. E. S. Montagu, and the Viceroy, Lord Chelmsford, on Indian Constitutional Reforms,<sup>1</sup> is a state document which undoubtedly marks a new epoch in the relations of this country to India. The two high officials who sign it state that their "conception of the eventual future of India is a sisterhood of states, self-governing in all matters of purely local or provincial interest, in some cases corresponding to existing provinces, in others perhaps modified in area according to the character and economic interests of their people. Over this congeries of states would preside a central government, increasingly representative of and responsible to the people of all of them; dealing with matters, both internal and external, of common interest to the whole of India; acting as arbiter in inter-state relations, and representing the interests of all India on equal terms with the self-governing units of the British Empire." With regard to the Native States it is considered possible that they will wish to be associated for certain purposes with the organization of British India, in such a way as to dedicate their peculiar qualities to the common service without loss of individuality.

The principle laid down in the pronouncement of August 20th, 1917, was the progressive realization of responsible government. The report takes the province as the unit within which immediate and complete responsibility in local affairs should be established, the "responsibility within provincial governments in certain subjects being first to constituencies and then to the legislative councils"; other matters should be reserved to the executive Government, whose responsibility to Parliament would for the time being continue. Further, it is proposed to establish machinery for periodic inquiry every ten or twelve years, with a view to the progressive diminution and eventual disappearance of the reserved subjects. Such a policy must involve a change in the position of the European services in India. It is proposed to make over certain functions to popular control, and in respect of these—an increasing number—English commissioners, magistrates, doctors, and engineers will be required to carry out the policy. Simultaneously the services are to be opened more widely to Indians, and this, it is recognized, must affect the cohesion of the services. The Viceroy and the Secretary of State are agreed "that the English members of the services will continue to be as necessary as ever to India. . . . They may be diminished in numbers, but they must not fall off in quality." They do not attempt to forecast the future organization and disposition of the services which must be settled in the course of political evolution, and they sum the matter up as follows: "We are no

longer seeking to govern a subject race by means of the services; we are seeking to make the Indian people self-governing. To this end we believe that the continued presence of the English officer is vital, and we intend to act on that belief. So long as Indians are employed in increasing numbers wherever they are fit, there can be no just complaint of the retention of the Englishman; if that condition is not fulfilled, there is an appeal to the periodic commission. It will henceforth be accepted as the duty of the European officers in the service of India to do all that lies in their power to fit Indians to take their places beside them."

The general conception is that the Government of India must preserve indisputable authority on matters adjudged by it to be essential in the discharge of its responsibility for peace, order, and good government. These matters are termed "reserved subjects." The next principle is that provincial governments should be given the widest independence from superior control in legislative, administrative, and financial matters, compatible with the discharge of its own responsibility by the Government of India. Responsible government in the provinces is to be attained first by the devolution of responsibility in certain subjects—the "transferred subjects"—and then by the gradual increase of this devolution until complete responsibility is reached. The Government of India will still be empowered to legislate on any provincial matter in respect of which uniformity is desirable. The list of transferred subjects would vary in each province and be susceptible to modification at subsequent stages. It is suggested that a special committee should be appointed to determine what matters should be transferred and when. Its first business would be to consider what services should be appropriated to the provinces, all others remaining with the Government of India. The guiding principle would be to include in the transferred list those departments which afford most opportunity for local knowledge and social service. The report contains a list of subjects suggested as those which should at first be so transferred. Among these are the maintenance of law and order, land revenues, administration, agriculture, public works, education, and certain medical and sanitary matters, including public health, hospitals, dispensaries, leper asylums, Pasteur institutes, sanatoriums, and matters relating to medical institutions.

Medical and sanitary matters do not appear to be treated in the body of the report. We can only draw conclusions from the list of transferred subjects and the general observations on the European services. It is said that the restriction of the number of Europeans in the service and the constitutional changes taken together will make it absolutely necessary for India to secure the very best type of European officers, and the Secretary of State and the Viceroy are anxious that the present opportunity should be taken to do something towards restoring the real pay of the existing services to the level which proved attractive twenty years ago. They add that it is necessary to do something substantial to improve the conditions of service and to secure the European recruitment which they regard as essential. The scales of pay are not reviewed in detail, but the importance of remembering that whatever causes of complaint the Public Services Commission found to exist have since been aggravated by three years of war is emphasized. It is recognized further that in the case of certain services in particular the need for improving the terms is specially strong. The remedies proposed by the Commission on the Public

<sup>1</sup> His Majesty's Stationery Office: to be obtained through any bookseller. 1s. 3d. net (Cd. 9109).



Services—mainly an incremental scale of pay and improvement in the calculations on which recruitment is based—are approved. Mr. Montagu, in his address to the deputation from the British Medical Association, clearly indicated that both these conditions apply to the Indian Medical Service.

#### THE INFLUENZAL PANDEMIC.

THE influenza that we read so much about in the daily papers seems to have visited almost all the countries in Europe, civilized and barbarian alike. It appears to have been particularly widespread in Spain during the month of May; that there were eight million cases of the disease in that country, as was alleged by the French press at the time, is a statement requiring perhaps a grain of salt for deglutition, but certainly pointing to a very heavy incidence. Information reaching this country through Holland indicates that the epidemic has been very prevalent both in Germany and Austria, and it is said that the armies of the Central Powers on the Western Front have suffered severely. Many cases have occurred in the allied armies, and the French civilian population is no more exempt than our own. The disease among our own people appears to be no more severe, speaking generally, than it is reported to have been in Spain.<sup>1</sup> The onset is often peculiarly sudden, the victim being struck down with dizziness, weakness, and pains in various part of the body, suddenly while on duty or in the street. There is a sharp rise in temperature to 103° or 104° F., and complaint is chiefly made of headache, pain in the back, and photophobia. The throat feels a little sore, the pharynx is congested, in some cases laryngitis and signs of bronchitis appear. Curiously enough, the sign to which Major H. F. Marris, R.A.M.C.(T.), recently drew attention in trench or louse fever—namely, lateral nystagmus with effusion of the conjunctivae—has not rarely been found in these influenza patients. In many cases the fever falls in three or four days, and the patient recovers rapidly. In others the course is longer, and the continuance of an irregular pyrexia may be accounted for by bronchitis, or, in rare instances, by capillary bronchitis, bronchopneumonia, or even the discovery of the bacillus of influenza in the circulating blood. Few cases, so far as we are informed, have proved fatal; in some such the cause of death has been acute bronchiolitis with increasing cyanosis and terminal failure of the right heart. Influenza of the gastro-intestinal type has not been common; such a diagnosis is, indeed, by many held to be questionable and suspect at any time, and particularly so at the present moment when cases of food poisoning or acute disturbances due to the unusual character of meals nowadays are not infrequently encountered. The many complications and sequelae by which in times gone by epidemic influenza made itself remembered seem to be happily rare. This circumstance has been held to show that we are not now dealing with an epidemic or a pandemic of influenza at all; but bacteriological evidence is accumulating to prove that the influenza bacillus is responsible for at least a considerable proportion of the cases. Swabs taken from the inflamed pharyngeal surface generally show a varied bacterial flora, perhaps with pneumococci and what at first sight appear to be pneumobacilli predominating, and *Micrococcus catarrhalis*, streptococci, staphylococci, and other microbes as well, but no obvious influenza bacilli. Cultures, however, are said to give grounds for the belief that these pneumobacilli are in many cases influenza bacilli of aberrant type—the organism is notoriously polymorphic—and not true pneumobacilli of Friedländer at all. It may be added, too, that the pneumococci are in many instances of the saprophytic type, and not pathogenic to guinea-

pigs. In other cases the throat swab shows typical groups of influenza bacilli directly, as well as on culture. The incubation period of the disease, a thing not easily to be established in the community at large where so many victims and carriers occur, would seem to be about forty-eight hours or less; at any rate, its spread from bed to bed in hospital has been observed to take place at that rate. As for treatment, bed and the exhibition of some salt of quinine or of aspirin seem to be indicated; the use of gargles appears not to influence the course of the disease, but the free use of aspirin certainly mitigates the patient's discomfort. In the matter of prophylaxis, as in the prophylaxis of cerebro-spinal fever, free ventilation is imperative; and after that we come up against the deplorably low standard of public conduct that prevails in the matter of coughing, sneezing, and spitting without the use of a handkerchief. Without doubt the virus of influenza is transmitted from one person to another in the vehicle of droplets of nasal and bucco-pharyngeal mucus, disseminated broadcast in the unguarded spasms of coughing, sneezing, and spitting to which people with coughs and colds, whether influenzal or not, are so objectionably prone. How much better it would be for all of us, and how fatal to the spread of influenza *et hoc genus omne*, if we could all go back to our childhood, and learn once more with the thoroughness engendered by the fear of, say, an instant smacking never to cough or sneeze without first covering both mouth and nose with a handkerchief! But this is to ask too much.

#### THE MEDICAL PROFESSION AND A MINISTRY OF HEALTH.

THE Royal College of Physicians of London, on January 31st, asked the president to nominate a committee to report upon the question of a Ministry of Health, and this committee was constituted on April 25th. It presented an interim report on June 3rd, when it was decided that steps should be taken for the formation with other bodies of a small joint committee on the subject with power to communicate when necessary with the Government.<sup>1</sup> The Council of the Royal College of Surgeons of England followed suit at its meeting on June 13th, when a committee was appointed to co-operate with the Committee of the Royal College of Physicians, and the suggestion has been made that this joint committee should co-opt representatives of the universities and of the Society of Medical Officers of Health. In the meantime the Royal Society of Medicine had begun to take an interest in this topic, and a discussion on the future of the medical profession and a Ministry of Health was spread over three evenings.<sup>2</sup> The practical outcome of the debate was a resolution requesting the council of the Royal Society of Medicine to appoint a small watching committee to consider the progress of the question and report to the council from time to time. Thus the English Royal Colleges and the Royal Society of Medicine have all begun to move in the same direction, following the lead of the British Medical Association, which appointed a special Ministry of Health Committee nearly eighteen months ago. This Committee went very fully into the matter and prepared an outline scheme for the establishment of a Ministry of Health, which was approved in general terms by the Representative Body last July. The original proposals have been re-examined and revised from time to time, and the amended scheme, which was forwarded to the Minister of Reconstruction on February 12th, 1918, has been printed in the Annual Report of Council, and will be submitted to the Annual Representative Meeting on July 25th. The Association has also issued an explanatory pamphlet embodying the revised scheme as approved by the Council. On March 13th Dr. Addison received the

<sup>1</sup> BRITISH MEDICAL JOURNAL, June 8th, 1918, p. 649.

<sup>2</sup> BRITISH MEDICAL JOURNAL, April 20th, p. 456; June 8th, p. 653; June 15th, p. 675.

<sup>1</sup> BRITISH MEDICAL JOURNAL, June 1st, 1918, p. 627; June 8th, 1918, p. 653.



members of the Ministry of Health Committee, and discussed with them the proposals contained in a draft bill of which he was in charge; but since the beginning of the German offensive on March 21st the state of Government business in the House of Commons has been materially altered, and from the Home Secretary's statement in the House on July 10th it seems clear that there is little prospect of the Government introducing the measure before the adjournment. In that case it must go over to the autumn session at earliest, and we trust that during this interval every effort will be made to bring at once into close relationship the Ministry of Health Committee of the British Medical Association and the various committees of other professional bodies which have now been set up to study the same problem, though apparently from somewhat diverse standpoints. It must be remembered also that the Royal Colleges in Scotland have shown their interest in the proposal for the establishment of a Ministry of Health, and have expressed their views as to the means that must be taken to render any scheme that may be evolved suitable to the special conditions of Scotland. There will be universal approval of the view expressed by Sir Bertrand Dawson in his Cavendish lecture, of which we print the first part this week, when he said that if medicine is to exercise its proper influence in public affairs the profession must close its ranks, work out a sound policy, and improve its organization for expressing its views. Dr. Biggs strikes the same note at the close of his address on clinical organization when he says "we may either lead the way of and by ourselves, or we shall assuredly be forced into a way devised for us by those who do not understand the position."

#### TUBERCULOSIS AT HOME AND ABROAD.

COMPLAINT is often made that, for lack of a uniform system of registration, it is impossible to gauge with any approach to accuracy the relative prevalence of the disease in different districts or the degree of success in treatment. Steps, however, are being taken in respect of the latter which may ultimately lead to trustworthy results. For several years past the authorities of the Midhurst Sanatorium<sup>1</sup> have endeavoured to keep a watch upon the after-careers of their discharged patients, and in a recent report issued by the Loomis Sanatorium, in the State of New York, similar efforts are described.<sup>2</sup> In both cases the figures are decidedly encouraging and prove that even when the disease has obtained a firm hold it is not impossible to induce arrest, if not complete cessation, of its advance. It is interesting to note that many patients from the American, no less than from the English, sanatorium have been enabled to take an effective part in the present war in France. The system of registration in force at Midhurst contains a feature which might well be imitated in other institutions. The separation of cases with bacilli in the sputum from those in which none were found yields results which enforce most emphatically the value of early recognition. To wait for the appearance of bacilli to confirm diagnosis is unjustifiable, now that the full significance of their presence is so clearly recognized. A strong plea for greater uniformity of classification was put forward by the tuberculosis officer for Middlesbrough, at a meeting of the North-Eastern Tuberculosis Officers' Association at Newcastle-on-Tyne last January.<sup>3</sup> Dr. Ellis advocated a strict division for statistical purposes between patients below and above the age of 15, males and females being separately reported upon. He also claimed that a uniform death-rate for tuberculosis should be adopted as for 10,000 living, as against the death-rate from other causes per 1,000 living, and these recommendations appear to have met

with the general approval of the meeting. Incidentally he pointed out that the disease at the beginning of the war showed a decided increase among males in some of the northern counties, but that during the last two years the increase had been most marked in females. This he attributed to the great increase of physical effort, and possibly also of mental strain, due to the war. Housing and other local conditions would not, he thought, account for it. An interesting report<sup>4</sup> reaches us from Trinidad, where, for several years past, the local association at Port of Spain has been actively endeavouring to cope with the disease on the same line as the parent association in England. The work has evidently been difficult among people of many nationalities, and most of them coloured, but it is gradually achieving the results at which it aims. The erection of a very substantial building as a dispensary, opened by the Governor last January, will doubtless enable the authorities to deal more effectively with the disease, which is very prevalent and fatal, the death-rate per 1,000 of the population being as high as 3.66.

#### THE ROCKEFELLER FOUNDATION

THE Rockefeller Foundation in New York is a conspicuous example of modern philanthropic effort. Owing its existence and its maintenance to the enlightened liberality of Mr. John D. Rockefeller, it is conducted on business lines without the appeals to public benevolence which, in the absence of State endowment, are generally necessary to procure the funds required for the successful prosecution of charitable enterprises. A review of the work done by the Foundation in 1917 for various purposes connected with the war, and in regard to public health and medical education, recently issued by the president, Mr. George E. Vincent (New York, 1918) states that at the end of 1917 the principal fund had a market value of about £21,000,000, the income of that fund for the year was £1,430,770. To this were added a balance carried over from 1916, a gift by Mr. Rockefeller of £1,100,000, and the sum of £1,000,000 voted by the trustees from the principal fund. The cash balance carried forward into the year 1918 was £23,325,809, but all except £254,267 of this amount will be needed to meet appropriations and pledges for the next fiscal year. The Foundation is at present devoting by far the greater part of its available resources to the support of war work. When the United States joined in the great struggle the Foundation placed a large sum at the disposal of the American Red Cross, which has undertaken comprehensive schemes of relief for the allied armies and the civilian population of the invaded countries. The only work which it is now directly administering in Europe is an antituberculosis campaign in France. The American Government from the first insisted that the training camps were to be regarded as educational institutions. Official commissions and national and local societies work together in providing within and outside camps comfort, recreation, social entertainment, educational opportunities, and moral safeguards for the troops. To nearly all the units that make up this vast co-operation the Foundation has given sums amounting in the aggregate to £900,000. In 1917 a portable military base hospital was erected in the grounds of the Rockefeller Institute for Medical Research, embodying the features which British and French experience has proved to be essential. In this hospital the Carrel-Dakin method of sterilizing wounds is being demonstrated. To the hospital and the laboratories medical officers of the army and navy are being sent for study and experience. The Foundation has undertaken the making of serums and their distribution to Government hospitals. Funds are being provided to help the Surgeon-General in engaging specialists for the treatment and hospital care of nervous and mental diseases due to the war.

<sup>1</sup> Eleventh Annual Report, King Edward VII Sanatorium, 1916-17.

<sup>2</sup> Twenty-first Annual Report, Loomis Sanatorium, October 31st, 1917.

<sup>3</sup> Presidential Address, North-Eastern Tuberculosis Officers' Association, Newcastle-on-Tyne, April, 1918.

<sup>4</sup> Twelfth Annual Report, Trinidad Association for Prevention and Treatment of Tuberculosis, 1916.



Contributions were also made for the after-care of the victims of infantile paralysis in the epidemic in New York in 1916. In 1915 the Foundation offered to bear the cost of establishing and maintaining as a part of Johns Hopkins Hospital a school of hygiene and public health. During 1917-18 a staff was recruited and lines of work laid down. Dr. William H. Welch resigned his professorship in Johns Hopkins to become director of the new institution. During 1917 steady progress was made in campaigns against hookworm, malaria, and yellow fever, in promoting better health administration, in securing reform in sanitary legislation, in persuading Governments to increase their expenditure for preventive medicine, and in encouraging public health education. In China the Foundation is promoting modern medical education and hospital administration. In September last the Chinese Minister of Education laid the corner stone of the Peking Union Medical College, which is being built in the Chinese capital. The programme also includes a medical school and hospital at Shanghai, but the war has interrupted the prosecution of this scheme. The growth of the Rockefeller Institute for Medical Research has called for increasing sums for equipment and current expenses, and £400 000 was appropriated during 1917 as an addition to its endowment.

#### VENEREAL DISEASE IN GERMANY.

DR. O. GANS<sup>1</sup> has investigated 1,000 cases of venereal disease (740 cases of gonorrhoea, 260 of syphilis) admitted to a military hospital. Only 21.3 per cent. of the infections were traced to brothel and street prostitutes; the frequency with which the various classes of women were sources of infection was in the following order: waitresses, servant girls, street prostitutes, shop girls, brothel prostitutes, factory girls, and the soldiers' own wives; 692 of the women were unmarried, and 308 married. Only 14 per cent. of the men were infected on active service; the remainder were infected at home, or during leave or garrison duty. Gans concludes from these figures that while summary measures directed against infected women immediately behind the fighting line may be beneficial, the principal evil exists at home, where, he says, compulsory isolation of infected women is not feasible. He considers personal prophylaxis the only way out of the dilemma. The Reichstag committee appointed to report on venereal disease and allied problems has put forward the following legislative proposals: (1) The doctors' right to professional secrecy in connexion with patients suffering from venereal disease to be suspended in the interests of the State. In other words, there should be specific "nominative" notification of venereal disease to the authorities. (2) Penalties for communication of venereal disease. (3) Organization of the insurance societies and sick clubs in a campaign against venereal disease. It is proposed that the insurance societies alone shall bear the cost of the establishment of the venereal disease dispensaries, and the cost of treatment is to be borne both by insurance societies and sick clubs. Permanent control and supervision of the syphilitic is to be established. (4) Venereal disease and diseases of the skin to be subjects for special examination in the medical curriculum. (5) Treatment of the subjects of venereal disease to be confined to qualified medical practitioners. (6) Canvassing by doctors by advertisement for patients suffering from venereal disease to be prohibited. According to Dr. A. L. Fönnss,<sup>2</sup> opposition to the first proposal (abolition of professional secrecy) has already gone far towards its radical alteration or even total annulment. Dreuw,<sup>3</sup> who has discussed all these proposals, criticizes the scheme for establishing innumerable local authorities to deal with notifications; he prefers a single central authority, in whose hands notifications by name would be comparatively safe from

personal indiscretions. But it does not appear that his scheme has been endorsed by the Reichstag committee. In a short note in the *Deutsche medizinische Wochenschrift* for January 17th, 1918, it was stated that the proposals affecting venereal disease have already been embodied in a bill, with provision for three years' imprisonment or less for communicating venereal disease. Advertisements of remedies in the lay press are forbidden, and penalties are fixed for infected nurses who suckle other children than their own. Compulsory examination and treatment of women is also to be put on a more uniform and legal footing than has hitherto been the case.

#### BOTULISM FROM CANNED VEGETABLES.

BOTULISM has assumed considerable importance in the United States since the great increase in home canning of fruit and vegetables which has resulted from the food preservation programme. This subject has been discussed in a series of papers recently sent us by Dr. Ernest O. Dickson of San Francisco, now a captain in the Canadian Army Medical Corps. In an experimental study<sup>1</sup> published in 1915 he shows that the presence of animal protein is not essential for the development of the toxin of botulism, but that the toxin may be produced from a medium made from string bean or from peas. In a subsequent paper<sup>2</sup> he states that during the past twenty years there have been at least 22 known outbreaks of botulism in the United States, in which 81 persons were attacked and 55 died, a mortality of 67.9 per cent.; 18 of the outbreaks occurred on the Pacific coast (17 in California and one in Oregon). In only 7 of the 18 outbreaks in which the source was discovered was the poisoning due to food of animal origin. In all the rest it was of vegetable origin, such as home-canned pears, apricots, corn, asparagus, beans, and spinach. The attacks of botulism due to this cause were not confined to human subjects. Dr. Dickson relates<sup>3</sup> several outbreaks in California of fatal paralysis occurring in chickens after eating canned corn and beans. From their crops and gizzards an organism was recovered which was morphologically and culturally identical with *B. botulinus*, and produced a toxin by which the typical symptoms and characteristic thrombosis could be reproduced in animals. It is significant that in all the outbreaks in which botulism has developed after eating canned fruits and vegetables the materials had been canned at home. There can be no doubt, says Dr. Dickson, that the methods of sterilization commonly employed by the housewife are entirely inadequate, if the food is contaminated by spore-bearing bacteria. As the botulinus toxin is easily destroyed by heating, all danger of botulism will be removed from the home-canned products if the food is always boiled before it is eaten.

#### ANTITYPHOID LIPOVACCINE.

THE lipovaccine T.A.B. brought in by Le Moignic of the French navy, referred to in our issue of February 23rd last (p. 240), has now been favourably reported on by the committee on therapeutic serums appointed by the Academy of Medicine and presided over by Netter.<sup>4</sup> The special feature of this vaccine is, as its name implies, its oily basis, which ensures slow absorption of the immunizing material, and so renders it unnecessary to give more than one injection for complete protection. As a result the frequency and importance of the local and general reactions are reduced, the number of persons, sometimes amounting to 30 per cent., who have to be excused inoculation on account of the effect of reactions—namely, malaise, fever, and so on—is lessened, and those

<sup>1</sup> *Dent. med. Woch.*, January 5rd, 1918.

<sup>2</sup> *Wochenschrift für Lager*, No. 37, 1917.

<sup>3</sup> *Dermat. Woch.*, Nos. 11 and 12, 1917.

<sup>1</sup> *Journ. Amer. Med. Ass.*, 1915, pp. 1155-1156.

<sup>2</sup> *Ibid.*, 1917, pp. 1155-1156.

<sup>3</sup> *Journ. Amer. Veterin. and Med. Ass.*, 1917, pp. 47-48.

<sup>4</sup> *A. Netter, L. A. J. Med.*, 1918, pp. 1155-1156.

*oc. Soc. Exp. Biol.*

, lxxix, 387-390.



disposed to tuberculosis—is much reduced. A cubic centimetre of lipovaccine T.A.B. contains a minimum of 2,600 million of dead typhoid bacilli and 2,275 million each of dead paratyphoid A and B bacilli, and ampoules containing 2, 5, and 10 c.cm. are made up. In France, Algeria, and Greece, more than 150,000 people have now been inoculated, and in exceptional instances only has a local abscess followed; fever, rarely lasting more than forty-eight hours, occurred in about 4 per cent., lumbar pain and vomiting were even rarer, and fainting was never noted. From the relatively short time during which this vaccine has been employed, statistics are scanty, but all medical men agree that persons so vaccinated are remarkably immune to enteric even in regions where the disease is highly epidemic, such as Algeria. In Toulouse, among those inoculated in 1916, there was one case among 1,172 vaccinated persons from the eighth to the sixteenth month after inoculation, as compared with one case in 287 among unvaccinated subjects.

## Medical Notes in Parliament.

### Military Service: Medical Grading.

#### NEW DEFINITIONS FOR THE OLDER MEN.

In reply to Sir Donald Maclean, on July 8th, Sir Auckland Geddes said that conferences had been held, with the President of the Local Government Board in the chair, between the Minister of National Service, Chairmen of Tribunals, and other members of Parliament, with the following result:

In future men of the new military age passed by medical boards as fit for Grade I will be classified as Grade I (B 1). Similarly, men of these ages passed as fit for Grade II will be classified Grade II (B 2), and those passed as fit for Grade III will be classified as Grade III (B 3). Instructions will be immediately issued by the Local Government Board to tribunals that, in considering the relative military value of Grade I (B 1), they must assume these men are "not fit to be trained for first line infantry," and that in considering the relative military value of men in the new classifications Grade II (B 2) and Grade III (B 3), they must assume that they are of substantially less military value than men under the previous Military Service Acts who were placed in Grade II or Grade III respectively. Instructions will be given to each National Service representative that if and when requested by a tribunal he shall state whether a man placed in Grade III has been found by the medical board to be fit only for sedentary work.

It was agreed also that greater publicity should be given to the opportunity of every man to apply for a second examination by a National Service medical board if he were dissatisfied with his first examination.

On questions as to the positions of the older men already passed in Grade I and Grade II, Sir Auckland Geddes said that any case that was put forward would be favourably considered where it could be shown that any misunderstanding had existed in the minds of tribunals. Mr. Albion Richardson asked whether it was not the fact that a man was entitled as a matter of right to claim a rehearing of his case on the ground that a new and material fact had arisen since the case was last heard—namely, a change in the grading. Sir Auckland replied that a man had a right to apply but the tribunal might refuse the application.

In answer to Sir Charles Henry, Mr. Beck stated that of the men medically examined up to June 29th who were above the former military age, the percentage passed as Grade I and Grade II was about 12 per cent. less than anticipated. But it had to be pointed out that these percentages were based on a review at present necessarily incomplete, and therefore they were liable to be misleading.

### The Education Bill.

#### MEDICAL INSPECTION

When the Education Bill was introduced in the House of Commons on Report, two important amendments were discussed. In Committee, on July 10th, Mr. Fisher (the Minister of Education) proposed an amendment to qualify Clause 18, which relates to the medical inspection of persons attending secondary schools, continuation and other schools, and other institutions "not being elementary schools." It came within the scope of the Board of Education, and the clause sanctioned the provision of medical inspection and treatment. Sir Watson Cheyne was asked whether medical treatment should be left out, but he said that it was an additional subsection was accepted.

Provided that the local education authority shall not establish a general domiciliary service of treatment by medical practitioners for children and young persons to whom this section applies, and in making arrangements for their treatment, the local education authority shall consider how far they can avail themselves of the services of private medical practitioners.

The grounds for such limitation are the overlapping of attention by medical officers of various authorities, and especially the fact that young persons between 16 and 18 who will eventually come under the Act for compulsory attendance at continuation schools will have the benefit of the insurance service. Sir Watson pointed out that there was nothing about medical attendance in the Scottish bill, and no one had grumbled about its absence. In the course of the debate Mr. Fisher said that the local education authority would be compelled to provide for inspection; ailments discovered would be notified to the parents. By the amendment the local education authority would be empowered to provide treatment, but debarred from establishing a service of municipal doctors to take the treatment out of the hands of private practitioners. Mr. Fisher regarded the arrangement as temporary, for in the event of a Ministry of Health being set up it would in time take over the school medical services. The Board of Education was conscious of the dangers of overlapping and would confer with the Insurance Commissioners before sanctioning any arrangement to give medical attendance to young persons. It is probable that some further statement on this subject will be made on report.

The other question raised—on July 3rd—was as to the extent of medical services for elementary school children. Mr. Rowntree suggested a new clause to make it the duty of the local education authority to provide not only for the medical inspection but also for the medical treatment of children attending elementary schools. Mr. Fisher resisted the amendment, on the ground that if the local authority were to take up this matter it would be necessary to make limitations and definitions which there was not time to work out at the present juncture, but eventually promised to review the subject and see whether on the Report stage he could bring forward any proposals which would be watertight and administratively possible.

On July 8th Mr. Fisher said that in 1916-17 the total expenditure of 279 out of 318 local education authorities upon medical inspection and treatment of children in public elementary schools was about £420,000. This amount might be exceeded after the war. Mr. Rowntree's amendment, he pointed out, in reply to another question, would affect only thirty-nine authorities.

### Ministry of Health Bill.

Replying to a question by Major Astor, on July 10th, Sir George Cave stated that the proposal for a Ministry of Health Bill had been referred by the War Cabinet to the newly constituted Ministerial Committee on Home Affairs, and was considered by them at their first meeting on July 9th. After discussion it became clear that the proposal raised questions of some difficulty, and it was decided to adjourn the consideration of the bill to a special meeting of the committee to be held early in the coming week. In the circumstances it would be impossible to pass such a bill before the adjournment of the House in August. Major Astor, regarding the answer as unsatisfactory, asked leave to move the adjournment of the House to raise a debate. The Speaker pointed out that there was on the notice paper a blocking motion (put down by Mr. Handel Booth), and thereupon Mr. J. H. Thomas asked the Speaker whether he would exercise his discretion to override such motion and permit the debate sought by Major Astor. The Speaker said that under standing orders his discretion should be guided by the consideration whether there was prospect that a matter would be debated within a reasonable time. In view of the Home Secretary's statement he held there was such a probability, but when the decision of the Ministerial Committee was reached he would reconsider the appeal. Mr. Booth has intimated that as soon as the Maternity Bill is through Parliament he will in any case withdraw his motion.

*Maternity and Child Welfare Bill.*—This measure was passed through Committee in the Commons on July 9th. Some amendments may be made during the Report stage.

*Enemy Attacks on Hospital Ships.*—In answer to Sir Frederick Hall, Dr. Macnamara said that the right was conferred on belligerents by the Hague Convention to stop and search hospital ships to see that they were complying with the terms of the international agreement, and this right had, on several occasions, been exercised by German submarines. In no case had this country ever broken the letter or spirit of the Hague Convention regarding hospital ships, and the same statement was believed to be true as regards our Allies.



# THE WAR.

## THE ROYAL NAVAL HOSPITAL, HASLAR.

HASLAR HOSPITAL, though very well known to all naval surgeons, is little more than a name to most members of the medical profession. Through the courtesy of Surgeon-General G. Welch, C.B., R.N., we have lately been able to visit Haslar and see something of its work at the close of the fourth year of war. The hospital site covers an area of 57 acres on the projecting strip of sea-coast between Portsmouth Harbour and Stokes Bay. The main quadrangle, open towards Spithead, is formed by the original buildings which were begun in 1745. Many other structures have been added from time to time, and the old buildings have been modernized throughout. The normal war accommodation consists of beds for 152 officers and 1,284 men, and there was equipment for an emergency expansion of 240 more beds, giving a total of 1,676. The patients are drawn from every branch of the navy, marines, auxiliary naval services, and dockyard personnel, and include incidental casualties from allied warships.

There is a separate officers' block for medical and surgical patients, with its own operating theatre. Mental and neurological cases are accommodated in a special building within the grounds, but neurasthenic patients are not segregated as a rule. The section for zymotic diseases and cerebro-spinal meningitis is built on the pavilion system, and stands in an isolation compound close beside the sea; it is entirely self-contained, and is administered under the Surgeon-General by a staff surgeon, whose office and sleeping quarters are on the spot. Cerebro-spinal fever patients are now usually given a semi-intensive treatment with Flexner's 1918 serum; four intrathecal injections of 20 c.cm. being given on four consecutive days.

The venereal disease section occupies a wing of the old buildings, and has its own theatre. All permanent medical officers of the navy take a course of instruction in this department. Lectures on the dangers of venereal disease and the importance of early treatment are given to the men by medical officers in all ships and naval establishments, while a peripatetic fleet surgeon lectures to the crews of trawlers and other smaller craft. The results in the way of early diagnosis and early treatment have already been most encouraging. For clinical purposes four categories of syphilitic cases are recognized: "A" cases are the earliest, in which spirochaetes are found in the primary lesion, but the Wassermann test is negative; "B" cases are early, but with positive Wassermann; "C" cases are those with syphilides and secondary lesions; "D" cases are those, with or without lesions, in which infection took place more than eighteen months before. The cases are fully recorded on a card-index system, and a "follow up" organization has been devised which permits continuous control from the centre of all patients for two years after the blood becomes negative. The usual treatment for acute early cases of syphilis is six doses at three-day intervals of 0.4 gram of neo-kharsivan or novarsenobillon; the "neo" compounds are alone used, and mercury is not given at all. Some 10,000 Wassermann tests are performed every year by the staff of the pathological department. The laboratory was formerly used as an instruction centre, but this work was transferred to the Royal Naval Medical College when that was opened at Greenwich in 1912, and the Haslar pathological laboratory is now only used for routine clinical investigations and analysis of food and water.

Since the war Haslar Hospital has been presented with the equipment for a large and up-to-date massage and exercise room, adjoining the x-ray and electro-therapeutic departments. In recent years one of the older wards on the ground floor has been reconstructed for the reception of cases of pulmonary tuberculosis; it opens on to a section of the grounds equipped with sheds for the open-air treatment of tuberculous patients waiting to be invalided out of the service.

The electric power laundry and disinfecting plant are housed in a special building. There are three Manlove-Alliott steam disinfectors—one in this building for general hospital purposes, one in the isolation compound, and one for the sole use of the operating theatres. The dispensary is equipped with power-driven tablet-making machines

and mechanical mixers, together with a refrigerating plant. Among the newer detached buildings are the sisters' quarters and the officers' mess; the most recent are the almost palatial sick-berth staff quarters. The large and pleasant grounds of the hospital, stretching towards the sea, are an important factor in the recovery of patients, and there are ample means for recreation and amusement.

In a brief visit it is scarcely possible to take more than a bird's-eye view of so large an institution with its many specialized departments, but the spirit of modern medicine is apparent in every part of the smoothly-running machine.

## CASUALTIES IN THE MEDICAL SERVICES.

### ROYAL NAVY.

#### *Died on Service.*

#### SURGEON E. J. G. SARGENT, R.N.

Surgeon Edward John Godwyck Sargent, R.N., was reported as having died on service, in the casualty list published on July 1st. He was educated at St. Bartholomew's Hospital and obtained the diploma of L.M.S.S.A. in 1917, and afterwards took a temporary commission in the navy as surgeon.

### ARMY.

#### *Killed in Action.*

#### CAPTAIN E. NEWTON, R.A.M.C.

Captain Edward Newton, R.A.M.C., previously returned as missing, was reported as killed, in the casualty list published on July 2nd. He was educated at Cambridge and at St. George's Hospital, and took the M.R.C.S. and L.R.C.P.Lond. in 1916, after which he joined the R.A.M.C. Special Reserve as lieutenant, and was promoted to captain after a year's service.

#### *Died on Service.*

#### CAPTAIN J. ANDERSON, R.A.M.C.

Captain J. Anderson, R.A.M.C., was reported as having died on service, in the casualty list of July 9th.

#### CAPTAIN G. R. ELLIS, R.A.M.C.(T.F.).

Captain George Reginald Ellis, R.A.M.C.(T.F.), died recently at Chedworth, Gloucestershire, of illness contracted on active service. He was educated at Sherborne School, where he was in the Rugby fifteen, and at Durham University, where he graduated M.B. and B.S. in 1907, after which he succeeded his father in practice at Bishop Auckland, Durham, where he was honorary surgeon to the Lady Eden Hospital. He held a commission in the 2nd Northumbrian (Darlington) Field Ambulance, in which he attained the rank of captain on December 3rd, 1912.

#### CAPTAIN R. N. WALLACE, R.A.M.C.(T.F.).

Captain Robert Neilson Wallace, R.A.M.C.(T.F.), died of pneumonia following influenza in the Military Hospital, Colchester, on July 5th. He was the only son of the late Dr. Robert Wallace of Manchester, and was educated at Edinburgh University, where he graduated M.B. and Ch.B. in 1907. After filling the posts of clinical assistant in the ear, nose, and throat departments of the Edinburgh Royal Infirmary, of house-surgeon of the Bradford Royal Infirmary, and of senior medical officer of the Manchester Children's Hospital at Pendlebury, he went into practice at Edinburgh. He held a commission as medical officer in the 6th (Territorial) Battalion of the Royal Scots, in which he attained the rank of captain on March 19th, 1910.

The personnel on board

Castle, a marine officers. the Canadian Captain ship and these two Lieut.-Colonels

a list of medical personnel ship, *Llandoverly* sink by a German submarine, when carrying seven three rank and file of was picked up with on was Major Lyon, telegram stated that ed up by a west-bound port. In addition to ficers were on board: Major G. M. Davis, on, and A. V. Leonard.



*Wounded.*

Major G. G. Timpson, R.A.M.C.(T.F.).  
 Captain W. M. Cameron, R.A.M.C. (temporary).  
 Captain E. S. Cuthbert, R.A.M.C. (temporary).  
 Captain W. F. Shanks, R.A.M.C. (temporary).

*Prisoners of War.*

Captain A. G. Clark, M.C., R.A.M.C. (temporary).  
 Captain R. M. Coalbank, R.A.M.C. (temporary).  
 Captain P. H. Green, R.A.M.C.(T.F.).  
 Captain G. L. Jones, R.A.M.C. (temporary).  
 Captain H. S. Moore, R.A.M.C. (temporary).

*Formerly reported Missing, now reported Not Missing.*

Captain J. P. MacVey, R.A.M.C. (temporary).

*DEATHS OF SONS OF MEDICAL MEN.*

Clarke, Claude Fitzroy, Major Indian Cavalry, only son of the late Dr. James Ferrier Clarke, died, from illness contracted on active service, on June 30th, aged 35. He was born on February 8th, 1883, educated at Epsom College, served in the Imperial Yeomanry from February 7th, 1902, to January 27th, 1903, got a commission in the East Surrey Regiment on July 4th, 1903, was transferred to the Indian army on July 2nd, 1907, became captain on November 18th, 1911, and had been promoted to major during the war. Before the war began he was a squadron officer in the 20th Deccan Horse. He served in the last battle of Ypres, was invalided in March, 1917, rejoined early in 1917, and was again invalided last February.

Rennie, Edward Clement, Lieutenant Royal Garrison Artillery, son of Dr. George E. Rennie of Sydney, New South Wales, died of wounds on June 14th. He was attached to the Royal Air Force.

*We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.*

**HONOURS.**

A SPECIAL Supplement to the *London Gazette*, dated July 5th, gives the following statements of acts of "conspicuous gallantry and devotion to duty" for which the distinctions announced in our issue of February 9th, p. 187, were awarded:

*Bar to the Distinguished Service Order.*

Major (temporary Lieut.-Colonel) Arthur Carr Osburn, D.S.O., R.A.M.C.

On seeing the enemy approaching close to his dressing station, he carried out the evacuation of the wounded under heavy shell and rifle fire in the coolest and most gallant manner. Having cleared away all cases by ambulance train and cars, he re-established his dressing station further in rear. As officer commanding bearer divisions, he constantly inspected his line of bearer posts and forward dressing stations under heavy fire. The successful evacuation of the wounded from the divisional front was due to his careful organization and fearless supervision under the most trying conditions. He was an example of gallantry, courage, and resource worthy of the highest praise.

*Distinguished Service Order.*

Temporary Captain Ferguson Pitton Carr-Harris, R.A.M.C.

Hearing that ten men of another battalion were lying wounded in front of the position, he volunteered on completion of the relief to go to their rescue. He was out for eight hours of the night found nine of the men alive, took two of them back to head quarters, and organized the rescue of the remainder. He showed great coolness and self-sacrifice.

Major (temporary Lieut.-Colonel) Charles Algernon Stidston, R.A.M.C.(T.F.).

His dressing station was very heavily shelled throughout a whole day, and received several direct hits. It was impossible to remove the wounded, and throughout the day he moved about continuously, arranging for their safety with utter disregard of danger. It was owing to his fearless example and splendid organization that all the wounded were finally removed without further casualties.

*Bar to the Military Cross.*

Captain Cuthbert Delaval Shafto Agassiz, M.C., R.A.M.C.

When in charge of a bearer post he remained working throughout an intense bombardment, in which some of his bearers were killed and wounded while loading ambulance cars. He was compelled to remove to dug-outs, and there persisted in his work until shelled out. Though driven back three times by enemy mortar and gas shell barrages, he sent his bearers back to the front with his patients, and removed them to safety.

Temporary Captain Z...

He did splendid work working throughout the day, and at night, he did excellent going out after dusk to bring in wounded men from in front of our line. During the withdrawal of the seven stretcher cases from these men from the front he carried out his duties with great courage and resource.

Captain Eric Alfred C...

During very heavy shelling of the enemy, he was sent out for two days to bring in wounded men from in front of our line. He was shot through the leg, but he persisted in his work until he was safely removed.

Captain Samuel McCausland, M.C., R.A.M.C.

He was in charge of bearers evacuating the wounded at a village under heavy shell and machine-gun fire. When almost the whole village was in the hands of the enemy he continued to supervise the collection of wounded, and it was mainly due to him and his bearers that they were all so promptly removed. In his attack he performed splendid work by clearing wounded of his brigade under most difficult conditions.

Temporary Captain James Wallace Macfarlane, M.C., R.A.M.C.

During a heavy bombardment of a battery position he assisted another officer and a sergeant in putting out the flames in a gun-pit which he was on fire. By his prompt assistance the gun was saved from serious damage and the ammunition from destruction.

Captain Joseph Stephen Wallace, M.C., R.A.M.C.

Whilst in charge of an advanced dressing station and bearer squads, he frequently visited the regimental aid posts in the line and skilfully arranged his bearer squads to the best advantage. He also personally conducted ambulance cars to very advanced positions, thus being able to get a very large number of cases removed to safety in a short time. His coolness and courage during the whole period were a splendid example to his men.

*Military Cross.*

Captain Robert Vacy Clifford Ash, R.A.M.C.

When the enemy attacked and almost surrounded his dressing station, he remained at his post under intense machine-gun and shell fire, attending to the wounded with complete disregard of danger. He sent all the wounded safely away, and was instrumental in saving the transport and a large part of the personnel of the field ambulance. He then volunteered to return at once to the firing line, where he did excellent work in a most exposed position. He set a magnificent example of courage and devotion to duty.

Captain Arthur Joseph Beveridge, R.A.M.C.(S.R.).

His dressing station was heavily shelled during an engagement, but owing to his determination, courage, and initiative, a large number of wounded were attended to and evacuated from the danger zone.

Captain John Holliday Blackburn, R.A.M.C.

When eighty stretcher cases as well as a number of walking cases were handed over by another division, and owing to heavy shelling it was impossible to move them during the day, he took forward an ambulance as close up to the position as possible and organized the evacuation of the wounded. He showed splendid determination and resource.

Captain Rex Carrington Brewster, N.Z.M.C.

During an action he was continually exposed throughout the day to heavy shell fire while attending to the wounded, and set a splendid example to all ranks by his devotion to duty and contempt of danger.

Temporary Captain Joseph Victor Cope, R.A.M.C.

He was in charge of stretcher-bearers in an exposed position, which was subjected to intense fire. Though he was suffering from gas he remained at his post for two days, setting such a magnificent example to his men that the evacuation of the wounded went on throughout the bombardment. By his courage and devotion to duty he saved many lives.

Temporary Captain David McMurray Dickson, R.A.M.C.

He tended the wounded under heavy shell and machine-gun fire, and was continuously out during the day searching the battlefield for wounded. He showed courage of a high order on this and many other occasions.

Captain Edgar Douglas, C.A.M.C.

He directed his relay of bearers under heavy shell fire, and, though wounded, remained at duty until he was relieved.

Lieutenant S. Dutt, I.M.S.

He worked indefatigably, and attended a large number of wounded belonging to various units at the aid post, which was under heavy shell, machine-gun, and rifle fire. His absolute coolness and steady devotion to duty were a splendid example to all.

Captain (temporary Major) John Douglas Fiddes, R.A.M.C.

He continued to dress the wounded under heavy shell fire at the advanced dressing station. Although the dressing station received a direct hit, he continued to work, and saved many lives by his courage and untiring energy.

Captain John Henry Pearson Fraser, R.A.M.C.

He organized a new line of evacuation when the original line was blocked by the initial success of an enemy counter-attack. Many wounded had collected, but he got away over one hundred stretcher cases, working unceasingly in the open for thirty-six hours.

Captain Philip Jacob Gaffikin, R.A.M.C.(S.R.).

While in charge of stretcher-bearers during an engagement he directed the removal of the wounded under heavy shell fire, and showed great courage and resource.

Temporary Captain Hugh Bernard German, R.A.M.C.

When his dressing station was heavily shelled he organized the removal of thirty-eight stretcher cases. He also rescued several wounded of another division under heavy shell fire. He established dressing stations without delay at various stages in an advance of four or five miles, and so enabled the wounded to be rapidly evacuated.

Temporary Captain Frank Arthur Grange, R.A.M.C.

He worked night and day without any rest, attending to wounded from all units under continuous shell fire. He also went up to the front line under heavy fire to attend to a severely wounded man, and succeeded in getting him away.

Temporary Captain Edwin Allan Thomas Green, R.A.M.C.

He worked with ceaseless energy, attending and evacuating the wounded. He moved his aid post forward, and worked under heavy shell fire till the enemy were within a few yards of his aid post. He evacuated all the wounded, save a few bad cases who could not be moved. His courage and presence of mind saved a large number of wounded from falling into enemy hands.

Temporary Lieutenant Arthur Collis Hallowes, R.A.M.C.

When in charge of bearers he succeeded in rapidly evacuating all the wounded under very difficult conditions. He attended to a severely wounded officer under machine-gun fire.



## Captain Austin Dwight Irvine, C.A.M.C.

During four days in the front line he worked day and night attending to the wounded, often under heavy shelling. When casualties occurred during an enemy barrage, without hesitation he left battalion head quarters and went to the assistance of the wounded.

## Captain Gordon Leigh Jepson, C.A.M.C.

He established an aid post during an attack under heavy shell fire, and for over ten hours attended to the wounded in the open under enemy shelling. When the enemy shelled his position with gas shells and a number of stretcher cases were lying outside the aid post, he went out at great personal risk and put box respirators on all the wounded, and by his prompt action saved many lives. He showed the greatest courage and self-sacrifice.

## Temporary Captain James Phillips Jones, R.A.M.C.

He worked in the line for a fortnight organizing advanced dressing stations and bearer systems. During an enemy attack he was cut off from battalion head quarters, but established an aid post and worked under heavy fire in the open for thirty-six hours attending to a large number of wounded. He showed the greatest courage and endurance throughout.

## Temporary Captain Frederick Bennett Julian, R.A.M.C.

He remained at his post attending to the wounded during an engagement with great courage and determination, though suffering severely from the effects of gas.

## Temporary Captain Duncan John McAfee, R.A.M.C.

When two attempts to remove a wounded man from a regimental aid post had failed owing to the stretcher-bearers being killed, he at once led forward a third party and succeeded in getting all the wounded back to a place of safety under very heavy shell fire. He showed splendid courage and self-sacrifice.

## Temporary Captain Frederick Buick McCarter, R.A.M.C.

When after an attack there were heavy casualties, he continued to attend the wounded in an open road enfiladed by machine gun fire, and undoubtedly saved many lives.

(To be continued.)

## COMMENDED FOR SERVICES.

The following are among the officers brought to the notice of the Secretary of State for War for valuable services rendered in connexion with the war: Captain (temporary honorary Lieut.-Colonel) D. J. Armour, R.A.M.C.(S.R.). Honorary Lieut.-Colonel G. W. Badgerow, C.A.M.C. Colonel W. H. Horrocks, C.B., A.M.S. (R.P.). Lieut.-Colonel F. S. Irvine, D.S.O., R.A.M.C. Major C. Macpherson, M.D., Royal Newfoundland Regiment. Colonel A. Primrose, C.A.M.C. Temporary Colonel Sir Ronald Ross, K.C.B., F.R.S., A.M.S. Colonel (temporary Major-General) G. B. Stanistreet, C.M.G., A.M.S. Lieut.-Colonel C. H. Tewsley, N.Z.M.C. Temporary Colonel A. S. Woodward, A.M.S.

## FEES TO CIVILIAN MEDICAL PRACTITIONERS.

AN Army Council Instruction, No. 683 of 1918, dated June 16th, 1918, states that owing to the increased cost of travelling, etc., the scale of fees for civilian medical practitioners laid down on the reverse of Army Form O. 1667, is cancelled, with effect from July 1st, 1918, and the following scale is substituted therefor:

## Visit and Medicine.

	Under one mile.		Over one, but under two miles.		Over two, but under three miles.		Over three, but under four miles.		Over four, but under five miles.		Greater Distances.
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	
Day ... ..	2	6	3	6	4	6	5	9	7	0	An addition of 1s 3d. for each mile over five up to a limit of £1 a visit. An addition of 2s. 6d. for each mile over five up to a limit of £1 a visit.
Night (10 p.m. to 7 a.m.)	3	6	5	0	7	0	9	6	12	0	

## NOTES.

### THE ORDERLY DOG.

CAPTAIN G. D. MACKINTOSH, R.A.M.C., has designed a medical pannier for his great Dane, which may prove useful. The following is his description:

It consists of a khaki cloth jacket and pockets lined with oil silk or jaconet, on which are marked the names of contents; the latter are alterable according to immediate requirements. There are pockets for brandy, stimulating draught, anodyne draught, water bottle, small thermos flask with hot tea or milk, six or seven field dressings, field tourniquet, and "tabloid splints." One pocket contains cigarettes and matches. Each pocket is labelled with a plainly printed tape.

The pockets are spread over the jacket so as not to inconvenience the dog's movements.

Captain Mackintosh's reasons for choosing a great Dane are the dog's colour, inconspicuousness, and great strength and activity; although his size is in some ways a disadvantage, yet it might enable him to get through the enemy where a smaller and more timid animal would fail.

## Correspondence.

### THE VALUE OF TUBERCULIN IN PULMONARY TUBERCULOSIS.

SIR,—Like Dr. Lindsay, I have long "protested against the abuse of tuberculin in the treatment of tuberculosis of the lungs," though perhaps Dr. Lindsay is protesting against its use. That tuberculin is an invaluable remedy I have no doubt. This is no mere *ipse dixit* but a fact proved by those who have had the courage to use it in large doses according to well-tried methods. Dr. Lindsay may choose to ignore the wealth of evidence furnished in my book *Tuberculin in the Diagnosis and Treatment of Tuberculosis*, but he cannot afford to ignore the evidence provided also by Turban of Davos, by Rumbold, by Bandler and Roepke, by Wolman and Amman, by Pottenger of America, by Denys of Louvain, by Mitulescu of Bucharest, and more recently by Moeller of Belgiz. As Dr. Lindsay "has seen no evidence to suggest that the results are better in the sanatoriums employing tuberculin than in those which dispense with it," I venture to give Moeller's statistics.

#### Moeller's Earlier Statistics.

Sanatorium methods alone arrested	... 10.9 per cent.
Sanatorium methods + tuberculin arrested	36.3 "

#### Arranged according to stage of disease—

Stage I:	
Sanatorium methods alone arrested	... 31.8 per cent.
Sanatorium methods + tuberculin arrested	75.0 "

Stage II:	
Sanatorium methods alone arrested	... 1.9 per cent.
Sanatorium methods + tuberculin arrested	20.0 "

#### Stage III: Actual arrest mere curiosities.

According to later experiences, when Moeller had virtually abandoned sanatorium methods,

Sanatorium methods alone may arrest 25.30 per cent. of cases of pulmonary tuberculosis in the first stage; tuberculin arrested the disease in 84 per cent.

In the second stage the figures are: Sanatorium methods, 0; tuberculin, 40 to 60 per cent.

It is surprising that Dr. Lindsay should confess his ignorance of the results obtained by men like Turban, Bandler, Moeller, Petruschky, and myself, who have based our views on solid work. We have made observations—each of us—in over 500 cases. I have a right to ask whether Dr. Lindsay and those who agree with him have used our methods in even 100 cases. "By their fruits ye shall know them." Has Dr. Lindsay ever read *Studies in Pulmonary Tuberculosis*, by my old pupil, Dr. Guy Griffiths? Tuberculin as a remedy can only be tested in the crucible of experience, and the test must be continued for five years, in accordance with the general rules worked out by those who have won success. I have taught hundreds of medical men in my day, and I do not know of any pupil who recanted after having watched our methods for at least six months.

The value of the various preparations of tuberculin is a subsidiary question. A month spent at our tuberculin dispensary in London would enlighten Dr. Lindsay even on this matter. Most tuberculins are valuable, but not all tuberculins are properly standardized, and, alas! some of the best preparations are not to be had for love or money.

On the other hand, sanatoriums can never reach 10 per cent. of the sufferers, and, in doing so, often violate the canons of economics, finance, sociology, and even of medical science.

W. J. KINSON, M.D., F.R.C.P.,  
on Pathology and Medicine,  
Imperial University.

London, W.,  
July 6th.

SIR,—P  
on this su

Who the  
question, I  
who have g  
among the  
to answer  
a little book  
of May 11  
statistics  
expressed

for an expression of opinion  
qualified to speak.

speak may be is a delicate  
that tuberculosis medical officers  
attention to the matter should be  
one of these I have endeavoured  
by Professor Lindsay in a  
and reviewed in your issue  
publication the completed  
only confirm the opinion  
of the use of tuberculin in



all afebrile cases of pulmonary tuberculosis, provided a rational system of dosage and intervals between doses be followed. Haphazard and rule of thumb administration of tuberculin is likely to do more harm than good.—I am, etc.,

Knock, Belfast, July 8th.

JOHN R. GILLESPIE.

SIR,—The letter of Dr. Lindsay seems very opportune, and I should like to make the following remarks:

1. It should be remembered that compared with its incidence tuberculosis is as a rule a non-fatal disease; and no judgement can be passed on the usefulness or otherwise of tuberculin if it be given to all and sundry indiscriminately.

2. Tuberculin should only be given to suitable cases; this applies to any remedy.

3. It has only a comparatively limited sphere for good; if given carelessly, it is often very dangerous.

4. About the only certain thing known as to tuberculin is that it has the power of causing inflammation in a certain number of lesions due to tuberculosis; this probably explains why all kinds of tuberculin are sometimes useful, and also why all kinds of tuberculin are sometimes dangerous.

5. Tuberculin is least dangerous in cases that have been allowed to become chronic, those which are insensitive or protected from harm by fibrosis. In some of these it does good; in a large number no benefit or detriment can be ascertained; in others it does harm, often very insidiously.

6. In non-autotoxic tuberculosis it may be useful, but only when there is no danger of breaking down deeply-seated tuberculous foci, such as occur in joints. Tuberculins derived from human bacilli are often useful in treating phlyctenular ulcerations of the cornea, and may with care be used with advantage in treating tuberculosis of the peritoneum.

7. A dose which has apparently done harm may ultimately do good if the injections be stopped.

8. It should be remembered that each dose is an experiment and the patient must be carefully watched; whilst giving it, the temperature must be carefully taken in the rectum.

9. The local reaction, only properly appreciated when injections are given in a site such as the back of the forearm, should be carefully watched; when present, it indicates in the absence of a general reaction that the tuberculin is doing good, but indicates also that care must be used or a reaction may occur.—I am, etc.,

Ayrshire Sanatorium, New Cumnock,  
July 6th.

EDWARD L. PREST.

#### NOTIFICATION STATISTICS OF TUBERCULOSIS.

SIR,—The statistics of tuberculosis quoted on p. 15 of your last issue, by comparing the year 1912 with 1917, are somewhat misleading, and give rise to the appearance of a decline in the incidence of the disease which is not justified.

In 1912, the first year of general notification, there were notified all the old cases of the previous year or so, giving a large number in excess of primary new cases notified. This gradually righted itself in 1913 and 1914, and the level attained which has held good since.

To compare 1912 with 1917 is therefore useless as a standard of comparison, and the decline you mention is fallacious.—I am, etc.,

London, S.E., July 9th.

MORACE WILSON.

#### NEPHROTOMY IN THE TREATMENT OF SUPPRESSION OF URINE.

SIR,—I was much interested in your issue of July 6th by Mr. Clifford White's account of his old memories.

I believe the first to advocate the treatment of suppression of urine by the removal of the capsule of the kidney was the late Mr. James Watson. In the *Lancet*, January 4th, 1896, I published a paper entitled "A contribution to the study of the pathology of albuminuria associated with kidney disease and its treatment." Afterwards I showed that the removal of the capsule was sufficient to relieve the obstruction within the capsule, and that the veins, then

the arterial pressure quickly raised the tension sufficiently to stop all secretion of urine. About that time Mr. Paul operated on a couple of cases for me, and it was marvellous how quickly the secretion of urine was re-established once the tension was relieved. In one case of calculus in the kidney there was complete suppression of urine for three days.—I am, etc.,

Liverpool, July 9th.

JAMES BARR.

#### THE ABUSE OF DRAINAGE TUBES.

SIR,—Under the above heading Dr. Frank Hathaway published an article in your issue of June 29th. Discussing the abuse of a thing implies the admission that there is a use for it, but Dr. Hathaway says: "If surgeons will give up the use of drainage tubes, they will not only find their results very much better, but they will find their outlook on surgery totally changed." Then again: "It is interesting to note the steps by which I gave up the use of 'drainage tubes' once for all."

Now when a man goes to one extreme it is reasonable to assume that he previously went to the other; and I suspect Dr. Hathaway has been using drainage tubes with as little discrimination as he now shows in discarding them.

Drainage tubes are employed for two purposes—to let out discharges and to keep down pressure. The virulence of organisms (as shown by inoculation experiments) greatly increases under pressure, as in such closed cavities as the middle ear or sealed appendix. Drainage tubes have therefore been used by experienced surgeons in what they consider suitable cases for a generation; but after "the experience of six months' civil surgery, since my return from France," Dr. Hathaway is now sewing up practically everything. The conclusion after another six months will, it is to be hoped, not make Dr. Hathaway as enthusiastic in restoring the drainage tube as he is now in discarding it. As medical men we are always at one extreme or the other—bleeding every one or refusing to bleed anybody; indifferent to fresh air or mad about it; careless when operating or sterilizing our fingers for five minutes before removing haemorrhoids; and now our methods with the drainage tube must not be modified—a fault has been found, no good can be admitted.

Cases of empyema Dr. Hathaway now completely closes. Within the last week I have seen an empyema close, and it did not take long to require well opening again, and the aid of a rubber tube.

Dr. Hathaway gives preference to "passage tubes of folded rubber" if a passage is required to be kept open, because "this allows pus to come away, but will not leave an open drain by which secondary infection of staphylococci from the skin or other organs can gain entrance." One might as well say that a candle-wick could not feed a flame because it is not an open pipe. The soft folded rubber is probably less irritating to the surrounding tissues, and remains easier in place, but as a carrier inwards of infection there are good grounds for supposing it would beat a rubber tube hollow.

Dr. Hathaway appears particularly satisfied with his treatment of a big hole in the tibia, after compound fracture. He filled the hole with thymol wax, and performed a secondary suture, and "the wound at once healed." That is likely, but the hole in the bone, filled with a foreign insoluble body like wax, probably remains until this day, leaving a weakness in the bone. The old surgeons, with their drainage tubes, would not have been satisfied with wax instead of bony tissue in that hole.

I am myself no enthusiast for drainage tubes, and use them as little and for as short a time as possible; but they have their uses as well as their limits, as I think Dr. Hathaway will rediscover.—I am, etc.,

Clyst St. Devon, July 3rd.

D. W. SAMWAYS.

SIR,—Dr. F. Hathaway speaks (p. 719) of filling holes in bones, and, apparently, gaps in long bones, with "thymol wax"; but what happens subsequently? Such a substance, I take it, is not removed by absorption or phagocytosis, and how does it affect the formation of new bone? Would not an autograft of fat do better? Information on these points would be valuable.—I am, etc.,

G. R.



## Universities and Colleges.

### UNIVERSITY OF OXFORD.

The following medical degrees have been conferred:

M.D. — \*Norman F. Hallows.  
M.B. — William V. Robinson, Sidney C. Dyke, Eustace H. Oliver,  
Eric A. Woods, John J. Savage, Kenneth F. D. Waters,  
Charles H. Barber, Thomas Patterson.  
\* In absence.

### UNIVERSITY OF EDINBURGH.

The following candidates have been approved at the examination indicated:

FINAL M.B., CH.B. — S. Boordosingh, J. A. L. Cook, G. W. C. Dunlop,  
L. C. D. Hermitte, F. Holmes, J. T. Johnston, J. B. Liggins,  
G. H. Middleton, A. J. Myburgh, U. G. Williams.

### UNIVERSITY OF ABERDEEN.

The following candidates have been approved at the Final Professional examinations:

J. Alexander, T. W. Buchan, W. A. Coutts, J. A. Dawson, \*A. Dugan,  
†G. S. Escoffery, Isabella Ferguson, A. C. Hill, Mabel G. Lawson,  
R. D. Lockhart, J. W. Mann, J. Morrison, A. C. Paterson, J. A.  
Ross, J. C. Sleigh, Sophia K. G. Stuart, Gwendolen J. E. Wilson.  
\* With distinction. † With much distinction.

### ANNUAL ELECTION AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The annual election of the Fellows on the Council was held on Thursday, July 4th. The President, Sir George Makins, G.C.M.G., declared the poll open at 2.30 p.m.; 620 Fellows voted by paper and 5 in person. The result was as follows:

Candidates.	Votes.	Plumpers.
SIR J. BLAND-SUTTON ... ..	410	37
MR. WALTER G. SPENCER ... ..	322	9
MR. ERNEST W. HEY GROVES ... ..	307	25
MR. JOHN LYNN THOMAS ... ..	266	14
Mr. Francis J. Steward ... ..	229	54
Mr. Harold Barr Grimdale ... ..	185	28

The President declared Sir John Bland-Sutton and Mr. Walter Spencer duly re-elected, and Mr. Hey Groves and Mr. Lynn Thomas duly elected to fill the vacancies caused by the retirement of Sir Watson Cheyne and Mr. Bilton Pollard.

The lamented death of Mr. L. A. Dunn having occurred after the issue of the voting papers, the consequent vacancy will not be filled up until next year's election.

### ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

At a meeting of the President and Fellows, held on Friday, July 5th, 1918, Major-General Charles Henry Burtchaell, C.B., C.M.G., Officer of the Legion of Honour, Director-General Army Medical Services, B.E.F., France, M.B. University of Dublin, 1889, was unanimously elected an Honorary Fellow of the College.

### CONJOINT BOARD IN IRELAND.

The following candidates have been approved at the examination indicated:

FINAL PROFESSIONAL EXAMINATION. — S. Healy (with honours)  
T. L. Dolan, C. Hennessy, C. R. Kidd, R. G. J. McCullagh, D. B.  
McEniry, M. R. Morris, M. C. Myerson, F. J. Ryan.

## Obituary.

### SIR ACHESON MACCULLAGH, M.D.,

Medical Inspector, Local Government Board, Ireland.

WE regret to announce the sudden death of Sir Acheson MacCullagh, M.D., which occurred while engaged on his official duties in Roscommon on July 3rd. James Acheson MacCullagh, who was born in Dublin in 1854, was a distinguished graduate of Trinity College, and subsequently occupied the post of house-surgeon in the Meath Hospital. He was afterwards appointed dispensary medical officer and medical officer of health in Londonderry, where his faithful and efficient discharge of duty was early recognized, and he became one of the leading medical men in the city. He was thrice elected Mayor of the city. His notable record both as an official and as a citizen marked him out for advancement, and the Local Government Board offered him the appointment of medical inspector in June, 1898. No part of Ireland makes greater demands on the energy and character of a medical inspector than the Western District, which was assigned to him; it is subject to recurring outbreaks of typhus and enteric fever, though now happily to a much diminished extent. Working under such circumstances among a population of primitive ideas and habits, with sparse hospital facilities and undeveloped means of transit, and often cut off from ready communication with head quarters, a medical

inspector needs to exhibit exceptional qualities of decision and resource. He received the honour of knighthood in 1896.

Sir Acheson MacCullagh in his long career was frequently called on to deal with epidemics of enteric and typhus fever under these conditions, and never failed to acquit himself with distinction. On one occasion in a remote island he had in face of a local panic to render personal assistance in removing typhus patients from their homes among the rocks and heather to the building which was fitted up as an emergency hospital. For his eminent services in this instance he was awarded the Order of St. John of Jerusalem. He could always be relied on to deal with a difficult situation with promptitude and sound judgement, and to his zeal and activity may be attributed the comparative immunity from serious outbreaks of fever which the districts along the Atlantic seaboard have enjoyed in recent years. Although often called on to act with firmness, he succeeded in retaining the goodwill and support of the local authorities and officers with whom he was brought in contact. His long experience of typhus fever was constantly appealed to by medical officers in cases in which the diagnosis was obscure. As a colleague he was one who never sought to spare himself trouble, and his opinion always carried weight. The public service has suffered a grave loss through his untimely demise.

THE death occurred on May 31st, in his 83rd year, of GEORGE WILLIAM FLEETWOOD BURY, one of the oldest Fellows of the Royal College of Surgeons. He came of a very old West country family, long associated with Colyton in South Devon. He studied medicine at St. Thomas's and the Middlesex Hospitals, and in Dublin, and obtained the diplomas M.R.C.S. and L.S.A. in 1856. He took the F.R.C.S. Eng. in December, 1860, on attaining the age of 25, having previously passed the final examination. After serving as house-surgeon and resident medical officer at the Middlesex Hospital, he practised for some time near Barnet. He retired from active work more than thirty years ago, and went to live at Chew Magna in Somerset, where he spent much of his time in gardening. Mr. Fleetwood Bury was a sound and successful practitioner. In retirement he was always pleased to assist his professional brethren in the neighbourhood, and his powers of mind remained to the end.

## Medical News.

PROFESSOR SIR EDWARD SCHAFER wishes it to be known that he is adopting the name of Sharpey before the surname of Schafer.

ONE of the features of the garden party at the Royal Botanic Gardens next Tuesday afternoon in aid of the Training Fund of the Royal Medical Benevolent Fund Guild will be the sale of gifts. Gifts may be sent to Lady Tweedy, 100, Harley Street, W.1, and anything from matches upwards will be welcomed. Names and addresses and descriptions will add to the interest of the articles.

CAPTAIN J. G. THOMSON, R.A.M.C., Protozoologist to the London School of Tropical Medicine, has returned from Egypt to do special research work on malaria with Sir Ronald Ross.

DR. J. N. LANGLEY, F.R.S., Professor of Physiology in the University of Cambridge, has been elected a foreign member of the Royal Academy dei Lincei, Rome.

WE are informed that a few cases of influenza can be received at the London Fever Hospital, Liverpool Road, N.

AT a recent meeting of the Council a letter was received from the Council of the London County Council thanking the council for their congratulations on the attainment of his jubilee. The Council of the London County Council unanimously voted a sum of £10 per

UNDER the auspices of the London County Council, lectures on the care of mother and child, with special reference to the prevention of disease, will be given at Birkbeck College, Fetter Lane, E.C.1, and at Sturley College, Waterloo Road, by Dr. J. Treby King, C.M.G. (founder of the London County Council School of Women's Studies) and Dr. J. Treby King, C.M.G. (founder of the London County Council School of Women's Studies).



At the annual meeting of the Medico-Psychological Association of Great Britain and Ireland at the Royal College of Physicians, Edinburgh, on July 23rd, Dr. W. Ford Robertson will read a paper on the infective factors of some types of neurasthenia, and Dr. Claud Fothergill on the prevention and the treatment of the condition. On July 24th a meeting will be held at the Edinburgh War Hospital, Bangour, when various demonstrations will be given.

A SUPPLEMENT to the July number of the *London Hospital Gazette* contains the names of more than 1,200 past and present students who are serving or who have served during the present war in H.M. Forces. Of these, 80 have been killed or died of wounds, 32 have been awarded the D.S.O., 3 the D.S.C., and 95 the M.C.; 4 have been awarded a bar to the Military Cross and one has received a second bar.

The Board of Trade desire to point out that the standard uniform for the mercantile marine recommended by the committee, whose report was recently issued as a Parliamentary Paper, Cd. 9030, has not yet been officially authorized. If, and when, an Act of Parliament is passed giving statutory authority for the uniform, there will be an alteration in the rank stripes proposed by the committee for ship surgeons and pursers, to differentiate them from the stripes of naval medical and accountant officers; and, to effect this, it is proposed to insert a diamond in ship surgeons' and pursers' stripes, as in the case of the stripes recommended by the committee for chief, second, and third officers.

THE Home Secretary gives notice that the definition of "cocaine" in Defence of the Realm Regulation 40B (which regulates dealings in cocaine and opium), and in the Proclamation prohibiting the importation of cocaine, has been further amended so as to include ecgonine, its salts and derivatives (see *BRITISH MEDICAL JOURNAL*, November 17th, 1917, p. 657). The definition now reads as follows: "Cocaine includes ecgonine, and any substance, whether preparation, admixture, extract or otherwise, containing 0.1 per cent. (one part in a thousand) or more of cocaine or ecgonine, or of any salt or derivative thereof."

MEDICAL practitioners are reminded that their motor spirit licences expire on August 1st. A form of application appears inside the cover of every licence, which should be filled in and forwarded together with the licence itself to the Secretary of the Petrol Control Department, 19, Berkeley Street, London, W., not later than the end of the third week of July if a further licence is required at the commencement of the following month. Other instructions relating to the issue of a further licence are given on the first page of the existing licence, and strict compliance with the necessary conditions will avoid delay. It is also desirable that correspondence relating to matters in connexion with the actual issue of the licence should as far as possible be deferred until the new licence is received.

## Letters, Notes, and Answers.

Authors desiring reprints of their articles published in the *BRITISH MEDICAL JOURNAL* are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

The postal address of the *BRITISH MEDICAL ASSOCIATION* and *BRITISH MEDICAL JOURNAL* is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the *BRITISH MEDICAL JOURNAL*, *Atricley, Westrand, London*; telephone, 2631, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Mediscera, Westrand, London*; telephone, 2631, Gerrard. The address of the Irish Office of the *British Medical Association* is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2, that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1, and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### ANSWERS.

G. R.  
who  
ston  
dian  
act  
room  
scot  
loc 1

## LETTERS, NOTES, ETC.

### "STUDY PERIODS."

DR. P. J. McCANN (London, W.) writes: In the report of the deputation to the Secretary of State for India I notice that Sir Clifford Allbutt suggests the phrase "study periods" instead of "study leave." It is in a spirit of humility that I venture to criticize the phrase of one who wields such a graceful pen, but it seems to me that "study duty" most appropriately implies what is really intended. In military parlance, one speaks of sentry duty, garrison duty, etc. The comic man in the services might extract fun out of the unfortunate officers who were having their "study periods."

### MEDICAL SICKNESS AND ACCIDENT SOCIETY.

ANOTHER OLD MEMBER writes: I am not surprised that week by week you are receiving protests from the old members of the Medical Sickness Society with regard to the clause and under policy of discontinuing the bonus due to members on reaching the age of 65, or to their representatives in case of death. The society is a friendly society; the funds belong to the members; therefore a postal vote should have been taken with regard to the continuance of the so-called "bonus," since comparatively few members can attend the annual meeting. The society's income has always exceeded the expenditure, and the interest on the invested capital is so large and constantly increasing that if the bonus is done away with the premium for a succeeding generation will be almost unnecessary. A workman's friendly society considers itself well off with funds representing £5 per member, although these societies pay a death benefit and do not turn out their old members at the age of 65. I do not mean to suggest that the Medical Sickness Society is badly managed, but the committee err rather on the side of too much caution.

### EXAMINATION OF THE HEART IN RECRUITS.

A. B., writing from experience of examining recruits for several years, sends the following notes which he thinks may be useful to medical examiners new to the work:

If the apex is in normal position, bruits may generally be discounted.

If the apex is in the nipple line or outside, and there is a pronounced impulse with dull percussion note between the apex and sternum, hypertrophy is present. Horizontal hearts may be mistaken for hypertrophied; "screening" will decide.

A bruit at the apex conducted outwards and heard both when the man is lying and standing denotes mitral insufficiency; should a bruit be only heard on standing it is probably exocardial.

A localized bruit inside the nipple with the character of a "purr," namely, a few short notes preceding a long (the first beat) denotes mitral stenosis. When the second sound is accentuated the urine should be tested for albumin.

A bruit heard in the aortic area systolic in time denotes in a small percentage of cases aortic stenosis; much more frequently it is hæmic, or due to a roughening of the semilunar valves.

An aortic diastolic murmur accompanied by a heaving impulse outside the nipple line, visible pulsation of the arteries of the neck, and water hammer pulse denote aortic insufficiency.

When the heart sounds are distant and the pulse (often rapid) at the wrist disappears when suddenly elevated above the head, myocardial weakness is present; this may be toxic or due to myocardial degeneration plus a toxic condition. In either case a soft bruit may be heard at the apex.

### PASSAGE OF SPOON BY THE BOWEL.

DR. T. RETELL ATKINSON (Chadwell Heath, Essex) writes: Early in April I was visiting an old man, over 70, suffering from chronic bronchitis. He told me he had swallowed a teaspoon. Though I did not believe him, I thought it best to have him removed to the infirmary. After about a month, and without having suffered from pain or inconvenience, he one day passed the spoon during an evacuation of the bowels.

### ERRATUM.

In the *JOURNAL* for July 6th, p. 16, column 1, line 12, for "with an evidence" read "without any evidence."

The appointment of certifying factory surgeon for Aberdare (Glamorgan) is vacant.

### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Seven lines and under	0 0 0
Each additional line	0 0 9
With a single column	4 0 0
Whole page	12 0 0

An average line contains six words. All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so secured.

Advertisements should be delivered addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning next to publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.



## FURTHER REMARKS ON THE TREATMENT OF ASTHMA BY PEPTONE.

BY

A. G. AULD, M.D.,

MEDICAL LECTURER, PRINCE OF WALES HOSPITAL, LONDON, ETC.

OVER a year's further experience has led to a modification of the peptone treatment of asthma described in my note in the *JOURNAL* of May 5th, 1917. The cases best suited for the treatment remain much as indicated therein—those, namely, characterized by favourable intervals, with freedom from bronchitis and much attendant emphysema. The more recent the disease, and the more regularly spaced the intervals, the better the result. Young patients as a rule do well. But old-standing cases respond provided the intervals are of a certain length. Irregular cases also respond if the disease is of comparatively recent origin (under five years). These findings serve to support the view as to the anaphylactic nature of the cases amenable to peptone. It is evident that after each main attack one would look for a certain minimal period of comparative quiescence, due to desensitization. Cases of practically continuous asthma are either non-anaphylactic in nature, or else the anti-anaphylactic mechanism has completely broken down.

If a certain quantity of a suitable peptone, such as Witte's, be introduced into the blood the symptoms of anaphylactic shock quickly supervene; no previous dose is necessary to induce the condition of sensitization. The late R. Weil<sup>1</sup> showed that if a normal liver be perfused with peptone, it quickly presents the same severe congestion and swelling as characterizes the sensitized liver after perfusion with the antigen. Hence the view arose that after the first or sensitizing dose of any antigen the anaphylactic shock due to the second dose was due to the rapid formation of peptone from proteolysis of the antigen by antibodies or enzymes called forth by the first dose, such antibodies being free in the blood and likewise attached to the tissue cells. This view, however, seemed to be no longer tenable after it was found that inert and non-protein or entirely non-nitrogenous substances, such as agar, pararabine (Bordet and Zuntz), silicic acid, were likewise capable of inducing anaphylactic-like shock. The explanation thereupon given was that the peptone was formed from the blood itself. These non-protein antigens were supposed to adsorb the antiferment (lipoidal in character) of the serum, leaving the ferment free to proteolyse the serum—a true autolysis. Jobling and Bronfenbrenner have vigorously supported this idea.<sup>2</sup> They affirmed that in these cases the blood would be found to contain peptone in excess, but this failed of confirmation by van Slyke's very delicate nitrous acid test for aliphatic amino-nitrogen. Van Slyke and Auer<sup>3</sup> also failed to find any difference in the content of protein cleavage products betwixt normal and anaphylactic guinea-pig lungs. Bayliss showed that for such a ferment action several hours were necessary, whereas the anaphylactic reaction is merely a matter of minutes. The most recent explanation is that of Professor Novy,<sup>4</sup> and is based on the fact that normal serum, just in the pre-clot stage, is toxic, due to a catalyzing agent, and is a parallel phenomenon with fibrin formation. A molecular change is induced in the matrix, resulting in tautomeric modifications. Thus the well-known acceleration of clotting produced by peptone is an expression of this change. When serum is digested with Witte's peptone, agar, or certain bacterial proteins, a similar but more intense toxicity is induced, which Novy believes to be identical with that occurring in the body cells and fluids during anaphylactic shock, as a similar explosive effect follows the injection of such toxified serum. In the body the toxicity, however, is of short duration owing to the mass action of the colloids. Novy holds the antigen to act merely as an inducing agent, of no toxicity in itself, and, at least in the case of agar, to be entirely recoverable from the toxified serum. Specific anaphylactic shock is due to the production of this poison from the blood and tissues by the inducing action of the antigen-antibody product.

If this view be correct (and no doubt there is a good deal to be said for it), there would apparently be no reason to select one substance in preference to another for purposes of desensitization, provided only it were capable of

inducing this toxic effect after injection into the blood. Professor Novy, indeed, goes so far as to affirm that the toxicity of pathogenic bacteria is of the same order as that of agar, the intoxication of the host being invariably caused by the change induced in the plasma, the term "endotoxin" being a misnomer. But this must surely be limited to the production of the anaphylactic attack, without reference to the ulterior and specific effects of the antigens. Novy, indeed, seems to have overlooked certain important facts recorded by himself. He points out that in peptone anaphylaxis there is marked exophthalmos, both in rabbits and guinea-pigs, a symptom not found in anaphylaxis produced by any other agent. This undoubtedly proves a subsidiary specific action on the part of the peptone itself. As the asthmatic attack is usually characterized by a certain degree of exophthalmos, we are on safe ground in preferentially selecting peptone in its treatment, apart from its suitability as a medicinal agent as compared with most other substances.

Another important consideration refers to the range of action of peptone. No matter what the natural antigen responsible for the asthmatic attack, desensitization may be effected by peptone, as it exhausts the anaphylactic mechanism not only towards itself but also towards all other agents, as the experiments of Weil have shown. For instance, if egg-white be the sensitizing agent, a sufficient dose of peptone given during the period of sensitization will render a second dose of egg-white abortive. The desensitization therefore is non-specific in character, and from this it follows that skin tests for allergic reactions in respect of the proteins of various foods are rendered superfluous. Desensitization may therefore be accomplished by injecting a single large dose of peptone, but this is comparatively short-lived; small and increasing doses spaced over a considerable time are much more effective, as they produce a degree of immunization which is the equivalent of a prolonged desensitization. This is the method to be employed in asthma, but it may be mentioned that there are certain exceptional cases which appear to respond best to a preliminary large dose, followed by smaller and decreasing doses. It is a method, however, only to be used by those thoroughly conversant with the effects of the various dosages, and shall not be alluded to further.

The suggestion will naturally be made that the desensitization or immunization effected by peptone in asthma can only be temporary. This is true. The attacks cease for a time, but recur. Cases vary greatly in this respect, but in view of the painless method of treatment about to be described the repetition of the injections becomes a negligible factor so far as the patient is concerned. The peptone stops the attacks over a period roughly proportionate to their former frequency. Thus, if the attacks occurred at about weekly intervals, there should be a minimal remission of from six weeks to two months; if three-weekly, one of three or four months. In one case presenting a very severe attack every three months, there was a remission of nine months. Here one is tempted to put the question, If such cases are not anaphylactic in nature, how is this action of peptone to be explained, seeing the doses employed have no measurable effect on the circulation, etc.? Perhaps certain experiments of Abderhalden may be cited, showing that the proteolytic or peptolytic activity of blood serum is enhanced by the injection of a foreign protein. But here again one has to postulate protein as the causal agent, which always involves the possibility of anaphylaxis.

A consideration of the experimental work led me to try the intravenous injection of the peptone, and this was justified by the results. Not the least advantage of the method is its painless character, whereas subcutaneous injections create in certain subjects a considerable degree of pain and swelling after some hours. Intravenous injections demand great accuracy in respect of dosage, and so it became necessary to note carefully the effects of various preparations of peptone. Wide differences were encountered. As Witte's peptone became available, it was found to be of much greater potency than any other variety tried. The only other which gave satisfactory results was Armour's "ordinary" peptone.\* It is unfortunate that at the first time of writing I was not aware that the Armour Company make two varieties of peptone—"ordinary"

\* Armour and Co., King-wal, London



peptone and peptone "siccum." The latter is of inferior value for the purpose in hand, although it is to be feared that not a few practitioners have been supplied with it. The clinical results indicated that about two and a half parts of Armour's "ordinary" peptone are the equivalent of one part of Witte's peptone. Discussing the matter with Professor Halliburton, he very kindly undertook the examination of several varieties of peptone, and his analysis, weighed to the second place of decimals, is subjoined:—

	No. 1, Witte's Peptone.	No. 2, Armour's "Ordinary" Peptone.	No. 3, Armour's "Siccum" Peptone.	No. 4, Farnell's Peptone.
Primary proteoses ...	0.92	0.4	0.02	0.07
Secondary proteoses..	1.6	2.2	1.2	1.68
Peptone ... ..	0.3	0.2	1.55	0.9
Total ... ..	2.82	2.8	2.77	2.65

Professor Halliburton's figures are of great interest, particularly as showing the primary proteoses to constitute the deciding factor. For instance, although there are more secondary or deutero proteoses in peptone No. 2 than in No. 1, the latter contains considerably more than twice the amount of primary proteoses, and this corresponds with the clinical effects. No. 3, on the other hand, contains but a comparatively minute quantity of primary proteose, which explains its inefficiency. The purely peptone ingredient may be discarded, except that note may be made of the fact that it appears to act deleteriously when injected in large amount with the view of making up the deficiency in primary proteose.\* That the primary proteoses are the ingredients almost entirely responsible for the specific physiological effects has also been proved experimentally in the careful work of W. H. Thompson.<sup>5</sup>

#### Technique and Dosage.

A 2 per cent. solution of Witte's (No. 1), or a 5 per cent. of Armour's (No. 2), are convenient for use. Witte's peptone is not entirely soluble, but it is more effective when partly in a fine suspension than it is after filtration. Dissolve the peptone as far as possible in normal saline made up to three-quarters volume by slightly agitating and warming at 37° C. Then add 1 ml. of a 2 per cent. solution of sodium carbonate for each 1 gram 5 grains peptone. This ensures the requisite degree of fluidness of the suspended portion. Make up to volume with normal saline, adding 0.25 per cent. phenol as a preservative. Care is to be taken in adding the alkali, as any excess may cause ricinization of the peptone, rendering it inactive. Peptone No. 2 is similarly prepared, the alkali being employed in this case to neutralize its acidity.

As regards the dosage, it is only possible to make a general statement, as variations may be necessary. When the main attacks, whether occurring singly or more or less broken up, occur at fairly pronounced intervals, a limited number of measured doses is usually sufficient. Should slight attacks persist, the dose may require to be increased. A feeling of chilliness and discomfort indicates that the limits have been overstepped. On the other hand, the dosage must be reduced when the attacks present great frequency and irregularity. In such the anti-anaphylactic mechanism is weak, or, in other words, the immunity reserve is small and will only tolerate gentle stimulation. Experience alone can enable one to decide the dosage, according to the symptoms and progress of the case; also, patients differ very considerably in their response to peptone. Generally speaking, the initial dose in all cases may be fixed at 3 decimils (5 m.). This contains ½ gram of Witte's peptone (No. 1) or 1 ½ gram of No. 2. Increase by 2 decimils (3 m.) every 5th day, until six injections have been given. Three or four more injections are to be given, employing in each the same dose as that given in the sixth injection. To this rule, however, there are exceptions. No reaction appreciable by the patient occurs. At any time during the course of injections in the dosage may be called for, as already indicated. In the case of children but a very slight reduction in the dose is necessary. No injection is to be given during attacks, and, when the latter occur at long intervals, to stop the treatment so at three weeks before one is expected. In all cases the diet should be low, and easily digested.

To administer the injection, cleanse the bend of the elbow with spirit (some hypersensitive patients may require local anaesthesia). Charge the syringe, and place the needle (a small one apart. With the left hand grasp the patient's upper arm,

the thumb passing across the biceps, and make gentle pressure. Pass the needle into the vein, and as soon as blood issues freely from it, but not before, withdraw the left hand, and maintain the needle immovable by it; attach the syringe, and make the injection slowly. No after-dressing is necessary.

I should like to take this opportunity of thanking those medical men who have sent me their observations. Up to the present, the reports received have been favourable.

#### REFERENCES.

<sup>1</sup> *Journal Immunology*, 1917, vol. 1, p. 459. <sup>2</sup> *Journal Exper. Med.*, 1915, 15, various papers. <sup>3</sup> *Ibid.*, 1915, vol. 1, p. 215. <sup>4</sup> *Journal Infec. Diseases*, May and June, 1917. <sup>5</sup> *Journal Hygiene*, June 1919.

## A NOTE ON EPIDEMICS.

BY

JULIUS BURNFORD, M.B., M.R.C.P., D.P.H.,

CAPTAIN R.A.M.C. (T.C.).

Epidemics in war time assume a special significance, for though the symptoms, at least at the outset, may be mild, so that, as far as the individual is concerned, it may have but a brief or transitory effect, in the aggregate the loss of man power, reckoned in days, may be enormous. As all classes are concerned the importance of this is obvious.

Furthermore, judging from the history of epidemics in the distant past, even a type of disease apparently trivial may in time intensify itself with most serious results, and it might well be supposed that in war, with its herding together of armies of men and workers of all kinds, this time element might be considerably shortened and the process of exaltation correspondingly hastened. Consequently, it seems important to visualize with the greatest possible precision any unusual circumstances connected with the health of armies and populations at the present time.

Bearing these points in mind, it seems to me that certain features in the prevailing epidemic are worthy of consideration.

There can be no doubt that it is widespread and advancing. The clinical manifestations are reproduced in each fresh case with the striking regularity which I had already observed at the beginning of an analogous if not the same epidemic overseas earlier in the year. Unfortunately my notes on these are all filed in — General Hospital, and are beyond my reach. There is much doubt, however, as to its real nature. With the limitations of the present nomenclature we are driven to a diagnosis of influenza or pyrexia of unknown origin. The latter term, however, has become so closely associated with trench fever as to be almost synonymous with it, and, indeed, is unsatisfactory in any case; whilst the former is so loosely employed in various indefinite states of disease that it is equally unsatisfactory. And, indeed, there is some doubt as to the present epidemic being due to the influenza bacillus.

It is obvious that we are dealing with a specific infectious disease which, like all the zymotic fevers, has an incubation period, leading up to the onset and followed by stages of fastidium, acme, and defervescence by crisis. But what the specific infective agent is remains to be ascertained. We are faced with the possibility of its being as elusive as that of the other zymotic diseases. That it is infectious under certain conditions is evident, but it is undoubtedly dependent on environmental conditions, such as overcrowding, etc. For though cases have been admitted into general wards only a comparatively few sporadic cases have broken out amongst the patients in these wards. But in camps and billets and various officers' cots have occurred in proportionate numbers. Overseas, where the epidemic first came to my notice in the beginning of April, it was at first confined to one large convalescent camp and apparently to the huts forming one subdivision of this camp. It would appear that no cases occurred at home at the time, but in the beginning of June, whilst stationed at a general hospital, cases presenting identical symptoms were admitted in large numbers, and in a week or two the epidemic had reached large proportions. It was evident there had been no change in the type of the disease.

Briefly the history is as follows: The onset is sudden, often the exact hour is given by the patient—as on parade, at meals, or in bed. There are severe pains in the head,

\* As Armour's peptone is not a guaranteed product of absolute uniformity in composition, it is advisable to use it in small quantities, if obtainable. A fresh lot may be roughly tested before use by adding an equal volume of saturated aqueous solution of ammonium sulphate to a 10 per cent. solution of peptone and stirring with a glass rod. In a satisfactory sample a sticky precipitate comes down in considerable abundance, which adheres to the stirring rod.



eyes, and back, with giddiness, shivering, sweating, and marked loss of appetite: prostration may be extreme. The conjunctivae are reddened and the mucosa of the palate and throat injected, whilst the tongue is clean, but occasionally furred. There is no rash, and only very rarely have I seen a slight erythema on the chest.

There is a rapid rise of temperature to 100° or 101° and occasionally to 103° or 104°, but the pulse is not increased out of proportion to this.

The most striking feature, however, is a general lymphadenitis. From an early stage, and increasing rapidly, there is an enlargement of the glands of the cervical region, which can be felt especially in the posterior triangle and above the clavicle, but firm pressure reveals innumerable hard, discrete, fairly prominent chains of glands, even up to the angle of the jaw and evidently beneath the deep fascia. The salivary glands are not affected. In many the axillary or inguinal glands are implicated and even the femoral glands; in several I have noted the epicondylar gland enlarged in the arm. The glands do not suppurate.

In severe cases the splenic dullness appears to increase, but this is always a difficult matter to decide, though there has certainly occurred pain on deep pressure in the splenic region.

The severe symptoms last about two days, and on the third day there is a marked improvement and the disease is practically at an end, and in a day or two many can return to duty. So far, sequelae and complications have been absent, but recent cases give the impression that there is an increase in the severity of the symptoms. In my earlier series of cases the stay in hospital was extended to ten days, as they had been admitted to the infectious block with a diagnosis of rubella, but all were well on the fourth day. The adenitis subsides more slowly, and a few glands can still be felt several days afterwards.

Briefly, then, the condition is one of acute fever with prostration, accompanied by a general polyadenitis out of all proportion to the local lesions and ending by crisis.

The incubation period is uncertain, but cases which have broken out in the wards suggest that it may be as little as two days; it must be remembered that only isolated cases have thus occurred. Bacteriological investigations throw, so far, no light on the etiology. No specific germs have been isolated from the pharynx or the blood.

The blood shows merely a differential change, in that the mononuclear elements (the lymphocytes) are increased (to 40 per cent. or 50 per cent.), a condition one might anticipate with so much activity of the lymphatic system. In a few cases examined no albuminuria has been noted.

The disease is popularly termed influenza, but it is open to discussion whether it be an acute specific infection, as distinct an entity as any of the zymotic diseases, or an anomalous or aberrant form of any one of these, or, indeed, true influenza.

Of the latter it is easiest to speak first, as its causal agent is known. The term influenza has been used in a very loose manner to describe various conditions, but in the absence of the specific bacillus such diagnosis should not be made. This we have not yet found in the present epidemic. Clinically also it differs from influenza, and most especially with regard to complications and sequelae. It is true it resembles it in its epidemicity, its rapidity of spread, and in the great prostration produced. In most works on influenza no mention is made of a glandular complication, but in a small footnote in Nothnagel's *Encyclopaedia* it is remarked that two or three observers have found swellings of the cervical or other glands. It might be supposed, however, that in true influenza epidemics polyadenitis could hardly have been overlooked, had it occurred. Again, with regard to the blood change in influenza, though little is mentioned on the subject, it would appear that no special change occurs. A leucocytosis, varying with the severity of the inflammatory complications, is known, but no actual increase of lymphocytes is found, such as appears in the cases described above. On the whole, therefore, there is no precise evidence that we are dealing with influenza.

With regard to the zymotic diseases, rubella and perhaps mumps are both to be considered. Indeed, as already mentioned, the first cases I saw overseas were sent in to hospital as rubella. It has been suggested that it is an abortive form of rubella, and it is difficult to comment

on this suggestion in the absence of any specific proof of an infective agent. The adenitis is perhaps more marked than rubella and the onset and general symptoms more sudden and severe, and there is no rash. However, it is of interest to note that I have at present in the isolation wards a case of German measles with marked eruption and furnishing all the symptoms, subjective and objective, of the present epidemic.

With mumps, mentioned by Parkes West<sup>3</sup> in the article referred to below, there is hardly a superficial resemblance. The salivary glands are never affected, nor have any of the complications or sequelae of mumps been observed. In West's series the majority of the children had previously suffered from mumps.

On the whole, seeing that the cases have up to the present been characterized by such a constancy of manifestations, it might be better to regard it as a distinct clinical entity. And in this connexion I suggest that it bears a marked similarity to the disease known as glandular fever. This is an infrequent condition, described first by Pfeiffer<sup>2</sup> in 1889; it occurs epidemically in children in the first decade, and is characterized by sudden onset, fever, slight pharyngitis, and marked polyadenitis, lasting a few days and subsiding without complications and sequelae. Several epidemics have been described, and the subject was exhaustively treated in an article by Dawson Williams in the *Lancet*.<sup>1</sup> In reading this article one is struck by the idea that the present epidemic is of the same nature, but occurring at a different age period. This is no insurmountable objection when one recognizes how all the zymotic diseases under war conditions have produced similar marked changes in the age period, so that mumps, rubella, measles, and chicken-pox, not to ignore the meningococcal infections and poliomyelitis, have all been of epidemic frequency in the armies.

If the facts enumerated here, then, as occurring in a large number of cases are in accord with observations in other districts it is evident that the polyadenitis is the characteristic manifestation of the epidemic. In order to identify the well-defined picture of the disease it might be well to classify it as glandular fever until its true nature can be determined. An opportunity for investigation certainly presents itself at the moment.

The method of infection is still merely conjectural. The pharynx is certainly slightly inflamed in all cases, but the extent of glandular implication is apparently out of all proportion to this, and unlike the ordinary picture presented in tonsillitis and allied conditions. But in this light one is reminded that in recent outbreaks of pharyngitis with severe general symptoms overshadowing the local lesions, the pneumococcus has been the causal factor.

The intestinal path of infection likewise cannot be entirely neglected, and it might even be that the virus arises in certain foodstuffs, the purity of which at the present day may not be always what could be desired.

An investigation of an affected gland itself might be productive of information. So far we have not thought it justifiable to excise a gland for such a purpose.

For the present we can only say that prophylaxis is concerned with proper hygienic conditions and the avoidance of overcrowding and bad ventilation.

June 30th.

#### REFERENCES.

<sup>1</sup> Dawson Williams, *Lancet*, 1897. <sup>2</sup> E. Pfeiffer, *Jahrbuch für Kinderheilkunde*, Band xxix. <sup>3</sup> J. Parkes West, *Archives of Pediatrics*, 1896.

## NASOPHARYNGEAL CONDITIONS IN MENINGOCOCCUS CARRIERS.

BY

F. J. CLEMINSON, M.C.CAMB., F.R.C.S.,  
CAPTAIN R.A.M.C.(T.).

SENIOR ASSISTANT, WAR AND THROAT DEPARTMENT, UNIVERSITY COLLEGE HOSPITAL; OFFICER IN CHARGE OF SURGICAL DIVISION, ROYAL MILITARY HOSPITAL, SCRIBBY.

*Report to the Medical Research Committee on Work done in the London District.)*

THE application of antiseptic sprays to the nasal cavities has been the method of treatment mainly used to clear up carrier cases infected with the meningococcus of cerebro-spinal meningitis. Their wide variation in resistance to such treatment suggested that there must be factors in the anatomical or pathological conditions of the



nose or nasopharynx causing this variation which might be discovered by an appropriate investigation, and that as the result of the information so gained modifications in treatment might be devised which, by shortening the period of isolation, would have the effect of diminishing the number of carriers known to be in existence at any one time, and so not only aid in maintaining field strength, but also diminish the risk of outbreak.

Every facility has been afforded me to carry out such a research on the segregated carriers of the London district by the D.D.M.S., by Lieut.-Colonel M. H. Gordon, C.M.G., and by Captain A. Glover, and I am greatly indebted to these officers for this, and for their hearty co-operation and goodwill.

*A priori* one would expect a wide clean post-nasal space, free from adenoids, combined with a physiological nose, well drained and ventilated, to be favourable to the rapid clearing up of meningococcus infections; whereas unfavourable factors would be found in a nose of small capacity with thick irregular septum, and showing firm mucous contact between the middle turbinal bones and septum on the one hand and the outer wall of the nose on the other, in accessory sinuses draining through small obstructed ostia and possibly showing signs of inflammation, and in a shallow pharynx grossly or partially occluded by adenoids. Good breeding ground would be provided by the nooks and crannies in such a nasopharynx, and the antiseptic would find great difficulty in gaining entrance to the infected areas and spaces.

The method adopted has been as follows: Teeth were examined for caries and pyorrhoea, tonsils for enlargement and presence of septic material in the follicles and tonsillar fossae, while the oropharynx was examined from the point of view of size and the presence of abnormal factors; use of the post-nasal mirror, confirmed or corrected by direct examination with the finger, revealed the degree of adenoid growth present, as well as any enlargement of the posterior extremities of the turbinal bones or other abnormality; the nose was examined anteriorly by speculum to determine the state of the septum and the presence and degree of "firm mucous contact"; and, finally, the maxillary antra were transilluminated. In the later cases the effect on the tissues of the nose was investigated of a 1 in 6,000 solution of adrenalin chloride in normal saline in the form of a spray. Abnormal contact between mucous surfaces resisting this astringent treatment may fairly be called "obstinate."

Until the examination of the 47 carriers was completed I was very careful to remain in absolute ignorance of the duration of their previous treatment, being able only in this way to avoid any unconscious bias.

In order to provide a set of control observations an identical number of wounded men chosen haphazard from a military hospital were examined in the same routine way. These men were of about the same average age and previous conditions of life as the carriers.

To make it easy to estimate and compare the importance of the factors observed it was decided to adopt a scale of numerals to represent the degree of abnormality. On this scale "0" implies "normal," "5" that the abnormality was considered maximal. The intervening figures represent graduated degrees of departure from the ideal or physiological condition. This method allows of the ready calculation of averages, and on this system the results have been tabulated. Two tables are subjoined. Table I deals with the carriers. The cases are arranged in sequence, beginning with that of the shortest duration, and ending with that of the longest. Table I is subdivided into a first half, Group A, and a second half, Group B, the average period of treatment for the former being 41 days, and for the latter 164 days. The last case of all, not included in either group, is that of a man who had recovered from an attack of cerebro-spinal meningitis, and on being swabbed was found to be a carrier. Table II deals with the control or "normal" cases. At the end of each table will be found the average figure for each factor.

In the following analysis and discussion of these results each factor will be taken separately.

### 1. *Pyorrhoea Alveolaris.*

For normals the index average is 0.8, and for carriers it is the same, taking the average of the two groups together. But for Group A it is 0.6 and for Group B 1.1, or nearly

twice as high. Possibly, therefore, pyorrhoea, while not of importance in the genesis of carriers, may, by the maintenance of a condition of sepsis in the upper respiratory passages, contribute to the prolongation of the carrier period.

### 2. *Adenoids.*

Normals show 1.1, and all carriers 1.7. In other words, the average adenoid mass in the carriers is 50 per cent. larger than in the normals, suggesting that adenoids, as would be expected, may be one of the factors which aid in the creation of carriers. The figure for Group A (1.8) is practically identical with that for Group B (1.6), which may indicate that once a carrier has been created the presence of adenoids does not materially tend to prolong his period of treatment, the antiseptic presumably finding little difficulty in penetrating their interstices, which, therefore, afford but little protection to the meningococci.

### 3. *Firm Mucous Contact.*

The degree in which this condition was present was estimated by anterior rhinoscopy, and there are naturally many fallacies. In certain cases, for instance, the septum is so angulated that it is not possible to see one middle turbinal at all, while it fairly frequently happens that the middle turbinal of one or both sides is partly obscured. Further, it is not easy to estimate the degree to which the middle turbinal may be pressing against the outer wall of the nose and so interfere with the free drainage of the sinuses. However, the figures represent the best estimate which could be made, and the errors tend to eliminate themselves over a sufficiently long series of cases.

High degrees of contact are frequently accompanied by thickening and deformity of the septum. This condition, enlargement, or deformity of the middle turbinals, and to a less extent narrowness of the nasal cavities, along with perhaps some oedema of the mucosa, are the main factors in producing what has been called in this report "firm mucous contact." Though the inward pressure—that is, against the septum—is the more easy to estimate, it is

TABLE I.—Carriers: Group A.

Age.	Teeth.	Pyorrhoea.	Adenoids.	Tonsils.	Mucous Contact.	Sinuses (Antral).	Remarks.	Duration of Carrier Period.
						R. L.		Days.
23	Good	0	2	0	1	0 0		11
20	Good	0	1	0	0	0 0		14
37	Good	0	1	0	2	0 0		14
31	Poor	1	2	1	3	0 3		16
49	Fair	2	1	0	1	0 0	Deep pharynx	17
54	Fair	3	0	0	4	1 0	Marked right septal deviation	18
18	Fair	0	2	2	2	0 0	Right septal deviation	20
18	Fair	1	3	1	2	3 0	Thickened septum	20
19	Good	0	3	1	2	0 0		26
31	Fair	1	1	0	0	0 0	Mucous in post-nasal space	33
19	Good	0	2	4	1	0 4		34
19	Poor	1	4	4	1	4 3	Mouth breather	45
18	Perfect	0	3	3	2	0 0	Left middle turbinal and septum in contact	45
40	Poor	1	0	3	4	0 0	Pronounced septal deviation to right	50
33	Fair	0	0	0	4	0 0	Both middle turbinals in contact with septum	51
20	Fair	1	4	2	2	2 0	Right middle turbinal and septal contact	52
22	Poor	2	0	2	0	1 0	Atrophic rhinitis. Pus in post-nasal space	58
23	Fair	0	4	1	0	0 0		59
26	Poor	0	3	2	2	4 0		67
22	Poor	0	3	2	4	0 0	Firm contact between septum and right middle turbinal	69
18	Good	0	3	1	5	3 4	Septum thickened. All turbinals in contact with it	71
22	Fair	0	0	1	3	0 0	Septum in contact with left middle turbinal	71
27	Fair	0	0	2	2	0 0		74
Average:						0.8 0.6		
26.5	—	0.6	1.8	1.4	2.0	0.7		41



TABLE I (contd.).—Carriers: Group B.

Age.	Teeth.	Pyorrhoea	Adenoids.	Tonsils.	Mucous Contact.	Sinuses (Antra).	Remarks.	Duration of Carrier Period.
						R. I.		Days.
38	Poor	0	0	2	3	5 4		78
27	Fair	3	0	1	5	3 0	Septal deviation to right	83
28	Fair	3	2	2	3	4 4	Very narrow nasal cavities	86
29	Fair	0	3	0	5	0 0	Almost complete right-sided obstruction	91
29	Good	0	2	1	5	3 3	Very thick deformed septum	91
29	Poor	5	0	0	4	4 5	Both middle turbinals in contact with septum	97
20	Fair	1	0	1	0	2 2		109
31	Good	1	2	0	1	0 0		120
32	Very Poor	0	2	4	0	1 5	Septum irregular	126
33	Fair	0	0	1	5	0 0	Septum broken (old boxing accident)	128
19	Good	0	4	1	1	0 0		150
39	Poor	0	3	1	4	2 0	Traumatic deformity of septum	153
19	Good	4	5	0	4	0 0	All turbinal bones in contact with septum	158
31	Poor	0	1	0	4	4 4	Both middle turbinals in contact with thickened septum	166
23	Good	0	0	0	5	0 4	Septum thickened and deviated to right	169
18	Fair	1	1	5	1	0 0	Tonsils very large and septic	173
39	Fair	3	1	0	1	0 0	Mucus in post-nasal space	176
18	Good	0	2	4	5	2 1	Both middle turbinals in contact with very thick septum	194
24	Poor	3	3	1	3	1 1	Posterior end of right inferior turbinal enlarged	250
21	Good	0	3	4	3	0 0		254
26	Poor	0	1	1	3	1 1	Septum deflected. Left middle turbinal enlarged	262
25	Poor	1	0	2	1	3 2	Readmitted seven weeks later, but cleared quickly	313
18	Good	0	1	0	5	1 0	Both middle turbinals in contact with irregular septum	348
Average:						1.7 1.6		
26.8	—	1.1	1.6	1.3	3.1	1.6		164
Average for Groups A and B:								
26.6	—	0.8	1.7	1.35	2.5	1.2		103
19	Good	1	1	0	5	4 4	Isolated as a carrier after recovery	Long

probably the outward rather than the inward pressure of the middle turbinal which aids most in prolonging the carrier period. For the outward surface of this bone screens the great majority of the ostia of the accessory sinuses, and the sinuses are probably very important dépôts for the concealment of meningococci. From them the organisms can sally forth into the neighbouring parts of the nose, whereas while dwelling in their seclusion they are comparatively immune from the attention of anti-septics, which, when they do gain the interior of a really obstructed sinus, are probably too diluted to produce much effect. If the organisms really do find a home in the sinuses, one would expect them to be discovered in the greatest numbers in the upper regions of the nose and nasopharynx, an expectation in accordance with the known facts. Further, one would expect the index for firm contact to be higher in carriers than normals, and especially high in the more stubborn carriers. The figures actually do show this to be the case. They are:

Normals	...	...	...	...	...	1.5
All carriers	...	...	...	...	...	2.5
Group A	...	...	...	...	...	2.0
Group B	...	...	...	...	...	3.1

The highest index, 5, is attained only once in Group A, but no less than seven times in Group B. The fact that in the latter group there are several low indices may be due in these cases to a combination of light internal or septal contact with firm external contact.

#### 4. Translucency of the Maxillary Antra.

For the carriers this was observed in a dark room in circumstances identical for all, so that the two groups can be compared without fallacy. But in the case of the con-

TABLE II.—"Normals."

Age.	Teeth.	Pyorrhoea	Tonsils.	Adenoids.	Mucous Contact.	Sinuses (Antra).	Remarks.
						R. I.	
33	Good	3	2	1	0	1 1	
19	Poor	2	0	1	4	0 0	Both middle turbinals and right inferior turbinal in septal contact.
22	Good	0	1	1	1	0 0	
24	Good	0	0	2	1	0 0	
24	Fair	1	1	0	0	0 0	
19	Good	0	1	3	0	2 2	
25	Good	1	2	3	3	2 2	Left middle turbinal in contact with septum deviated to left.
19	Good	0	1	0	0	0 1	
20	Good	0	3	2	2	0 5	Bullet wound, left antrum.
23	Fair	0	2	0	1	1 0	
21	Good	0	0	3	1	0 4	
21	Good	1	3	0	3	3 3	
25	Good	0	0	1	3	3 2	
22	Poor	3	0	3	2	4 4	
21	Good	0	2	3	4	4 4	Irregular deviated septum.
34	Good	1	0	1	3	3 1	
26	Poor	1	2	1	0	3 3	
20	Fair	1	0	0	4	0 0	Both middle turbinals in contact with septum.
36	Fair	1	2	0	0	0 0	
21	Fair	1	0	0	0	0 0	
41	Poor	3	0	0	2	4 3	Right middle turbinal in contact with septum.
24	Good	0	3	3	1	4 4	
25	Fair	3	2	1	3	3 0	Septum deviated and in contact with right middle and inferior turbinal.
36	Fair	2	1	0	0	4 4	
23	Fair	0	3	0	2	0 0	
19	Good	0	0	3	3	3 0	Right middle turbinal in contact with septum.
27	Good	0	1	1	0	0 0	
20	Perfect	0	0	2	0	0 1	
26	Fair	1	2	1	1	4 4	Chronic rhinitis.
28	Fair	0	1	1	0	4 4	Irregular septum; no contact seen.
29	Fair	0	0	1	0	0 0	
22	Perfect	0	2	1	4	3 2	Both middle turbinals and septum in contact.
40	Poor	3	3	0	3	3 1	Irregular septum in contact with right middle turbinal.
27	Fair	1	1	1	0	4 4	
20	Fair	0	3	0	0	4 0	
24	Fair	1	3	0	1	0 0	Man in same but died of cerebro-spinal fever. Swabbed three times (all negative).
27	Good	1	0	0	4	2 2	Both middle turbinals in contact with septum.
39	Bad	4	0	0	1	4 0	
25	Fair	1	1	1	0	1 0	
20	Perfect	0	1	1	1	0 0	
25	Perfect	1	0	2	1	1 0	
27	Good	0	1	2	3	3 1	Right middle turbinal in firm contact with septum.
24	Fair	1	2	0	3	0 0	Left middle turbinal in firm contact with septum.
19	Good	0	1	1	2	4 0	
20	Good	0	1	2	2	0 1	
20	Fair	0	1	1	3	2 2	
20	Poor	1	3	2	0	1 1	
Average:						1.8 1.3	
24.5	—	0.8	1.2	1.1	1.5	1.5	

trol series, except for the last eleven patients, an ordinary imperfectly darkened room was used, with a cloth over the heads of observer and patient. The observer's eye was therefore less perfectly dark-adapted, and the antra in



consequence probably appeared less translucent than they would in an absolutely dark room, so that the index may be slightly too high. This does not apply to the last eleven cases on the list, but as the first eleven (to whom it does apply) also show a low index, the average error is probably hardly appreciable.

The figures obtained are as follows:

	R. Antrum.	L. Antrum.	Average, R and L.
Normals ...	1.8	1.3	1.5
Carriers ...	1.2	1.1	1.2
Group A ...	0.8	0.6	0.7
Group B ...	1.7	1.6	1.6

The two striking features of these figures are:

(a) The average for the forty-six carriers as a whole is 1.2, which is less than the "normals' average—1.5.

(b) There is a very marked difference between Group A with 0.7 and Group B with 1.6.

The question to be discussed is the significance which can be attached to these results. It is a fair assumption that the cases showing a high antral index include among them those cases in which there is antral sepsis, and in which the lining membrane is thickened, with or without pus or muco-pus. That is to say, in a series with a high antral index, the average amount of antral sepsis would be greater than in a series with a lower index. So that to some extent the index for a sufficiently large number of cases must reflect the amount of antral sepsis encountered. Further, since in many cases it is well known that the antrum may act as a reservoir for the discharges from septic frontal and ethmoidal sinuses even when not itself infected, and also that in a fair percentage of cases where the antrum is septic the other sinuses, some or all of them, are septic too, we may assume, again in a sufficiently large number of cases, that a high antral index would be indicative of a higher average amount of sepsis in the other sinuses than would a lower one. In other words, in a series of cases sufficiently long, the curves of the antral index and of the degree of sepsis present in the accessory sinuses as a whole may be assumed to move together.

The present series—and this cannot be too strongly insisted upon—is, unfortunately, too short to allow any certain conclusions to be based on it, but the figures are nevertheless suggestive, and as such they may be examined. Taking first the significance of point (a)—that the index for carriers as a whole is actually lower than that for the normals—this may mean that a nose whose accessory sinuses have already been effectively occupied by the usual organisms of nasal sepsis is unfriendly to the meningococcus and resists its incursion more successfully than would an uninfected one. And inasmuch as it is already known that streptococci, for instance, are inimical to meningococci, this conclusion does not seem unreasonable. Taking next the second point (b)—that the index for the more obstinate Group B is more than twice that for the more tractable Group A—it may perhaps be inferred with fairness that, once the meningococcus has succeeded in establishing itself in coexistence with the previous sole possessors, it then shares in the benefits of the umbrella which has enabled the septic organisms themselves to live on in the sinuses. They are sheltered by bad drainage from the sinuses into the nose and so forth—by the factors, that is, which have already been discussed under the head of "firm mucous contact"; and, becoming correspondingly difficult to evict, the carrier in question strongly resists treatment. In other words, a high antral index implies conditions unfavourable to the genesis of a carrier, but which tend to make him obstinate in his refusal to clear up, once his "carrying" has been established.

### 5. Tonsils.

The indices for normals and for Groups A and B are so similar that probably the condition of the tonsils is not of much importance in determining the origin or resistance to treatment of carriers, and will not further be considered. But in any future work done separate indices will be allotted for enlargement and for sepsis.

### Conclusions.

The conclusions suggested by the above analysis may be summarized thus:

1. Factors favouring the genesis of carriers—
  - (a) The presence of adenoids.
  - (b) The conditions implied in the term "firm mucous contact."
2. Factors unfavourable to the genesis of carriers—
  - (a) Already existing septic infection of the sinuses.
3. Factors favouring resistance to treatment—
  - (a) Pyorrhoea alveolaris.
  - (b) Firm mucous contact.
  - (c) Already existing septic infection of the sinuses.

These conclusions are based on so short a series of cases that they must be accepted with the greatest reserve, and may or may not be confirmed by more extended observations. Indeed, they are little more than very suggestive indications, but even so they offer the strongest inducement for a similar investigation on, say, three to five hundred carriers. *In general, it may be said that they point in the direction of the accessory sinuses as being the main seat of meningococcus infection in carriers*, these cavities being often difficult to disinfect, and therefore able continually to reinfect the upper and more secluded portions of the nasopharynx, even though these may be swept clean periodically by the antiseptic used. Moreover, the lymphatics surrounding the olfactory nerves, which are in close relation to the ethmoidal cells, may possibly provide an easy avenue for infection of the meninges.

As to any practical application of this work: already some assistance has been rendered in the matter of treatment. Captain Glover in his recent report says, among other kind references: "This" (some of the above observations on mucous contact) "led to a valuable suggestion . . . namely, that the flavine or other spray treatment should be preceded at a fixed time by a spray of adrenalin chloride, 1 in 6,000, in normal saline. The effect of this reagent is, by shrinking up the mucosa, to increase the airway, dilate the ostia of the accessory sinuses, and allow of a much freer access of the antiseptic spray to all parts of the nose. The chart showing chloramine irrigation shows also the material improvement in results shown by this method over the plain flavine method. It is apparently the best method of treating chronic carriers tried this year in the laboratory. . . ."

It may eventually be possible, as the result of a routine examination similar to the one described in this report, to predict the degree of obstinacy or otherwise, with a rough approximation to accuracy, which any given carrier will exhibit.

Later on I hope to have the opportunity, with Captain Glover, to investigate the points of densest population of the meningococcus in the nose and nasopharynx, and also during *post-mortem* examinations of fatal cases of cerebro-spinal meningitis to take swabs from, and specimens of, the mucous membrane of the sinuses, in order to test the importance of these structures which has been suggested above.

It would be well also to examine as many men as possible who have recovered from the disease. One such appears at the end of Table I, and it is interesting to note that his contact index is 5, and his antral index is 4 for each side. He carried for a long time after his recovery, but I have not been able to ascertain the exact period. He is not included in any of the averages previously discussed.

Further, I should very much like to have the opportunity of seeing as many men as possible who, having been in actual contact with cerebro-spinal fever, have been subsequently found not to be carriers. These men should give valuable indications of those conditions which are unfavourable to the genesis of carriers.

Just as an obstinate carrier of the diphtheria bacillus may often be made to clear up quickly as the result of the removal of his tonsils, so it may be that some simple surgical procedure, such as the removal of the anterior half of the middle turbinals, by throwing open the ostia of the majority of the accessory sinuses, might lead to a shortening of the period of isolation for meningococcus carriers.

One case in the table of normals was in a hut in which a man died of the disease, and was, after three swabs, found to give a negative result in each. His contact index is 1 and his antral index is 0 for each side.



In these various ways a mass of data could be obtained which, being collected by a single observer, should be free from differences of personal equation, and which on analysis should yield really valuable and well founded information.

## TWO CASES OF VULVITIS CAUSED BY THE ACCUMULATED SECRETION OF TYSON'S GLANDS.

By JOHN D. MALCOLM, F.R.C.S. EDIN.

CHRONIC inflammation of the vulva is often difficult to cure and a source of much distress from the persistent itching. Local cleanliness is recommended in all the textbooks as an essential of treatment, but an accumulation of secretions under the prepuce of the clitoris is not generally mentioned as a special source of trouble. The following case shows that an irritation there may be easily overlooked:

### CASE I.

I removed the prolapsed and gangrenous portion of a urethra which stood out quite half an inch from the meatus. The patient's age was 75. She had every advantage of circumstances for keeping the parts clean, and she was scrupulously careful in this respect in all ordinary ways. A good nurse was engaged, and during the operation I did not notice anything that suggested a need for particular examination of the prepuce. The gangrene seemed to account for the vulvitis. Ten days later the urethra was healing well though slowly, but the patient complained much of itching, which was a long-standing trouble, and on lifting up the prepuce a layer of stale secretion was discovered, under which the parts were obviously irritated. This patient's medical attendant writes that "after two or three cleansings of the prepuce the irritation, which had been a cause of constant suffering, entirely disappeared." He adds that he has found a similar condition and treated it with success in two other cases.

### CASE II.

A healthy-looking, well-cared-for country child, 2½ years old, was sent to the Samaritan Free Hospital on account of a vaginal discharge which was said to be at times so offensive that all who came near were conscious of it. No proper examination was possible until an anaesthetic was given. Then it was seen that the clitoris was completely covered by its prepuce, the edges of which were adherent back to the junction of the labia minora. The whole vulva was inflamed. A knife was required to expose the clitoris, which was only partially adherent. Under the deepest part of the prepuce the secretion of Tyson's glands was found in small inspissated granules exactly as in a case of persistent phimosis in the male. These granules were big enough to be seen and felt through the skin. The offensive discharge ceased very quickly after the parts were exposed and cleaned.

These cases have led me to examine carefully the fold of skin over the clitoris as occasion offers in the course of operations. This fold must, in some cases, be lifted from its position before its under surface can be fully seen, and a white sticky secretion may be found there, although there are no signs of irritation. Occasionally it is quite difficult to clean the parts even under an anaesthetic, because of the tight fitting of the prepuce over the end of the clitoris. It would appear therefore to be worth while, in all cases of intractable vulvitis, to make a thorough examination of the under surface of the prepuce, with the aid of an anaesthetic if necessary.

## THE VALUE OF ARTIFICIAL PNEUMOTHORAX IN THE ARREST AND PREVENTION OF HAEMOPTYSIS IN PULMONARY TUBERCULOSIS.

BY

Z. P. FERNANDEZ, B.A., M.B., CH.B. LEEDS,  
RESIDENT TUBERCULOSIS OFFICER, LEEDS CITY SEACROFT  
SANATORIUM.

THE article in the BRITISH MEDICAL JOURNAL of March 16th, 1918, on the collapse treatment of pulmonary tuberculosis has induced me to record the following consecutive cases treated by me during the last year in which severe and persistent haemoptysis was arrested, and in all but one, in whom the treatment was not continued, so far prevented. All the patients believe in the efficacy of the

treatment, and the majority willingly continue it after leaving the sanatorium; they come in the morning for an induction, and by the evening feel fit to get home.

The cases recorded are only those of severe and persistent haemorrhage in which the usual rest, dietetic, purgative, and time-honoured morphine injections, calcium lactate in large dose, and terebene had been of little value.

### CASE I.

Labourer, aged 52. Active signs in right upper lobe. Tubercle bacilli in the sputum. Haemoptysis 2 to 3 oz. daily for a month. The first induction with 300 c.cm. of oxygen reduced the amount, and the second with 600 c.cm. of oxygen, four days after, completely arrested the haemorrhage. A third induction of 600 c.cm. was given a week later. The sputum, after a temporary rise the day after the induction, fell to 4 oz. daily, then to ½ oz., and later to less. For the last six months he has had no haemorrhage, and when I saw him last he was working with very little discomfort.

### CASE II.

A soldier with active disease of the right lung and arrested disease of the left. He had had intractable haemoptysis, varying from 6 to 10 oz., for the last two years. He came under my care early in 1918 with haemoptysis nearly a pint a day for a week. I gave him an induction of 550 c.cm. oxygen, but owing to fibrosis there was some difficulty, and the operation took nearly an hour. The next day the amount of haemoptysis was considerably lessened. On the third and fifth days I gave him an induction of 600 c.cm. of oxygen with very little difficulty, and the bleeding was completely arrested. He had three more inductions, varying from 1,200 to 1,800 c.cm., before being discharged, and for the last five months has been free from haemoptysis.

### CASE III.

In a nursing sister with severe haemoptysis and active disease of the left lung, the haemorrhage was arrested after two inductions of 600 c.cm. each at the interval of a week. She has had over eighteen inductions during the last ten months, and her general condition has been considerably improved. She has had no further haemorrhage.

### CASE IV.

A girl typist, with active disease of the left lung, with a basal cavity, and characteristic amphoric breathing and slight involvement of the right lung, had had occasional haemoptysis of 5 to 10 oz. for a month, and the sputum was always stained. On admission she was very ill, and the prognosis was not good. Treatment of artificial pneumothorax was proposed, but the patient was reluctant to consent. The staining of the sputum continued, and eventually she asked to be submitted to the treatment. After two inductions of 500 c.cm. of oxygen every other day the haemorrhage was arrested. She had four more inductions, from 800 to 1,200 c.cm. of air and oxygen, with the result that the cavity signs disappeared, the moist signs became dry, and she gained over a stone in weight. She was discharged fit for light work in four months, and she has had no further haemorrhage.

### CASE V.

This was a sturdy man who had profuse haemorrhage and tubercle bacilli in the sputum. He was admitted almost collapsed. There were very few signs in the left lung. Four inductions of 600 c.cm. of oxygen and air in a week were followed by complete arrest of the haemorrhage. He is still going on with the treatment and has been free from haemorrhage.

### CASE VI.

A girl with fibrotic disease and continuous bleeding and tubercle bacilli in the sputum, had bilateral disease. On two occasions left artificial pneumothorax was tried, but the bleeding, though lessened, was not arrested; the right side was then tried with 600 c.cm. of oxygen on four occasions; complete arrest of the haemorrhage ensued.

### CASE VII.

In a bricklayer with persistent haemoptysis of three months' duration and bilateral disease induction on the right side was tried twice (200 c.cm. each) with some benefit, and as the haemorrhage persisted I tried induction on the left side with 200 c.cm., which completely arrested the bleeding. This was repeated on two occasions (500 c.cm. each). He has been doing well ever since.

### CASE VIII.

A foreign university student with profuse haemorrhage, who had over twelve inductions, varying from 600 to 1,200 c.cm., of air and oxygen. After three months without haemorrhage, he discontinued the treatment, but returned recently with a haemorrhage which has now been arrested.

In the three other cases of less severity the bleeding was arrested after one induction, but the treatment has been repeated. I have also given over 300 inductions in cases of unilateral disintegrative type and in a few bilateral cases with marked benefit. I have been fortunate enough to have no accident or complication whatever in the mode of treatment.



## An Address ON THE FUTURE OF THE MEDICAL PROFESSION.

BEING THE CONCLUDING PART OF THE CAVENDISH LECTURE,  
DELIVERED BEFORE THE WEST LONDON MEDICO-  
CHIRURGICAL SOCIETY ON JULY 11TH,

BY

MAJOR-GENERAL SIR BERTRAND DAWSON, G.C.V.O.,  
C.B., M.D., F.R.C.P.,

ARMY MEDICAL SERVICE; PHYSICIAN IN ORDINARY TO H.M. THE KING;  
PHYSICIAN TO THE LONDON HOSPITAL.

### PART II.\*

#### TEACHING HOSPITALS.

ALL teaching hospitals must henceforth be guarded and retained for their special objects. Their prime functions are education and research. They set the standard for the rest of the country. It should not be the primary function of a teaching hospital to serve the clinical needs of the district in which it is situated. It should gather its patients from everywhere, and in addition to its own district it will no doubt be fed from hospitals and clinics far and wide, to the advantage of the patients and doctors and the furtherance of knowledge.

The local or central hospital belongs to its town or its county. The teaching hospital belongs to the nation. The former should be under the new health authority; the latter should be affiliated to a university or the Ministry of Education.

Attached to the teaching hospitals should be various institutes where the domains of medicine and social service will meet. As the diagram shows, they would represent such subjects as maternity care, infant welfare, school hygiene, trade and occupational diseases, tuberculosis, venereal diseases, etc., and be directed by distinguished specialists, who would be on the staff of the hospital.

These institutes, models of their kind, would give post-graduate training to doctors and instruction to nurses and social workers. They would have the advantage of the educational facilities and influence of the teaching hospital, which would be the link between them and the university; and in their turn would link the hospital with social service and the needs of industrial life. Further, by these institutes doctors would gain the knowledge of preventive medicine they now lack; would appreciate the claims of social service, and prepare themselves for taking their rightful places in the communities they are destined to serve. As has been stated above, no doctor would be eligible for a post in a health clinic without evidence of special study and knowledge.

#### The Staff of a Teaching Hospital.

Elections to the staff of a teaching hospital should not be exclusively in the hands either of the staff or the administration of that hospital; an academic council,

carefully selected by the university, should also have powers of recommendation; and to avoid the dangers of in-breeding the claims of all suitable candidates should be considered. The size of the staff should be less rigid; it is not advantageous that the number of physicians and surgeons should always conform to a fixed standard; because a physician or surgeon resigns it should not be considered a necessity forthwith to fill his vacancy. The distribution of beds into a fixed number for each member of the staff should cease, and when a surgeon or physician resigns the exact number of beds allotted to him should not of necessity descend to his successor. Though all members of the staff should have beds they should only begin with a few; then if there grew up a man of promise and reputation, his clinic would be developed and his beds increased. In this way a clinic would grow up round a man instead of a man being sought out to inherit a clinic.

It cannot be expected that one hospital should at the same time possess all the excellences. Let it develop those departments which happen to correspond to the talents of its existing staff. The junior members of a staff are of necessity men of promise rather than of fruition; from them will emerge one or more of commanding talents; let such be given increasing opportunity and equipment, and there will grow up a great department or clinic centred round the man. A great teaching hospital would then not only have beds for general medicine and surgery, but would develop special branches; further than this, there should always be beds available for collective investigation of problems which arise from time to time. Now, investigation is too often started by a single individual who is only competent to undertake one aspect of it, whereas for fruitful results a carefully selected team is needed. An encouraging example of collective research is afforded by the work recently done on trench fever by medical officers of the British and American armies.

To be more definite, I should roughly allocate one-half of the

beds to provide each member of the staff with a fixed minimum; the remaining half would be available to strengthen clinics above referred to and for collective investigation. Thus teaching, progress, and research would all be provided for. By such a plan power would go to the most efficient, and the intellectual life of the hospital would be led and inspired by a few men of outstanding abilities.

It may be urged, Why not, instead of this oligarchy, place the whole of medicine under one professor, and likewise surgery under another, and so on, and give these complete control? The answer is, that would be a retrograde step. Medicine and surgery have become subjects each too big to be compassed by the brain of one man. A man placed at the head of so large a subject would need to have encyclopaedic knowledge, great breadth of outlook, and exceptional powers of leadership. I do not say that such a man is never to be found, but he is rare; I know of no such man in this country. The real danger under such single rule is that thought would be cramped and stereotyped into one pattern, there would be none of that free play of mind which results from the intercourse and camaraderie of equal colleagues. If the

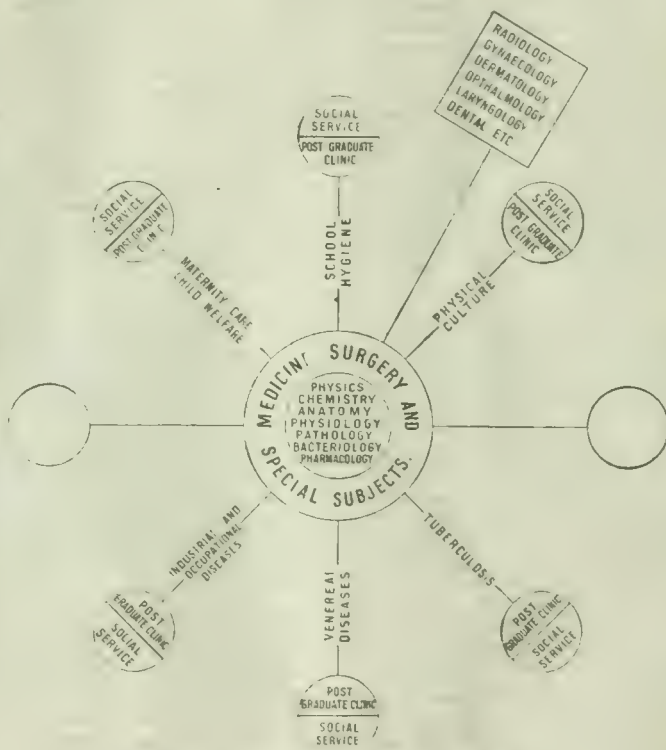


Diagram of the Service of a Teaching Hospital.†

\* Part I was published in the JOURNAL of July 15th, 1918, p. 25.

† For this diagram I am indebted to Major Pinchard, R.A.F.



single head happened to be unsuitable the whole department might become sterile for years at a time. Further than that, if he happened to be narrow and selfish, an evil would arise, which is by no means an uncommon result of this system in Germany, whereby junior men of talent are held back and exploited, and receive neither opportunity nor credit for bringing forth their own work.

#### *Terms of Service in Teaching Hospitals.*

The men on teaching hospitals have chosen an academic career, and they must pursue it. This means sacrifices as well as compensations. Under the present system they cannot devote enough time to their hospitals, and in the hospitals their energies are too much absorbed by routine duties. Many a promising man has been spoilt by the combined effects of unpaid hospital routine and the early struggles for consulting practice. Why not, then, it may be urged, a whole-time service for teaching hospitals under which the members of the staff would receive the whole of their incomes by salary, private practice being forbidden? The reasons are these: An exclusively whole-time service would produce a narrow caste of academic men, who would be aloof from the problems and difficulties presented by disease in the world of action, and would drift too much into esoteric paths. It must never be forgotten that disease does not possess constant features, but varies in manifestations according to its environment.

How are general practitioners to be trained for their work by men who are themselves wholly ignorant of the problems and conditions of disease in the world of action the practitioner will have to meet? It must never be forgotten that we exist not only to pursue knowledge, but to show the application of that knowledge in the world of action. Further, it would surely be unwise to eliminate entirely the unconscious stimulus to effort which the earning of professional income affords.

But though these reasons are, I think, conclusive against a universal application of the whole-time principle to teaching hospitals, I think a limited application of it is sound. For the first five years after his appointment every member of the staff should be a whole-time officer and forbidden private practice; he should either live at or in close proximity to his hospital, and he should be paid a salary which would be adequate for him to live comfortably, though not in an expensive professional quarter. During those five years the junior would, with singleness of purpose, apply himself to training, teaching, and research; he would discover his bent, and would be able to make manifest his worth. He would be saved from that exhausting struggle after scratch fees which a man at the start and without reputation has to submit to, and which is apt to paralyse his academic activities. For the succeeding ten years a member of the teaching staff should give half his time to the service.

It may be that members of the staff will arise whose gifts and tastes are entirely academic, and who may not possess the aptitude for work in the outside world, whether on the curative or social service sides of medicine. If that were so, by all means let facilities be provided for such men to remain whole-time workers at a salary. I think it is probable that one or two such whole-time workers would strengthen and keep balanced the staff of a teaching hospital.

As the habit of institutional treatment spreads, in the community, which it assuredly will, consultants will more and more focus their private work in a single institution, with the result that their time will be economized and their earning capacity relatively increased. This will compensate for the larger demand of the hospital on their time.

In a new city no doubt a private clinic could be built in close proximity to a teaching hospital, but in a long-established city like London this might be impossible for obvious reasons. The increasing demand for institutional treatment by payment, because of its greater efficiency, may be seen in every morning's post-bag of a big teaching hospital.

To avoid staleness and parochialism members of the staff should periodically be sent away for a period of from three to six months on tours of study.

The old-fashioned line of demarcation between the work of the physician and surgeon should cease. Half of their beds should be common to both of them, corresponding to

the idea that a large number of diseases have both medical and surgical aspects. Indeed, in many branches the surgeon and physician would be the leaders of a team of workers.

Radiographers and laboratory workers should be brought into closer contact with the wards. The day has come when each member of the staff should have attached to him, besides his resident officer, two or more clinical assistants, the number varying with his work. These would be men who have distinguished themselves as residents in some teaching hospital; they would be whole-time workers, devoting themselves to work in their chiefs' wards, to teaching and research, care being taken that at least one-third of their time would be free for study and research work of their own.

As regards salaries for hospital services, these should be adequate, but not lavish; their amounts should be guided by the amount of time and energy each member of the staff gives to the hospital, and by the consideration that junior men need more help in proportion than senior men.

#### *State Aid Essential.*

Is it not obvious that no teaching hospital could provide the equipment and staff necessary to maintain such a service at full efficiency unless it were helped by endowment or State aid? State aid on a small scale is in being; the Education Ministry gives grants for students and nurses, the Local Government Board gives grants to special departments like venereal clinics, and the Medical Research Committee assists research. No doubt, too, the Health Ministry, if formed, would subsidize health clinics. Such a policy of State subvention has the merit of being elastic, and is compatible with the continuance of voluntary support combined with adequate central control. On the other hand, some of the great voluntary funds, like King Edward's Hospital Fund, maintain that narrow outlook which cramps the progress of medicine, actually forbidding that any part of their grants should be expended on investigation. The money voted by them may be only spent on the immediate needs of actual patients, but an investigation which might in the future help thousands of patients cannot receive their aid. Teaching and research in England are still starved. In European countries the State endows them; across the Atlantic either the State or the far-sighted millionaire endows them; here from neither one source nor the other is there adequate help.

#### *Evolution, not Revolution.*

The scheme thus outlined involves change but not upheaval. While modifying methods, it upholds the ideals of English medicine—the essential principle that a student should be taught his profession in the wards by personal contact with the sick would be preserved; thus he learns disease not only from what he is told but by what he sees. He learns to observe, to inquire, to understand; he is trained not only in knowledge but in sympathy; he gains not only judgement but insight; he early faces one of the greatest difficulties—namely, that the symptoms of disease are not constant in different individuals, nor have they the same value; above all, he trains his powers of intuition, without which he can never reach the best in clinical medicine.

Some well-meaning people, obsessed with the imagined perfection of all that is German, have wanted us to imitate the German methods of teaching medicine. The German system has fundamental defects. The students seldom come into responsible contact with the patients until they are nearly or actually qualified. They learn at a distance and secondhand in largely-attended clinics; not, as with us, in small numbers round the bedside, where as dresser or clerk each learns by actual observation, not only about the disease, but about the individual patient—in fact, *his* patient. We do not wish to imitate a system under which the patient is apt to be regarded as a piece of machinery, resulting too often in a callous disregard for the feelings and sufferings of the sick. We want intelligence, but we also want sympathy; we want efficiency, but we do not want it to be mechanical and soulless. It is an interesting reflection that two branches of treatment which, above all others, go to assuage suffering—namely, the art of nursing and the art of anaesthetics—are in their supreme efficiency coterminous with the English-speaking world. On the other hand, let it be freely admitted that for post-graduate work and for certain specialities the teaching is



better organized in Germany than it is here. Those defects we can and must remedy, but without sacrificing the foundations of our own better system.

#### *Post-Graduate Teaching.*

This is an appropriate place to refer briefly to the need for organization of post-graduate study. Every encouragement should be afforded for doctors to seek periodically knowledge and inspiration in the schools, and during such "study leave" their salaries should be continued. The war will increase the importance of the question, because thousands of doctors from the English Dominions and the United States, who previously visited Germany and Austria, will now turn towards Great Britain and her European Allies. Likewise we in this country will cross the Atlantic in increasing numbers, to our own great advantage. One looks forward to a comprehensive scheme of post-graduate study co-ordinated with similar schemes in allied countries whereby we shall widen our mental horizon and constantly extend our knowledge.

#### EARLY DIAGNOSIS: THE BEGINNINGS OF DISEASE.

Reverting now to the larger question, it will be useful briefly to consider the organization we have been discussing from the standpoint of early diagnosis.

Early diagnosis is of supreme interest alike for the individual and the community, and the more early the diagnosis the more preventive and successful in character becomes the treatment; and, one step further, the more preventive the treatment the further it is removed from the bottle of medicine and the more it requires régime, method, and environment.

We are too much occupied with end results. We need to catch the diseased process sooner, when we can cure it effectively. Take Graves's disease, chronic Bright's disease, apoplexy. These are late expressions of diseased processes, far removed in time from their early beginnings, and it is these early beginnings we need to detect and treat. In short, we want the early diagnosis of the clinic followed by the preventive treatment of the sanatorium and the spa. This brings me to a cognate question—namely, that the problems of health at any epoch bear a relation to the existing conditions of life.

In our day the infections are being combated by improved sanitation, efficient isolation, and inoculation. Another group of diseases will be combated by healthy dwellings and workshops and the supply of good air and food.

#### *The Strain of Modern Life.*

But there is one thing which we cannot entirely prevent but must aim at counteracting, and that is "strain." You cannot increase the speed of life by motor cars, flying machines, telegraphs, and telephones, you cannot render all effort more intensive, without being faced with the problem of "strain." And, incidentally, if people are tuned up to too high a potential by work, they have a tendency to keep the same high potential in play, with the result that many forms of modern amusement produce as much strain and exhaustion as work. It would be interesting perhaps to consider some of the forms under which strain expresses itself.

In some it affects the arteries, and after years of its wearing effects actual illness comes on the scene in the form of aortic disease, arterio-sclerosis, cerebral haemorrhage. Or, again, it affects metabolism—the body chemistry deviates from virtue—the gouty state may show itself; it may be the blood pressure rises or renal function becomes inadequate, till finally disease comes in the form of gout or nephritis. Or, once more, strain may show itself in the plain muscular fibre of the body. This type is an interesting study. It is spare of frame, with a shallow abdomen, and often with a low blood pressure and cold extremities. In such subjects, with fatigue and strain, the plain muscular fibre gives out and the tone and motility of the hollow viscera fail; they thus get atonic dyspepsia, constipation, leading later to conditions like intestinal stasis, visceroptosis, and colitis. These people have abdomens which are ever responsive to their worries and cares—they feel abdominally, and for that reason seldom think imperially.

How often when a patient comes to you, it may be with

headache, insomnia, cardiac irregularity, indigestion, abdominal pains, the bottom fact is "overstrain." He will not be well till the "strain" is treated. Medicine will not do that. Repose and regimen will.

True, you may help him by advice and medicine to bridge over a period while he is concluding work of critical importance. He may be enabled to postpone payment, but not to avoid it. If he tries to escape altogether, the overstrain of to-day becomes the disease of to-morrow, and the defect of function is succeeded by the defect of structure.

#### *Sanatoriums and Spas.*

These early deviations from health often need institutional treatment. The proper conception of sanatoriums and spas is as fields for early and preventive treatment.

It is not always necessary or possible for patients to suspend their active employment during treatment. On the outskirts of a big city there should be organized sanatorium treatment with the provision of a sanatorium, open-air bungalows, equipment for physical culture, baths, and other forms of hydrotherapy, games, and mental diversion—the whole organized and controlled by a highly trained staff of medical men.

Take as an example a man of forty pursuing a strenuous career: he is getting thick in the neck and bulky of frame, his chest expansion is declining, he easily becomes breathless, his blood pressure perhaps a little raised. He is a reasonably careful liver, and yet he is beginning to deteriorate. Now is the time to treat him. A prescription will not do it. There is no talisman for such a condition. He needs an ordered régime.

Take, again, the middle-aged subject with glycosuria, the victim of inveterate constipation, of chronic dyspepsia, or of recurrent neurasthenia. Innumerable examples will at once come to the minds of my audience. Such patients often have to continue their employment. It would often, indeed, be a medical advantage that they should. They would live for a time—say six weeks—in the institution, where each would eat his prescribed diet, pursue his exercises and games, take any baths or other treatment, and his mental surroundings would be restful and yet cheerful. Such treatment would often be compatible with, and indeed aided by, the pursuit of the usual employment. You would not only cure but you would also educate the patient. You would show him how to keep health and prevent disease. Think, too, what a missionary of health he would be to others. Imagine, also, what opportunities for research and study such an organization would afford into the beginnings of diseased processes.

I hear some of my critics say: What a Utopian dream! But everything of any good in the world has started with a dream. There is nothing impracticable in such a scheme; it would dislocate and disturb nothing—neither organization nor vested interests—because it breaks new ground. As far as realization goes it presents no insuperable difficulties. In any district it needs a far-sighted rich man and skilled advisers. Its underlying idea has been translated into effective action by the Army Medical Service under the stress of war in the shape of the convalescent camps in France and at home. What the army can do in war surely the civilians can do in peace. My profession cannot provide the rich men; it does not grow them, but it can and would provide the skilled advisers. Such a scheme needs careful planning and execution such as only we can give. It must be a medical organization throughout.

The spa is another application of the same idea except that it is on a larger scale, and the patients are resting from their ordinary avocations. The proper attributes of a spa are strangely misunderstood. The public visit the spa in the same spirit as Naaman visited Elisha in that they seek some magic short cut to health. I do not say that natural waters are not sometimes a useful adjunct to a spa, but they are quite subsidiary to its climate, its position, and the careful organization of its régime and environment, physical and mental. Testimony to the truth of this statement is that many of the most successful spas in Europe are those whose waters have no special qualities.

Amongst the features needed are the following: Good natural position—the whole resort planned so as to present the various treatments efficiently though pleasingly, and in an environment of beauty and repose; physical culture in



its various forms, with ample accommodation for games which, though remedial, will be attractive; baths and all forms of hydrotherapy; electrical treatments; music and other entertainments which rest and divert but do not excite the mind; suitable dietaries so arranged as to be attractive and not irksome. Natural waters though advantageous as an addition to be in no way a substitute for the foregoing necessities.

The running of such a spa presupposes guidance and control by the doctors acting in conjunction with a far-sighted municipality ready to spend adequate capital in laying out its resort on generous and comprehensive lines; it presupposes hotels designed and administered for those who are in search of health. I know of no resort in this country that fulfils these conditions, though there are many places possessing the natural advantages.

In one important resort an hotel was urged to at any rate provide a "cure" menu, and the reply was a *non possumus* for fear of damaging the prosperity of the local races. Spas need clinics, special hotels, and sanatoriums all working together for a common object. The need and opportunity are the greater because many of the Continental resorts will henceforth be closed to us.

Resorts fulfilling the conditions I have laid down for city sanatoriums have a great future of usefulness, and should be brought within the reach of all classes. They would repay their cost many times over from the increased health and robustness of those visiting them, and on account of their wide educational influence.

#### *The Need for United Action.*

I have now concluded my theme. Its length has extended beyond the usual limits of a lecture, but I hope this has been due to its many aspects, and not to prolixity on my part. I have tried to lay down what I conceive to be the right lines along which sound progress should proceed, avoiding attempts at detailed schemes, not because I underestimate difficulties, but because agreement on principles must precede elaboration of plans.

Attempts are being made by responsible bodies to guide the profession at this important period of its history along the paths of sound thinking and effective action. The British Medical Association, appreciating fully its responsibilities, has devoted much ability and infinite pains to thinking out a scheme of constitution for a Ministry of Health. The Royal Colleges of Physicians and Surgeons are forming a joint committee, which will be enlarged so as to make it especially representative of the academic side of medicine and surgery. This joint committee will in no way conflict with the work of the British Medical Association, but will rather view the problem from a somewhat different angle. The work of the two bodies will, I hope, be complementary the one to the other and lead at no distant date to co-operation and thus to that united action which must be the supreme object of us all.

Let me, in conclusion, express my conviction that never within memory has the profession been faced with issues so momentous as now—issues which involve the future welfare and prosperity of the nation and our own position in the ranks of its trusted leaders. We are at the parting of the ways. Do let it be the way of large and comprehensive outlook leading to strong and effective action.

While passing through this wilderness of struggle and suffering we are encouraged by the vision of a land of promise where a new and nobler era of human progress will dawn, and in the struggle to secure that this land of promise shall become a land of performance it will be the privilege of our profession to play a conspicuous and honoured part.

*Postscript.*—Expressions of opinion, suggestions, and criticisms will be welcomed by the author 32, Wimpole Street, W. 1.

#### BIBLIOGRAPHY.

- Flexner: *Medical Education in Europe*. Bulletin No. 6 of the Carnegie Foundation for the Advancement of Teaching. 1912.  
 Appendices to the 3rd and 5th Reports of the Royal Commission on University Education in London, 1911, 1912.  
 Rolleston: *Universities and Medical Education*. *Lancet*, October, 1912.  
 Waldorf Astor: *The Health of the People*.  
 Brend: *The Health and the State*. 1917.  
 Haslip: *The State, the Poor, and Our Profession*. *BRITISH MEDICAL JOURNAL*, July, 1912.  
 Griffiths: *Hospitals, Yesterday, To-day, and To-morrow*.  
 British Medical Association: *A Ministry of Health*. 1913. (Pamphlet.)

#### DISCUSSION.

At the conclusion of the lecture, Dr. R. F. OXLEY, President of the West London Medico-Chirurgical Society, who was in the chair, invited discussion.

Major HENRY DUTCH criticized Sir Bertrand Dawson's scheme for "garden suburb hospitals" as too Utopian. He drew a picture of a town of 80,000 people served by forty doctors, each of whom would want separate consulting-rooms at the hospital, and separate waiting-rooms as well, lest their respective patients should mix! He urged further that unless there was a union of medical men who would stick together in the same spirit of loyalty as a union of cabdrivers the voice of pioneers like Sir Bertrand Dawson would be a cry in the wilderness.

Sir JOHN BROADBENT said that he believed that a complete state service would be the ruin of medicine, chiefly by the withdrawal of competitive stimulus. Therefore the so-called compromise which Sir Bertrand Dawson had brought forward had points of value. A drawback to his proposal for treatment centres was that, while it would be impossible to utilize every medical man in a district, a process of selection would give rise to grievances. Moreover, it would require little less than military discipline to compel all classes of patients to attend at a given centre at a fixed time. He felt that middle-class people with limited incomes were the least fortunate in the matter of medical provision, and he hoped that some arrangement might be made at state expense for this class of patient.

Dr. E. H. M. STANCOMB said that if the critics of a more widely extended public service had been with him lately in his capacity as an examiner on a recruiting medical board and had seen the large proportion of unfit, prematurely aged, and physically feeble with whom he had had to do, they would never have felt any more fear as to a possible lack of stimulus in a vast co-ordinated public service. The physical condition of a large proportion of the population would itself furnish the stimulus. He regarded it as necessary that the general practitioner should be thoroughly aware of the local public health conditions, particularly housing conditions, and he might serve with advantage on certain public bodies.

Major GORDON DILL said that the process of evolution in their profession had given place to a condition of impending revolution, chiefly as a result of two causes—the Insurance Acts and the war. They should be prepared for that revolution. The situation was full of possibility, and the dawn of a new era for the medical profession could not be long delayed.

Dr. G. E. HASLIP asked how Sir Bertrand Dawson was going to force these views on the profession and on the Government. He referred to the immense difficulty of moving in matters which involved administrative changes. If anything was to be done it was necessary to sound a trumpet and let Parliament know that one really meant business.

Sir ROBERT MORANT rather challenged the remarks of the last speaker, and said that the real necessity was not so much that Government departments should be energized but that medical men should take a much bigger part in affairs. He instanced the bill which was now rapidly slipping through, making whatever provision the local authorities pleased for nursing and expectant mothers. What voice had the medical profession raised in that matter? Perhaps many in that room were unaware of the measure or at least of its imminence. It was very necessary that the profession should be thinking of these things in a practical and constructive way.

Dr. F. G. LLOYD entered into a detailed comparison of the terms and conditions of public service and private practice; Dr. F. COKE (Ashford) dealt with certain matters from the country doctor's point of view; and Dr. A. E. RUSSELL regarded it as of the first importance to discover whether or not the profession was in favour of some sort of state control.

Sir BERTRAND DAWSON, in a brief reply, said that half the questions and criticisms were really answered in the full text of the lecture itself. His own scheme of hospitals was an evolution, not a revolution; he had never suggested that they should be put up all over the country, but a beginning might be made on a small scale, and development take place gradually. He knew that visits to the home would not be done away, but all the same an increasing number of people would want to go to hospitals



and clinics. With regard to Major Dutch's destructive criticism, that showed the kind of spirit which was the great obstacle to progress; on such lines the profession would find itself fifty years hence where it was to-day. It was evident that many things had got to alter, and the only question was whether the profession should lead or be dragged. It had been asked by what machinery the opinion of the profession could be elicited. The machinery was already available in the shape of the British Medical Association, whose members had only to make their feelings known. But he warned them that unless they united their forces and formulated their policies they would not be taken into account in the legislative changes which would vitally affect the profession.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### ACUTE INTESTINAL OBSTRUCTION DUE TO STRANGULATION THROUGH THE GREAT OMENTUM.

AMONGST the various causes of acute intestinal obstruction strangulation of a portion of bowel through an aperture in the great omentum is given as one, but not many cases are on record. The following case is an instance, and is an example also of an acute abdominal condition impossible to diagnose positively before opening the abdomen.

A man, aged 43, was brought to the King Edward VII Hospital, Cardiff, at about 9 p.m. on June 20th, 1918. He had been seized suddenly with acute pain over the upper part of the abdomen at about 1.10 p.m. the same day, about five minutes after his dinner. He referred the pain particularly to the left half of the epigastric region; it was so severe that he writhed with it and had to go to bed. He was sick soon after and had vomited several times before being brought to the hospital; the vomit was not very foul-smelling. His bowels had been moved as usual in the morning, but not since the attack. He was suffering from severe shock. The tongue was dry and coated; the pulse was 68, the respirations 30, and the temperature 97°. The abdomen was slightly distended, tympanitic in front and slightly dull in the loins; liver dullness was not diminished; the abdomen was rigid all over, but especially in the epigastric region, where it was almost board-like; the left half of the epigastrium was very tender. The patient stated that he used to suffer occasionally from discomfort, but not actual pain, after meals; he had never been jaundiced. From the history, the mode of onset, and the condition of the abdomen we diagnosed perforated gastric or duodenal ulcer, and operation was decided on.

Mr. J. W. Geary Grant, acting assistant surgeon to the hospital, operated at 10 p.m., and I assisted him. The patient was given a hypodermic injection of morphine gr.  $\frac{1}{2}$  and atropine gr.  $\frac{1}{100}$  prior to the operation, and a mixture of chloroform and ether (1:3), and also pure ether. An incision above the umbilicus was made in the middle line and the linea alba divided. The peritoneum, which was purplish and clearly contained blood, was opened and a large amount of blood-stained fluid escaped; this showed that the condition was not due to perforated gastric ulcer. Thrombosis of the superior mesenteric vessels was first thought of, but the mesentery beyond some congestion was normal. Dark purplish, but not gangrenous, and slightly dilated coils of small intestine were seen. At least six feet of gut or more was found in this condition, at its upper end passing gradually into normal intestine; at the distal end a constriction groove was detected and there was a sharp line of demarcation as regards colour between the healthy and affected parts of the bowel on either side. An aperture was then found in the great omentum near its free margin, and through this the small intestine had prolapsed; the lower margin of the aperture, which was only the free edge of the great omentum, was stretched like a cord over the prolapsed intestine. The stomach, gall bladder, and appendix were normal. The band-like free margin of the aperture was cut between forceps and the ends ligatured—thus the strangulation was relieved. The great omentum, as a whole, was very thin, but nothing further was done

to it. The sanious fluid was let out and the abdomen flushed with hot saline, some of which was left. The abdomen was then closed in layers.

As the patient was in great shock when removed to the ward, continuous saline was given by the rectum, as also a hypodermic injection of pituitrin (1 c.cm.). The saline was continued for two days, and hypodermic strychnine gr.  $\frac{3}{10}$ , and eserine sulph. gr.  $\frac{1}{100}$ , administered four times a day for three days. A turpentine enema was given the day after the operation to overcome the abdominal distension, and another the day after that. The bowels moved naturally and freely on the fourth day without having anything by mouth. He is making a progressive recovery, and his general condition is quite satisfactory.

Generally in such cases the great omentum contracts an adhesion to some part of the abdomen, and this adhesion gets stretched to a band which eventually leads to strangulation, but in this instance there was no adhesion between the free margin of the great omentum and any part of the abdomen. The small intestine herniated through an aperture in the great omentum and this caused the strangulation.

I am indebted to Mr. Grant, under whose care the patient is, for permission to publish the case.

J. K. DATTA, M.B., M.R.C.S., L.R.C.P.,  
House-Surgeon, King Edward VII Hospital,  
Cardiff, Wales.

#### THE REDUCING BODY IN THE CEREBRO-SPINAL FLUID.

THE paragraph in the JOURNAL of July 6th (p. 15) recalled to my mind that twenty-two years ago I recorded in the JOURNAL of 1896 the amount of copper reduced from Fehling's solution by 10 c.cm. of cerebro-spinal fluid in seven cases of general paralysis. It varied between 12.5 and 22 mg.; the average was 16.75 mg.

In the *Journal of Mental Science*, 1910, I recorded the amount in a further series of cases—in eleven general paralytics, one tabetic, and one case of meningeal syphilis; the average for the thirteen was only 14.6 mg., but in the fluid of one general paralytic none was found—the only case in which I have found it to be absent. The amount in these twelve (excluding the one in which there was none) varied between 8 and 21 mg.

Among seven epileptics—four females and three males—it averaged 19 mg., varying between 14 and 21 mg. In nine cases of dementia praecox it averaged 20.3 mg., varying between 15 and 25.5 mg. In six cases of Korsakoff's syndrome the average was 22 mg., varying between 15 and 29.5 mg. In ten unclassified insane women it averaged 19.8 mg., varying between 14.5 and 25.5 mg. So far as my experience went I found this substance to disappear rapidly from the fluid after death.

JOHN TURNER, M.B., C.M.Aberd.  
Brentwood Asylum, Brentwood, Essex.

#### TETANUS NEONATORUM.

I WAS interested in Dr. Renton's case reported in the BRITISH MEDICAL JOURNAL of June 29th, 1918. It reminded me of a similar case which was in my care at the Fulham Infirmary about 1905. A male child 11 days old was admitted for fits, and although I have no notes by me, my recollection of the case is good. There was a condition of epileptiform convulsions of a severe type, with considerable rigidity of the jaw which should have suggested tetanus but did not. Feeding was impossible, and the fits were not affected by hot or cold baths or packs, by bromides or morphine, and I well remember their persistence even while I administered chloroform. The fits increased in violence and frequency until death. Being unsatisfied, I obtained permission for a *post-mortem* examination; I expected to find some head injury or perhaps cortical haemorrhages to explain the case. I found nothing of the sort, but noticed a red inflammatory zone round the umbilicus (which had separated), and oozing from a small broken area of skin at the umbilicus base was a little watery fluid. In Gram-stained smears from this slightly purulent liquid I was able easily to detect typical drumstick tetanus bacilli, and Dr. C. T. Parsons, the superintendent, was able to confirm my view.

In commenting upon the uncommon cause of this accidental death, the coroner, Dr. Oddie, remarked upon its medical interest and importance. Of course I could not



say whether the bacilli were conveyed to the umbilical region at the time of birth in the ligature used or upon infected scissors.

CHARLES RUSS, M.B.Lond.,  
M.R.C.S., L.R.C.P.

London, W.

## Reviews.

### TWILIGHT SLEEP.

DR. W. O. GREENWOOD<sup>1</sup> and Dr. C. WEBB-JOHNSON<sup>2</sup> have made two interesting additions to the growing literature of what is popularly called "twilight sleep," both founded on personal experience and both enthusiastic as to the value of the method, although they adopt different terms for the expression of their enthusiasm.

Dr. Greenwood's book contains a quietly reasoned account of the history and literature, and a useful and practical discussion of his own 200 cases; it may be recommended to any doctor who wishes to begin the use of the method in his own practice. His chapter on technique is most helpful. He is a loyal adherent of the "amnesia" as opposed to "analgesia" school. Of the results on the mother he says: "Probably the most striking after-effect on the mother is the remarkable absence of shock and exhaustion. In long, tedious cases which have occupied anything from twenty-four to forty-eight hours or more it is no exaggeration to say that the results are little short of spectacular." He had three cases of mitral lesion and three of marked albuminuria. He met with *post-partum* haemorrhage in three instances, all in patients who had previously so suffered. He had three cases of artificial respiration for the child, in each of which the cause was an ordinary obstetric complication. He gives illustrative case reports and a useful bibliography.

Dr. Webb-Johnson's book reveals a different atmosphere, and almost seems addressed to a different class of reader; it is certainly more distinctly propagandist. Possibly owing to the difference of the conditions under which work has to be done in the East he has adopted a system of standard dosage. He also gives illustrative cases and appends typical charts. We are indebted to his book for a new translation of "vitium cordis" as "twists of the cord."

### THE UNITED STATES DISPENSATORY.

We have before us for review the twentieth edition of that monumental work of reference, *The Dispensatory of the United States of America*,<sup>3</sup> which first appeared eighty-five years ago. The present edition is an immense volume of 2132 pages, and consists for the most part of articles on official and unofficial preparations arranged in alphabetical order. While the number of pages has been doubled since 1833, the amount of reading matter has been nearly quadrupled by increasing the size of the page and decreasing the size of the type. The twentieth edition follows the plan of the nineteenth, which appeared eleven years ago, and was reviewed in our issue of September 21st, 1907. The preface records the loss which American pharmacy has suffered through the death of Professor Joseph P. Remington, since 1880 one of the editors of the *Dispensatory*, who passed away whilst this edition was in the press. During the last ten years the advances in the pharmaceutical and medical sciences have been so great that a most extensive revision has been needed, and the work has been almost entirely rewritten. For the thorough performance of this task the staff of editors was doubled, and six names now appear on the title-page. The present edition is based on the ninth revision of the *United States Pharmacopoeia* and the *British Pharmacopoeia*, 1914. The original editors defined the objects of a dispensatory as "to present an account of

medicinal substances in the state in which they are brought into the shops, and to teach the modes in which they are prepared for use." In the standard form which it has now reached the official part of the *United States Dispensatory* may be looked upon as a commentary upon the *United States and British Pharmacopoeias*, expanded to include reference to such preparations of the *French Codex* and the *German Pharmacopoeia* as are generally used in the United States. The main body of the work is divided into three parts. Part I, occupying over 1,200 pages in double columns, contains a discussion of all the remedies recognized by either of the two pharmacopoeias used by English-speaking people. Part II consists of 452 pages of smaller type and deals with non-official drugs and preparations—that is to say, remedies which, though not recognized in the pharmacopoeias, yet by reason of their use in domestic or professional medicine, their toxic properties, their history, or the probability that they may prove valuable in the future, call for notice in an encyclopaedic work of this sort. An exhaustive description of all these substances is not attempted, but the aim has been to give in Parts I and II at least the essential facts and a key to the literature of almost everything used in medicine. The 168 pages of Part III are devoted to the tests and reagents of the two pharmacopoeias, weights and measures, and an abstract of the national formulary of the American Pharmaceutical Association. A copious index fills the last 168 pages. Since the numbering of pages is consecutive throughout the three parts, reference from the index is easy. The volume, as a whole, is a wonderful achievement—at the same time comprehensive and practical—and its usefulness to the practitioner and the pharmacist is unquestionable. The high price will, however, we fear, place it beyond the means of most of those who would wish that their bookshelves might groan under its weight.

### WAR SURGERY.

THE book on military surgery,<sup>4</sup> by Dr. MAUCLAIRE of the Charité Hospital, Paris, contains in its twenty-four chapters a comprehensive account of the present position of war surgery in France. Chapters on the general treatment of war wounds, and on traumatic and operative shock, are followed by a discussion of the various infections—for example, erysipelas, hospital gangrene, septicaemia, gas gangrene, and tetanus. Later chapters deal with the localization and removal of projectiles; with wounds of muscles, tendons, veins, arteries, and nerves; with gunshot fractures of the bones and wounds of joints, and with wounds of the head, brain, neck, spine, cord, chest, pleura, lung, abdomen, face, and the genito-urinary organs, and special attention is given to injuries of the mediastinum, pericardium, heart, diaphragm, liver, and spleen. There are chapters also on trench feet, frost-bite, amputations, and prosthetic apparatus. As examples from this very extensive list, we have selected two common injuries occurring in the war, namely, gunshot fractures of the femur and wounds of the knee-joint. In writing of the treatment of fractures of the lower extremities, especially of the femur, for which so many forms of apparatus have been devised, the author condemns the use of simple plaster appliances to maintain reduction, radiography having proved the inefficacy of the method. He, however, considers it quite good as a means of maintaining more or less immobility during transport. He describes many forms of apparatus for the treatment of fracture of the thigh, for example, the double inclined plane, extension apparatus with weights or elastic bands, metallic frames, suspension with extension, Thomas's splint (so largely employed and so highly valued in both the British and Italian armies), ambulatory apparatus, and so on, but insists on the necessity of frequent radiographic examination, to control the results whatever form of appliance is used. The author divides wounds of joints into two great classes—those with slight and those with severe bone injury. He claims that in the first class the classical treatment should, as the result of experience in this war, be modified. Provided the case comes under observation within twenty-four hours after the receipt of the injury,

<sup>1</sup> *Scopolamine Morphine: Semi Narco-sis during Labour*. By Wm. Osborne Greenwood, M.D. Leeds, B.S.Lond. London: H. Frowde, and Hodder and Stoughton, 1918. (Cr. 8vo, pp. xi + 120. 6s. net.)

<sup>2</sup> *Painless Childbirth in Twilight Sleep in the East*. By Cecil Webb-Johnson, M.B., Ch.B., Captain R.A.M.C.(T.F.). Calcutta: Butterworth and Co. (India), Limited, 1918. (Demy 8vo, pp. 123. Rs. 4 net.)

<sup>3</sup> *The Dispensatory of the United States of America*. Edited by J. P. Remington, Ph.M., F.C.S., H. C. Wood Junr., M.D., S. P. Sailer, Ph.D., L.L.D., C. H. LaWall, Ph.M., H. Kraemer, Ph.G., Ph.D., J. E. Anderson, M.D. Philadelphia and London: J. B. Lippincott Co. 1918. (Sup. roy. 8vo, pp. 2132. 42 10s. net.)

<sup>4</sup> *Chirurgie de Guerre, Chirurgie d'Urgence, Chirurgie Réparatrice et Orthopédique*. By Dr. Maucclair, Chirurgien de la Charité, Professeur agrégé à la Faculté de Médecine de Paris, etc. Paris: J. B. Baillière et Fils, 1918. (Med. 8vo, pp. 532; 316 figures. Fr. 16.)



the bruised and infected tissues should be excised, any splinters of bone or foreign bodies removed, and an attempt at primary union made. He thinks that in cases in which the bone injury is severe resection should generally be the treatment, but that if with severe bone injuries the soft parts are extensively lacerated, amputation is undoubtedly called for. In the application of these principles to the treatment of wounds of the knee-joint he refers to Gray's results in the former class of cases, those with slight bone injury. He treated sixty examples, with forty-nine good results (free movement), with limited movement in four, with ankylosis in three. There were four failures. In the chapter on tetanus the author calls attention to the fact that the frequency of tetanus has usually increased with the duration of a campaign; that in this war the number is decreasing. Dr. Maclaure attributes to the more or less universal employment of prophylactic injections of antitetanic serum. In the treatment of the disease he employs 20 to 40 c.cm. of antitetanic serum daily, according to the gravity of the case, either by subcutaneous, intravenous, or intrathecal injection. At the same time he uses chloral or morphine and subcutaneous injections of carbolic acid. As a whole, the book, in spite of its many good points, is disappointing. The reader would have desired more definite guidance in the selection of cases for the special forms of treatment advocated and a much fuller reference to the details of treatment. The illustrations are numerous and excellent.

### NOTES ON BOOKS.

I R. CROFTON'S book on *Therapeutic Immunization*<sup>5</sup> gives a short and simple account of the theory and practice of vaccine therapy. It is clearly written, few of the new and unintelligible terms with which bacteriologists are so apt to darken knowledge are employed. Full directions for the use of the many vaccines indicated are given. The book may be recommended to practitioners of medicine who prescribe vaccine treatment, for which it makes no extravagant claims.

<sup>5</sup>*Therapeutic Immunization: Theory and Practice.* By W. M. Crofton, M.D. London: J. and A. Churchill. 1918. (Cr. 8vo, pp. 224. 7s. 6d. net.)

### ROYAL MEDICAL BENEVOLENT FUND.

At the meeting of the Committee on July 9th, 1918, twenty-six cases were considered, and £244 12s. voted to twenty-four of the applicants. The following is a summary of some of the cases relieved:

Daughter, aged 68, of M.R.C.S.Eng. who died in 1878. Was left totally unprovided for and now, through advancing years, unable to work. Lives with a widowed sister who cannot afford to keep her. Voted £12 in twelve instalments.

Widow, aged 48, of M.B. Edin. who died in 1910. Was left without income with four children, now aged 11-19. Receives £21 per annum from other funds. Recently had a situation, but has been compelled to give it up with a view of looking after the younger children. Relieved six times, £60. Voted £10 in two instalments.

Daughter, aged 63, of L.F.P.S.Glag. who died in 1883. Has been in bad health for a long time. Only income £15 from another charity and the amount given by the Fund. Relieved eleven times, £166. Voted £12 in twelve instalments.

Daughter, aged 66, of M.R.C.S.Eng. who died in 1883. For some years acted as a matron of a home, but, owing to rheumatism and deafness, had to give it up. Total income, £37. Lives with a sister, who shares the rent. Relieved four times, £40. Voted £12 in twelve instalments.

Widow, aged 65, of L.R.C.P. and S. Edin. who died in 1893. Was left with two young children, both of whom are now in the navy, and allow her 15s. a week. Applicant's health is bad, and she recently fractured her leg. Relieved fifteen times, £49. Voted £12 in twelve instalments.

Daughter, aged 62, of M.R.C.P. Edin. who died in 1884. Through ill health applicant is unable to work. Has a pension from another charity of £40, and pays 16s. a week for board and lodging. Relieved fourteen times, £127. Voted £12 in twelve instalments.

Subscriptions may be sent to the Acting Honorary Treasurer, Dr. Samuel West, at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild is now called upon, as a result of the war, to deal with many widows and children who, in happier times, would not have thought

of asking for assistance. It is glad to receive secondhand clothing and household linen. The class of clothes most wanted is that suitable for boys and girls working in offices, for women, and for old men. The gifts should be sent to the secretary of the Guild, 43, Bolsover Street, W.1.

### INCOME TAX.

THAT the assessment of income tax has become more complicated is sufficiently obvious, but it is worth while emphasizing the fact that one effect has been to make the amount of the total income of the husband and wife a much more important factor in the determination of the total amount of income tax to be borne by the taxpayer. We therefore give below a table showing the limits at which the allowances or rates of tax vary, which may be found convenient for future reference.

It should be borne in mind that the income is to be reckoned at the gross amount before tax is deducted, and that in dealing with income received in 1917 after that deduction was made, an addition of *one-third* should be made to the net amount. The error to be avoided is the adding to the net amount of the fraction *one-quarter*. Where 5s. in the £ has been deducted the same amount must, of course, be added back; but where the starting point is the net amount actually received—that is, the 15s. in the £—that amount is *one-third*, inasmuch as one quarter of the full sum is the same as one-third of three-quarters of the same amount. The error may on the one hand adversely affect the revenue authorities by bringing the total income below a limit which it correctly exceeds, or, on the other hand, prejudice the taxpayer by showing his taxed income at too low a figure, because in most cases a rebate is due on that portion of the income which is taxed at the full rate. To arrive at the correct gross amount of income interest received in full should be stated at the amount received in the previous financial year—that is, the year ended April 5th, 1918.

One other point is worth notice. It sometimes happens that the total income exceeds one of the limits by so narrow a margin that, apart from any special provision in the Acts, the recipient would really be worse off after payment of the tax on the increased rates necessitated by that margin than he would be if his income were less than the particular limit in question. This point is, however, dealt with by Section 29 of the Finance Act of 1917, the effect of which is to put such a taxpayer in this position, that he hands over (as income tax) the excess over the limit, and then pays tax as if his income did not exceed this limit. This relief need not be specifically claimed; it is the duty of the assessors to allow it wherever due, provided of course that a proper statement of total income has been made.

#### Income Tax, 1918-19.

Total Income not Exceeding	Abatement Due	Allowance for Wife, Children, and Dependent Relative	Life Assurance	Rates of Tax on Incomes.		
				Earned.	Un-earned.	Army and Navy Pay, etc.*
£	£			s. d.	s. d.	s. d.
300	120†	£25 for each child or child under 16	subject to other provisions.	2 3	3 0	0 9
400	120			2 3	3 0	1 3
500	100			2 3	3 0	1 3
600	100			3 0	3 9	1 9
700	70			3 0	3 9	1 9
800	—	One sixth of total income, but subject to other provisions.		3 0	3 9	1 9
1,000	—			3 0	3 9	1 9
1,500	—			3 9	4 6	2 3
2,000	—			4 6	5 3	2 9
2,500	—			5 3	6 0	3 3
Exceeding 2,500	—			6 0	6 0	3 6

\* 4160 abatement allowed if serving in His Majesty's Forces.

† Allowances for abatement, etc., to be made from civil list net first leaving "pay" free as far as possible to benefit from the reduced "service" rates.

‡ 425 for each child in excess of two.



# British Medical Journal.

SATURDAY, JULY 20TH, 1918.

## ANOPHELINE MOSQUITOS IN GREAT BRITAIN.

Writing on May 25th last on precautions against the spread of malaria in England, we pointed out that recent surveys have shown that *Anopheles* occur in small numbers in the summer all through the United Kingdom. Mr. William Dickson Lang, assistant in the department of entomology of the Natural History Museum, has now published, under the auspices of the trustees of the British Museum, a map showing the known distribution in England and Wales of the anopheline mosquitos, with explanatory text and notes.<sup>1</sup> In a short preface to this timely publication, Dr. C. J. Gahan, keeper of the department of entomology, reminds the general reader that the anopheline group of mosquitos, while made up of several distinct species, some found in one part of England and some in another, contains all those particular species of mosquito which have been proved to act as carriers of malaria. Three species of *Anopheles* are indigenous in Britain, and two of them—*A. maculipennis* and *A. bifurcatus*—are known to be malaria carriers—the former being most active in the spread of this disease in Southern Europe.

The map and its accompanying text show, in as complete a form as the present state of knowledge allows, the distribution of the three species of anopheline mosquitos in England and Wales. Such information, as we explained two months ago, is of considerable importance at the present time because there are now a large number of infected soldiers in this country who have returned from overseas; they form a source from which malaria might conceivably be spread through the agency of indigenous mosquitos if this risk were not guarded against by appropriate measures. The many blanks on the map represent, in part at least, lacunae in knowledge, for there are many districts in which no search for anophelines has been undertaken. There are, on the other hand, some large areas in which a great deal in that direction has already been done, mainly through the action of the medical authorities of the Local Government Board and of the War Office. It is much to be desired that a complete investigation of the whole country should be carried out, for, as Mr. Lang takes care to explain, neither with regard to range nor to the frequency of occurrence is the true distribution of anophelines directly shown on his map, though it shows clearly enough the districts where this insect has been most keenly sought. Bearing in mind this source of error when drawing deductions as to distribution from the map, we may note that it appears to support the usual idea that anophelines are most abundant in the lower reaches of the larger rivers and in low-lying tracts of marshy land. Localities where captures have been made are indicated by coloured rings and triangles enclosing reference numbers to the text, where particulars of each record are given, together with notes and general observations, some of which are of much interest, and make it possible to construct to some degree the life-

history of the species concerned. Following the list of localities are practical notes on how to tell a true gnat (that is, a mosquito) from other flies; how to tell a British anopheline mosquito from a culicine mosquito (that is, a malarial from a non-malarial gnat); and how to distinguish the three British species of *Anopheles*. Lastly, a short account is given of what is known of the life-history of each species. Although the map does not include Scotland and Ireland, for the sake of completeness Scottish and Irish records have been added to the text after those from Wales. From the few available records it would seem that *A. plumbeus* and *A. bifurcatus* are both commoner in Scotland than *A. maculipennis*, whereas in England the first named is the least common of the three species.

In our previous article we noted that, notwithstanding the presence of *Anopheles* in these islands, their numbers are usually considered to be so small as to reduce the danger of the spread of malaria to an almost negligible quantity. Upon this matter Sir Ronald Ross had something to say at the recent congress of the South-Eastern Union of Scientific Societies.<sup>2</sup> In opening a discussion on mosquitos in England he sought by a calculation of chances to allay the fears as to the possible recrudescence of malaria in Britain. He argued that the spread of malaria in a community is dependent upon some fifteen different factors, combined in certain mathematical functions. Of the millions of anopheline mosquitos bred in a locality only a few would be likely to bite a human being at all, fewer would bite an infected human being, and fewer still would bite an infected person whose blood contained sexual parasites suitable for transmission into a mosquito. "Hence the chances usually are that only a very small proportion of anophelines in a place would ever become infected at all. But how many of these will infect healthy persons? A mosquito must live for about ten days at least before the parasites can mature in her body and enter her salivary glands, and of the small proportion of mosquitos which may live long enough for this a still smaller proportion are likely to succeed in biting and infecting healthy persons afterwards. Men and mosquitos may vary in individual resistance to parasites. Both will be infective to each other only at certain times."

From all this, if we follow Sir Ronald Ross aright, the conclusion would seem to be that, in view of the relative infrequency of British anophelines even during hot weather, the presence of malarial soldiers and sailors in this country need give rise to no alarm, provided measures are taken to keep down mosquitos and prevent their access to infected persons. Such precautionary measures, combined with a general system for the immediate notification of cases of malaria, have been organized by the War Office working in association with the Local Government Board.

## THE TREATMENT OF PERNICIOUS ANAEMIA.

UNTIL comparatively recent times the treatment of pernicious anaemia usually consisted of rest, diet, and arsenic, but subsequently more radical measures, such as operations for elimination of foci of infection, transfusion of blood, and splenectomy, have become prominent. These procedures are elaborate and sometimes not devoid of ill effects. Bloomfield<sup>3</sup> has, therefore, analysed a series of fifty-seven cases,

<sup>1</sup> A Map showing the Known Distribution in England and Wales of the Anopheline Mosquitos, with Explanatory Text and Notes. By W. D. Lang, M.A. London: Longmans, 1918, and C. & F. B. Quaritch, India and Co., and at the British Museum (Natural History). Price 2s. 6d.

<sup>2</sup> Nature, June 27th 1918, p. 314.

<sup>3</sup> A. Bloomfield, Lect. Johns Hopkins Hosp., Baltimore, etc. 1916.



treated during the last five years at the Johns Hopkins Hospital, in order to obtain more definite information as to the comparative value of the various methods of treatment in prolonging life or inducing remissions. The criterions employed to judge of the effect of treatment on this disease, in which the variations and spontaneous remissions render this an especially difficult problem, were (1) the effect of treatment on the total duration of the disease, (2) the readiness with which remissions are induced, (3) the length of the remissions, (4) the effect of a particular form of treatment on special symptoms, (5) the death-rate in hospital, and (6) the blood picture. Twenty-eight cases treated by the older methods of rest, diet, and arsenic in the forms of Fowler's solution, cacodylate of sodium, and salvarsan, served as controls to the other and more modern methods.

The reputation of arsenic rests entirely on general impressions, and analysis of the cases yields no reliable data as to its efficacy. In twelve cases a thorough investigation of the nose, throat, sinuses, teeth, gas'ro-intestinal canal and lower urinary tract was made for foci of infection, and when found these were eliminated. In none of them was there any feature in their subsequent course to distinguish them from the group in which such foci were not found or, if found, were not treated, either as to total duration of life, or extent and degree of remissions. It is unlikely, therefore, that such foci are the cause of pernicious anaemia. Twenty-six patients received transfusions of blood, varying in number from one to seventeen, and from a total of 300 to 8,700 c.cm. of blood. In patients who are not in a stage of the disease refractory to all forms of treatment, remissions have come on more often when transfusion has been performed, but the artificial plethora thus induced did not increase the duration of the remission, though the patients felt better while the red count was high. At the Johns Hopkins Hospital splenectomy for pernicious anaemia has now been given up; out of eight cases so treated six are dead, and in no instance was the clinical picture essentially altered or life unusually prolonged. In five of the cases transfusion of blood was performed during the period following splenectomy, but in the four cases in which the duration of the remission could be accurately determined there was no evidence that transfusions are "held" better after than before splenectomy. The central nervous symptoms were as little benefited by transfusion and splenectomy as by other means of treatment.

Bloomfield has carried out his analysis with cold mathematical accuracy and a relentless disregard of clinical impressions; no attempt has been made to promote or discredit any particular method of treatment, and it is admitted that the general conclusions yielded by these statistics may allow of exceptions in individual cases. But the disappointing and important conclusion that no definite evidence has been found that transfusion of blood, splenectomy, or elimination of foci of infection prolongs life in pernicious anaemia, must be faced.

#### AMERICAN AND BRITISH DOCTORS.

SOME months ago the American Medical Association forwarded to the British Government a request that it should send representatives to attend its annual meeting in June held in Chicago. In response to this invitation, a mission consisting of Sir James Mackenzie, Colonel Sir W. Arbuthnot Lane, R.A.M.C. (T.C.), and Colonel Herbert A. Bruce, C.A.M.C., was dispatched by the Ministry of Information. The members gave addresses at all the principal

meetings, and took an active part in the discussions. They also spoke at large public meetings at Cincinnati, Boston, Detroit, Cleveland, Pittsburgh, and Philadelphia, and also at Toronto, to audiences varying from 500 to 5,000, comprising members of the medical profession and important business and professional men. The American recruiting authorities availed themselves of the opportunity to send representatives, who accompanied the mission, and appealed to the members of the medical profession to join the army. There were then 22,000 medical officers in the American army, and during the visit of the mission 5,000 other medical volunteers came forward, until by June 22nd the lists closed, completely filled. The mission visited the chief manufacturing establishments, which are devoting all their energy to the construction of ships of war of all sorts, merchant ships, aeroplanes, and munitions. They also saw huge new plants, which had grown into splendid efficiency since the entrance of America into the war. The mission, which has just returned to England, has addressed a letter to the *Times* in which the members say that from these wide and varied sources they "gathered the conviction that the American people have been thoroughly aroused, and are in entire agreement with Great Britain and her Allies. The business community have formed a clear conception of the magnitude of the task before them, and they are employing their unlimited resources of men and material to prepare for the coming ordeal. At each public meeting the mission was asked to convey a message from the people of America to the people of Great Britain and her Allies to the effect that they are to be of good cheer; that America is with them whole heartedly, and that she has thrown herself into the conflict with all her strength, with the firm determination to fight till victory is complete. From the extreme cordiality of their reception by all classes of the community the Commission feel justified in believing that the bonds of sympathy between the nations have been materially strengthened by their visit."

#### THE WAR COLLECTION AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE annual report on the Museum of the Royal College of Surgeons of England by the Conservator shows that a great part of the energy of the staff has been devoted during the past year to the "War Office Collection." The number of specimens received has increased from 1,500 to 2,700, but there are still certain deficiencies to be made good, which will be apparent to those who study the series of specimens now on exhibition. The exhibition occupies three of the largest rooms, and many additions have been made since we gave an account of the collection in the *JOURNAL* of October 20th, 1917. The preparation and description of the specimens has been undertaken by Professor S. G. Shattock, F.R.S., the Pathological Curator, and Mr. Cecil Beadles, the Assistant Pathological Curator. The specimens illustrate the nature, healing, and pathology of wounds produced under modern conditions of warfare. One of the rooms is devoted to macerated specimens, which have been described and arranged under the supervision of Professor Arthur Keith, F.R.S. The arrangement of the collection of radiographs and drawings has been undertaken by the Physiological Curator, Mr. R. H. Burne. The collection includes a Canadian section, prepared by members of the Canadian Army Medical Corps. The Canadian Government some time ago placed a special fund at the disposal of the Director of its Medical Service for the preparation of specimens "to illustrate the modes of treatment adopted and the nature of the results obtained" in hospitals officered by members of the Canadian Army Medical Corps. A staff of experts, with Major F. Lessore, the distinguished sculptor, at their head, has been engaged at No. 16 Canadian Military Hospital making wax and plaster models, coloured drawings and coloured photographs of wounds and war deformities. The collection



thus made forms the basis of the growing Canadian section now exhibited. It is hoped that Australian and New Zealand sections will also be added, for the medical services attached to the armies of all the self-governing countries are contributing specimens to the War Office Collection with the view of building up army medical museums for their respective countries. Consignments of Canadian specimens have already been dispatched from the workrooms of the Museum to Montreal, while the Director-General of the Australian Medical Corps has given the Museum staff effective assistance in dealing with specimens received from Australian hospitals. It will thus be seen that the Council of the College, through its Museum staff, is rendering a valuable service to military surgery and medicine. In addition to these special war specimens a number of additions have been made to the pathological, teratological, and physiological collections. Many additions have also been made to the odontological section by the Honorary Curator, Mr. J. F. Colyer. Mr. Alban Doran, who during the past eight years has been engaged in the preparation of a new descriptive catalogue of the surgical instruments in the possession of the College, has made considerable progress. The descriptive catalogues of the obstetrical and gynaecological instruments in the Museum, as well as of the surgical instruments which were formerly the property of Lord Lister, have been completed, as also that of the instruments once the property of John Hunter and other Hunterian relics. Mr. Doran has just finished the manuscript text of a catalogue of instruments for operations on the genitourinary system in the male; a number of other sections remain to be dealt with.

#### THE SPIROCHAETES OF THE NORMAL MALE UROGENITAL TRACT.

URINARY spirochaetosis has become of special interest in connexion with pyrexia of unknown origin and other fevers brought into prominence by war conditions, and an accurate knowledge of the varieties of spirochaetal organisms normally present in the smegma and mucous membrane of the urogenital tract is essential in order to estimate the etiological relation between a given spirochaete and a disease in which this organism is found in the patient's urine. This want has recently been supplied by Noguchi<sup>1</sup> in his research into the spirochaetal flora of the normal male genitalia, which, covering the ground of Stoddard's work (vide *BRITISH MEDICAL JOURNAL*, 1917, ii, 416), shows by extended observations and critical analysis that the spirochaetal flora may be reduced to three forms—namely, the *Spironema refringens*, *Treponema calligyrum*, and a new species, *Treponema minutum*. The spirochaetes from the male smegma enumerated and shown in Noguchi's thirty-two photomicrographs represent practically every form hitherto described by Naukivell and Sundell and by Patterson in the specimens of urine from patients with trench fever. The urethral flora described by Stoddard seem to contain more varieties, but, except those of his more detailed morphological descriptions, every form observed by him is among those found in the smegma. The three forms distinguishable in photomicrographs or under the dark-field microscope are the minute, the medium (*calligyrum*), and the large (*refringens*) types. The minute type is not unlike the minute spirochaete of the mouth (*Treponema microdentium*), but their cultural characters are distinctive. Stoddard saw certain forms with hooked ends suggesting *Spirochaeta icterohaemorrhagiae*, but this is the only point of resemblance, and their differentiation should always be possible under the dark-field microscope, by means of which the highly characteristic minute elementary spirals, presenting the appearance of a chain of dots, can be made out in *Spirochaeta icterohaemorrhagiae*.

Noguchi never found spirochaetes in films made from the urethral mucous membrane, his observations being based on organisms found in the smegma.

#### FEBRIS WOLHYNICA.

A PERFECT maze of publications, long and short, with this heading has appeared in the German and Austrian medical press, which has been drenched with a sort of printer's drum fire on this subject. Out of this tangle, Dr. Oluf Thomsen,<sup>1</sup> of the Serum Institute of Copenhagen, has picked out the most salient features of a disease which was practically unknown before the war, except to Polish physicians, who seem to have regarded it as a form of malaria. Early in 1916 the disease was observed in soldiers on the German Eastern front. Its geographical name, *Febris wolhynica*, was as misleading as its symptomatic name, *Febris quintana*, which suggested a variety of malaria, for it was observed also on the Western front, and no bodies resembling the malarial parasite have been found in the blood, and laborious searches for them have been made. It presents many of the characteristics of trench fever. They may, indeed, prove to be identical, though Wolhynian fever, as referred to by certain German writers, would appear to be a very definite fever, with a far more uniform clinical picture than that of trench fever. According to Dr. Thomsen, the first symptom is lassitude, followed in a day or two by a sudden rise of temperature to about 40° C. The early symptoms, which may be preceded by rigors, are a sense of great heat and profuse sweating. The patient is giddy, and his muscles feel bruised. A very characteristic and most unpleasant symptom is pain in the legs, especially the shins. This pain—gaiter pain—is often worst in the evening or at night, and is stabbing, boring, or burning. After lasting about forty-eight hours the temperature falls almost to normal, and this may be the end of the attack. It may, however, recur as often as ten or twelve times, at intervals of five to six days. These intervals may last only two to three days, or may be as long as seven to eight. The prognosis is good, and the disease is seldom if ever fatal. Slight jaundice, great pallor, herpes, a scarlatiniform or small papular rash, and slight enlargement of liver and spleen have all been observed. There is an absolute and a relative increase in the number of the polymorphonuclear neutrophil leucocytes, and, after two or three attacks of fever, the red cells may show slight polychromasia. The disease can be experimentally transmitted to man by lice, which, it is thought, are probably always responsible for the development of the disease in man. Various bodies have been found in the digestive system of the louse and in the blood of man, but the evidence on these points is still conflicting. No satisfactory treatment has yet been found.

#### SMOKING AND PULMONARY TUBERCULOSIS.

It is generally believed that tuberculous patients should avoid chronic catarrhal affections of the upper air passages, and that if smoking, and especially inhalation of cigarette smoke, induces pharyngitis and tracheitis, the practice should be forbidden. Webb's statistics show, on the one hand, that comparatively few non-smokers (27 per cent.) have rhonchi, while most smokers and 83 per cent. of those who inhale cigarette smoke present signs of chronic bronchial irritation; and, on the other hand, that out of more than 3,000 young men discharged from the American army on account of active tuberculosis, the proportion was no higher among smokers with rhonchi than among non-smokers with relatively "quiet" chests. As pulmonary tuberculosis often follows colds and other catarrhal conditions, it has been assumed that an inflamed tissue is a diseased tissue and more liable than a healthy tissue to bacterial invasion. Krause combats these conclusions

<sup>1</sup> Noguchi, H., *Journ. Exper. Med.*, Baltimore, 1918, xxvii, 667-678.

<sup>1</sup> *Hospitals Tidende*, March 13th, 1918.



in a recent paper,<sup>1</sup> and points out that clinical observation is in obvious opposition to them; thus a chronic ulcer of the leg is rarely the site of acute bacterial infection, erysipelas arises more often in non-inflamed skin or in a clean operative wound than in a carcinomatous ulcer or an open patch of lupus, and acute bronchitis seldom ushers in frank lobar pneumonia. Observations by Opie, Pawlowsky, and Issayeff support the conclusion that inflamed tissues, far from being a favourable soil for bacterial invasion, are points of unusual resistance. But the question as to the influence of inflammation when a focus of tuberculosis already exists in the chest is on a different footing from the protective action exerted by inflammation to bacterial invasion. There is no doubt that considerable inflammation around a tuberculous focus does harm by spreading the disease, whereas a slighter grade of inflammation is either harmless or exerts a beneficial action. This is well shown by the effect of tuberculin on tuberculous foci. The inhalation of smoke causes a comparatively mild inflammation, and, as it is usually frequently repeated over a long period, it is likely to be mildly stimulating and to lead to repair, and not to be violently upsetting, as might occur from lobar pneumonia surrounding a patch of tuberculosis. This applies only to the local effects of inhaled tobacco smoke, and the more general results of tobacco on the digestive, nervous and vascular systems must be kept quite distinct. But even so, there is no doubt that many tuberculous patients will be much comforted by the reasons given for the belief that the local irritating effect of tobacco smoke is not fraught with danger.

#### THE MEDICAL SUPERVISION OF AVIATORS.

In the pleasantly written article on "Some points in connexion with flying" Fleet Surgeon St. John Murphy, R.N.,<sup>2</sup> rightly emphasizes the importance of the Air Service medical officer being in constant touch and complete sympathy with the flying officers, and of giving the most careful consideration to any complaint, however trivial it may seem. Thus, if a pilot gets it into his head that a particular home station does not suit him, or that he dislikes the make of his aeroplane and feels that it is going to let him down, a change should, if possible, be made. The signs of fatigue and flying stress should be carefully watched for and special physical tests employed, so as to obviate the risk of breakdown or disaster by a timely rest. If feeling out of sorts, the pilot should be excused flying for a day or two; it is far better to lose this time than to lose his services altogether, for if he goes up feeling out of sorts he may crash or lose his nerve, and never be the same again. A crash may change the flying man's outlook on what previously was his delight, and after a bad experience it is about an even chance if he will be any good again. Memory of the details of the crash appears to exert a worse influence than unconsciousness, which therefore interferes less with the future of the patient's flying career. A change from pilot to observer after a crash is seldom a success, as, once a pilot, it is difficult to sit behind another. The relation of temperament to aviation offers a large and important field for investigation. From his experience, Fleet Surgeon Murphy finds that the aviator has the manner of a man five or ten years older than his age, and yet is restless, always on the move, seldom setting down to a book, and too often smoking cigarettes. In the air his bravery is beyond question, but the prospect of a dental extraction or stopping is a mightily disturbing matter. The sooner after completing his training a pilot is sent to the front the better; for the skilled aviator just passed is the ideal man for the fighting line, whereas retention at a home station as an instructor impairs his keenness for the duties of a fighting pilot. The danger of giving way to a tendency to smoke too

many cigarettes—and more than ten a day is considered excessive—is insisted on, and a table of the times and number of cigarettes to be allowed is given. The sensible opinion is expressed that alcohol is best avoided altogether, or, if allowed in an aerodrome, taken only after working hours. The symptoms of air sickness, akin to but not so common as sea sickness, are vomiting and malaise, and the condition appears to be incurable in some subjects. The remarks on the examination of candidates for air work might have contained more about Martin Flack's tests, and it would have been interesting to have heard more about the correlation of these physiological tests with the psychological features of fatigued and unfit aviators.

#### DEGREES FOR RESEARCH.

In accord with the other British universities, and following the lead of Oxford and London, the University of Edinburgh proposes to establish degrees of doctor in various faculties which will be open to graduates of any university who have continued higher studies or research up to an adequate standard for at least two years after taking their first degree. Sir Richard Lodge, professor of history in the university, in making the announcement at the graduation ceremony last week, said that henceforward the place for research in education, as distinguished from its place in the lifework of the specialist, would be in the early years after the first graduation, and the new degrees would serve as an encouragement and a reward; but a further purpose was to attract to British universities the young graduates from the United States, from the Overseas Dominions, and from allied countries on the Continent who had hitherto been in the habit of going to Germany. He went on to point out that if the British universities were to attract graduates from outside they must be able to offer not only a degree, but also a training and facilities for study and research. That would involve considerable expenditure, and the universities would make a claim upon the Government for financial assistance. The English universities were to have an opportunity of stating their demands for assistance to the Government, and he hoped that Scotland would not be backward in estimating its needs and formulating its demands. The other Scottish universities will probably put forward before long proposals similar to those made in Edinburgh, and it is understood that the universities of France and of Italy will follow the same policy.

#### MEDICAL APPEAL FOR REGRADING.

MEDICAL men rendered liable to military service under the new Military Service Act are examined medically by special National Service Medical Boards. The question has arisen as to what a medical man dissatisfied with his medical grading by the National Service Medical Board can do. The British Medical Association has been in communication with the Ministry of National Service and the Local Government Board on this matter. The former department states that a medical man has in the matter of appeal for regrading the same rights as any ordinary citizen, and this right of appeal is determined by the regulations of the Local Government Board. The Local Government Board has informed the Association that "a medical practitioner who is aggrieved by his examination and grading by a National Service Medical Board . . . is in the same position as any other man liable to military service. He may make an application to the Appeal Tribunal for the district in which he lives for leave to be re-examined and graded by the medical assessors. The application is required to be made not later than five clear days after the date on which written notice of his grading by the National Service Medical Board is given or sent to him, unless the Appeal Tribunal, for good reason shown, allow an application to be made after that period." Medical assessors are appointed by the Local Government Board in England and Wales, and by the Scottish Office in

<sup>1</sup> A. K. Krause, *Bull. Johns Hopkins Hosp.*, Baltimore, 1918, xxix, 136-139.

<sup>2</sup> St. John Murphy, *Journal of the Royal Naval Medical Service*, London, 1918, iv, 281-4.



Scotland. Three medical assessors must consider the case, and the grade must be settled by them in consultation. Application for medical re-examination must be made on a form, copies of which can be obtained from the Secretaries of the Central Medical War Committee, 429, Strand, London, W.C.2. Such examination, with a view to regrading by the medical assessors, is, however, quite different from re-examination by a National Service Medical Board. If a practitioner desires to be re-examined by a National Service Medical Board, the Ministry of National Service is usually willing for this to be done upon application being made to that department.

## Medical Notes in Parliament.

**Ministry of Health.**—On the motion of Lord Willoughby de Broke, the House of Lords adopted a resolution, on July 17th, urging the Government to introduce at an early date a bill to constitute a Ministry of Health. Viscount Peel, who spoke for the Government, did not give a definite undertaking, pointing out that health administration was so all-pervading that it might be difficult to concentrate all the duties connected with it under one authority. He referred to the work of the Local Government Board and its relations to the Poor Law, to the medical side of the work administered by the Board of Education, to the information obtained by the National Service Boards, and to the factory administration of the Home Office. While not resisting the resolution he hoped the expression "at an early date" would, in view of the complexity of the matter, affecting so many departments, receive a very large and liberal interpretation.

**Medical Certificates for Insured Man called up for Examination.**—Mr. Albion Richardson, on July 11th, asked whether the Insurance Commissioners were disposed to make arrangements to enable a man summoned to appear before a medical board, and who could not afford to pay a fee to his panel doctor for a certificate stating his medical history, to obtain such a certificate free of charge. Colonel Gibbs replied that the furnishing of such a certificate would be entirely outside the scope of a medical practitioner's agreement for services under the Insurance Acts, and he would therefore be under no obligation to furnish it. Moreover, it was a fundamental principle that any information as to the state of health of an insured person which might come into possession of the doctor by whom he was attended under the provisions of the Insurance Acts was strictly confidential, and was to be used for insurance purposes only. In these circumstances it did not appear possible that such an arrangement as was suggested could be made under the Insurance Acts or paid for out of the insurance funds. Mr. Richardson, being dissatisfied with this reply, said that he would put down a further question and would address it to the Prime Minister.

**The Number of Medical Students.**—Replying to Mr. Holt, Sir A. Geddes said there were at present in the United Kingdom 5,380 male medical students and 2,250 female medical students at work in the schools. The male students freshly registered in 1917 numbered 1,578, as against 1,366 in 1914. Administration arrangements providing for the safeguarding of the supply of male doctors for the next five years were in force, and there did not appear to be any ground for anxiety.

**Maternity and Child Welfare Bill.**—On report in the House of Commons on July 12th, Mr. Hayes Fisher, in accordance with promises made by him during the Committee stage, submitted several amendments.

The first related to the establishment of maternity and child welfare committees by councils. It had been urged in debate that county councils should be allowed to use their Public Health Committees if they so desired, and that other local authorities might also wish to do so, or to adapt them for the purpose, and should have the discretion. Mr. Hayes Fisher therefore proposed it should be set forth that the Maternity and

Child Welfare Committee "might be an existing committee of the council, or a subcommittee of an existing committee." This was agreed to.

The next amendment was as to co-option. Clause II provides that not less than two-thirds of the members of every Maternity and Child Welfare Committee shall consist of members of the council; and it went on to require the council to co-opt other members. Mr. Hayes Fisher now proposed to substitute the word "may" for "shall," so as to leave co-option a voluntary matter, the feeling in the House being that additions might not always be necessary, nor desirable. The change, however, was subject to the provision that at least two members of the committee should be women. Thus, if the membership within the council did not furnish this representation of women on the committee, it would be obligatory to co-opt at least two women. These amendments were also agreed to, and the bill, with a few alterations of detail, was reported to the House.

**Regulation 40 D.**—Mr. Lees Smith asked the Home Secretary whether he would issue instructions that women charged under the new Regulation 40 D of the Defence of the Realm Act should in all cases be informed that there was no power to compel them to submit to a medical examination against their will. Sir George Cave replied that he had found no sufficient reason for issuing an instruction as proposed. A woman was asked if she consented before the examination took place.

**Extra Rations for Invalids.**—In answer to Mr. Watt, Mr. Parker (for the Food Controller), on July 11th, said that the new procedure whereby Food Control Committees would have power to deal with applications for extra rations in the extended list of diseases and with applications for white flour in certain cases would come into force with the introduction of national rationing on July 14th. After that date only exceptional cases need be referred to the Ministry. Should any cases arise in which life would be endangered by delay, the local committee would have power to deal with them under the special provision made for cases of grave emergency.

**Medical Treatment in Elementary Schools.**—On report on the Education Bill, on July 15th, Mr. Herbert Fisher proposed an addition to the second clause rendering it compulsory for local education authorities to provide medical treatment in public elementary schools. Under existing law a local education authority was compelled to provide inspection and was empowered to provide treatment, but as a matter of fact only 39 authorities out of 318 had not provided treatment in some form or other. No doubt it would have a general effect in stimulating local education authorities to provide more medical treatment than they had already done. He thought it would be generally agreed that it would be possible for an education authority to arrange for a system of treatment which would not impose any fresh charge. For instance, an authority might invite the medical practitioners of its area to establish a cheap contract practice among the children of the poor, and under the Education (Administrative Provisions) Act, 1907, a parent who could afford to pay for treatment must do so. It was therefore quite possible that this duty might be carried out in any given area or all areas without any increase of charges. On July 16th, when the bill was recommitted, the amendment, along with several others, was inserted. The bill has now passed through all its stages in the Commons. The intention was that it should not be taken in the Upper House until after the recess; but as it is available for consideration by the Peers earlier than was expected, it may possibly be dealt with by them before the adjournment, which will probably take place at the end of the first week in August. The bill was read a first time in the House of Lords on July 17th. Lord Curzon said that he hoped the House might be able to pass the measure through all its stages before adjourning on August 8th.

**Gratuities of Temporary R.A.M.C. Officers.**—Sir Watson Cheyne addressed a lengthy question to Mr. Forster on July 15th as to the payment of gratuities to army officers holding medical temporary commissions. He put it that a medical officer now over the military age joined the Royal Army Medical Corps in 1915 voluntarily on a contract for a year at 24s. a day and £60 gratuity at the end of the year, payments of which sums had been made; that the contract was renewed for 1916 for a year with the same result, but that in 1917 this medical officer was asked to renew the contract until the termination of the present emergency, or until his services were no longer required, on the same terms as before, both as to pay and gratuity, but at the end of the year was told that the gratuity would not be paid until the end of the war. Mr. Forster replied that gratuities were usually paid at the termination of service, and that renewal contract for temporary service with the Royal Army Medical Corps contemplated payment on completion. The question, however, was being further considered. Sir Watson Cheyne asked whether the gratuities would carry interest while the matter was being considered. Mr. Forster said that the whole question of the date on which the gratuities became payable was receiving attention.

**1914 Star and Hospital Ship Service.**—In reply to Colonel Sir Hamar Greenwood, on July 15th, Mr. Macpherson said that it had been decided that the personnel of hospital ships were not entitled to the award of the 1914 star by virtue of the service thereon; he undertook to inquire into the case of a ship used as a base hospital.



# THE WAR.

## VANGHETTI'S OPERATION.

### THE UTILIZATION OF THE MUSCLES OF A STUMP TO ACTUATE ARTIFICIAL LIMBS.

From the time when Balfi in 1855 produced an artificial arm, which enabled its wearer to move one or more artificial fingers and to grasp objects, surgeons and mechanicians interested in prosthesis have striven to produce an efficient substitute for the lost hand. Although the attainment of anything approaching to perfection is obviously hopeless, notable results have been achieved. Any one who has seen a well-trained expert demonstrating

It is true that the idea of making use of the muscles and tendons of an amputation stump by connecting them with the working parts of an artificial hand had been mooted by Beaumont and Larnoy in Paris as long ago as 1867, but nothing had come of their suggestions until Vanghetti, in 1906, published his monograph entitled *Plastic and Artificial Limbs*, in which he described various methods of procedure. Ceci of Pisa put Vanghetti's suggestions to the test of practice and performed three operations soon after the appearance of Vanghetti's work, but his results were not striking. Elgart, Nagy, Korte, and Payr and Witzel recorded operations of the same kind, but they were not attended by much practical success.

Before Italy joined in the war Italian surgeons had little opportunity of applying Vanghetti's principles, and meanwhile Sauerbruch of Zurich took up the idea, and having entered the German service published in 1915<sup>3</sup> an article describing a case in which he had operated at Griefswald with a promising result. Since that time he has further pursued the subject, and has published a monograph on the voluntarily movable artificial hand.<sup>4</sup>

Although, owing to accidental circumstances, the Germans thus got the start, ever since Italy declared war and the inevitable result in the form of amputations followed, Italian surgeons have been busy putting into practice the principles of Vanghetti. Professor Putti has already operated upon upwards of fifty cases with most encouraging results. In his lecture, to which reference has already been made, he has described the methods he has found useful. Those readers of the JOURNAL who had not the advantage of hearing him and of seeing his apparatus, models, and moving pictures, may

obtain clear ideas on the subject by studying the illustrations which, by Professor Putti's courtesy, we are now able to place before them.

The tendons or muscular masses, covered with skin, which are artificially prepared and serve as means of conveying motion to the prosthetic appliance, are called "plastic motors." These are of two kinds, namely, the Clava or peg, and the Ansa or loop. The first kind is shown in Fig. 1 and the second in Figs. 2 and 3. The hinged ring of metal which is clamped on to the plastic motor is shown with its connexions in Fig. 4. It is also shown as applied to clava motors in Fig. 1.

such an arm and hand as the Carnes must admit that a large measure of success has been attained. But only a few persevering and gifted individuals can hope to produce such results.

Most of the mechanical arms and hands depend upon movements of the upper segment of the amputated limb or of the chest or the sound upper extremity. Obviously such an arrangement must hamper more or less the use of the sound limb. This consideration has led to the search for means of actuating the artificial hand which shall be intrinsic to the stump. When an amputation has been performed, the remaining muscles of the amputated segment which had their insertions in the lost part become useless. Worse than that, they are often a hindrance to the successful fitting of what is technically termed a socket or bucket, which in some cases cannot be satisfactorily adapted until the muscular tissue has slowly wasted away from disuse. Indeed, in some cases of short stumps, surgeons have thought it wise to anticipate physiological wasting, and to remove them by operation. Typical cases of this kind are found in the flexor muscles of the elbow, wrist, and fingers in amputations of the forearm, and in the gastrocnemius and soleus in amputations of the leg below the knee. All these may be called intrinsic muscles of the stump.

In the year 1899, after the disastrous Erythrean campaign, in which many Italian soldiers were barbarously mutilated by the Abyssinians, Dr. Vanghetti turned his thoughts to these superfluous muscles and sought a means of utilizing them and so of freeing the trunk and the sound limb from the constraint of the harness which the use of the extrinsic muscles for this purpose entailed. As Professor Putti has pointed out in his lecture, published recently in our columns,<sup>1</sup> and in his other publications,<sup>2</sup> Dr. Vanghetti is not a surgeon, and had no opportunities of personally putting his theories to the test of actual practice, and until this war produced its hosts of amputated, only about twenty cases had been treated by his method in Italy.



FIG. 4.—Hinged ring and connexion.

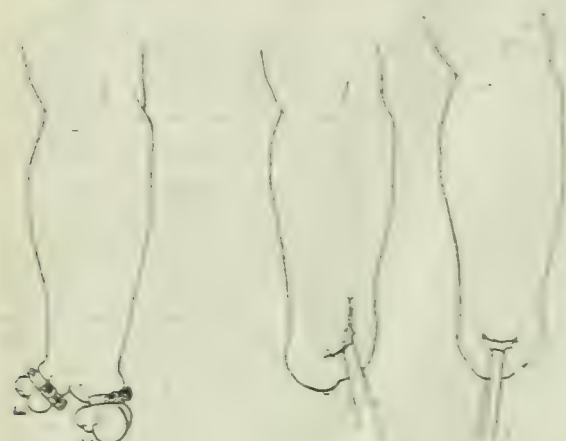


FIG. 1.—"Peg" motors and rings.

FIG. 2.  
FIGS. 2 AND 3.—"Loop" motors.

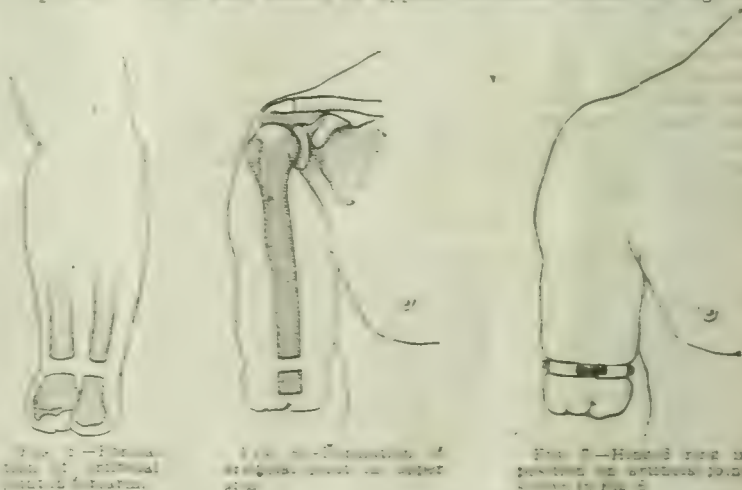


FIG. 5.—Hinged ring in position on artificial motor of clava type.

FIG. 6.—Hinged ring in position on artificial motor of loop type.

FIG. 7.—Hinged ring in position on artificial motor of loop type.

A similar appliance or a double hook may be used with loop motors.

The first criticism of this procedure which occurs to the reader of Vanghetti's or of Putti's papers is the obvious probability of skin troubles from the constant pressure and friction of the ring upon the skin of the motor. That criticism has also been made by authoritative German surgeons upon Sauerbruch's proposals. Professor Putti has, however, assured us that in practice trouble has not







*Lost at Sea.*

**LIEUT.-COLONEL T. H. MACDONALD, C.A.M.C.**

Lieut.-Colonel Thomas Howard Macdonald, C.A.M.C., was born at Port Mulgrave, Nova Scotia, December 15th, 1877, and graduated at Bellevue Hospital Medical College, New York, in June, 1900. Prior to joining the C.A.M.C. he was in practice at Port Hawksbury, Nova Scotia. He was an active member of the Canadian Militia, in which he held the rank of major before the outbreak of the present war. He came overseas in December, 1915, and served in France with the Canadian Corps from August, 1917, to March, 1918, and on returning to England was appointed to the command of H.M.H.S. *Llandovery Castle*. His name appears among those missing after the vessel was torpedoed on June 27th.

**MAJOR G. M. DAVIS, C.A.M.C.**

Major Gustavus Mitchell Davis, C.A.M.C., was born at York, Ontario, on January 8th, 1874, and graduated in medicine from the University of Toronto in 1901. He was in practice at Welland, Ontario, came overseas with the First Canadian Contingent in September, 1914, and went to France in May, 1915. He joined the 5th Canadian Battalion as M.O. in time to take part in the battle of Festubert, and was subsequently M.O. to King Edward's Horse. After leaving France he was attached for a time to the office of the D.M.S. Canadians in London, and subsequently to the Medical Board of the A.D.M.S., London area. On April 11th, 1917, he was appointed M.O. upon the hospital ship *Letitia*, and given his majority. When this was wrecked on the coast of Nova Scotia in August, 1917, he rendered distinguished service in the care and rescue of patients from the wrecked vessel, and in the absence of any military decoration which could be granted in recognition of his conduct on this occasion the Secretary of State for War directed that the information be conveyed to him that he and the General Officer Commanding were fully sensible of the excellence of his service. Later he served in the same capacity upon H.M.H.S. *Araguaya* and H.M.H.S. *Llandovery Castle*, and is among those missing after the *Llandovery Castle* was torpedoed on June 27th.

**MAJOR W. J. ENWRIGHT, C.A.M.C.**

Major William James Enwright, C.A.M.C., was born at Port Daniel, P.Q., in February, 1873, and graduated in medicine at Laval University in September, 1897. He was sent to France as registrar and adjutant of No. 8 Canadian General Hospital, and served with that unit till he was evacuated to England as a casualty some time in March, 1918. After a period of hospitalization in London, and at the Canadian Officers' Convalescent Hospital at Matlock Bath, he was posted to the *Llandovery Castle*, and was lost on returning from his first trip on June 27th.

**CAPTAIN A. V. LEONARD, C.A.M.C.**

Captain Arthur Vincent Leonard, C.A.M.C., was born at Warkmouth, Ont., October 29th, 1889, and graduated in May, 1911, at the University of Toronto. He took a prominent part in athletics during his university course. He came overseas in September, 1915, and went to France in November, 1915, where he served as M.O. of various units at the front. On returning to England from France on October 27th, 1917, he was appointed, in December, 1917, to H.M.H.S. *Araguaya*, and in March, 1918, to H.M.H.S. *Llandovery Castle*. His name appears among those missing when that ship was sunk by a torpedo on June 27th.

**CAPTAIN G. L. SILLS, C.A.M.C.**

Captain George Luther Sills, C.A.M.C., was born at Tweed, Ont., on March 14th, 1888. While a student in medicine at Kingston University he joined the C.A.M.C. as a private, and served overseas for one year with the 5th Stationary Hospital, afterwards the 7th General Hospital. He returned to Canada to resume his medical studies in April, 1916, and graduated in November of the same year. He came overseas as captain C.A.M.C. in March, 1917, and was serving on H.M.H.S. *Llandovery Castle* when she was torpedoed on June 27th, 1918.

*Wounded.*

Lieut.-Colonel A. H. Moseley, D.S.O., Australian A.M.C.  
Major J. A. Pridham, M.C., R.A.M.C.  
Captain H. M. Drake, R.A.M.C. (temporary).  
Captain F. H. Goss, R.A.M.C. (S.R.).  
Lieutenant W. S. Gross, R.A.M.C. (temporary).

*Missing.*

Captain W. A. Rees, R.A.M.C.

*Prisoners of War.*

Captain J. M. Mackenzie, M.C., R.A.M.C.  
Lieutenant J. Findlay, R.A.M.C. (temporary).

DEATHS OF SONS OF MEDICAL MEN.

Badcock, Benjamin Morley, Second Lieutenant Notts and Derby Regiment, only son of Dr. B. Badcock of Staveley, Chesterfield, killed in action on July 9th, 1918, aged 20 years. He was on the electrical staff of the Staveley Coal and Iron Company when called up for training, joining the Inns of Court O.T.C., and received his commission in November, 1917. He proceeded to France on April 11th, 1918.

Pollard, Wilfred Walter, Second Lieutenant R.A.F., only son of Dr. and Mrs. W. H. Pollard of Birmingham, died in R.A.F. hospital from illness contracted on active service on July 5th, aged 19. He was educated at Sidcot School (Somerset), and Leighton Park School, Reading. He was gazetted on June 5th, 1918, and sailed for France the following day.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]

HONOURS.

*D.S.O.*

Lieut.-Colonel A. R. Henchley has received the D.S.O. as an "immediate award" in connexion with the recent action in the Champagne district.

The following is a continuation of the list published in the JOURNAL of July 13th (p. 45) of the acts of conspicuous gallantry and devotion to duty for which the decorations announced in the BRITISH MEDICAL JOURNAL of February 9th, p. 187, were awarded:

*Military Cross.*

Lieutenant (temporary Captain) William Wyllie MacNaught, R.A.M.C.

He organized a bearer party during an action, and collected and cleared many wounded under heavy shell fire. His prompt and gallant action saved many lives.

Captain James Grant MacNeill, C.A.M.C.

He worked unceasingly in the open attending to the wounded under heavy shell fire. During a gas shell bombardment he adjusted his own box respirator on a wounded sergeant, and obtained others for a number of stretcher cases who were unable to help themselves. His coolness and courage were a splendid example to all, and undoubtedly saved many lives.

Temporary Captain Arthur Griffith Maitland-Jones, R.A.M.C.

During the operations he repeatedly reconnoitred the roads under heavy shell fire. By his example and leading he established communication with the most forward dressing stations, and succeeded in bringing up his ambulances and rapidly evacuating the wounded from very exposed positions.

Temporary Captain James Manuel, R.A.M.C.

During an enemy attack he showed the greatest courage in attending to wounded men who were lying in shell holes exposed to enfilade machine-gun fire. With complete disregard of his own safety he went from one shell hole to another attending to the wounded, and continued at this work after he had been wounded himself.

Lieutenant John Marshall, R.A.M.C. (S.R.).

When in charge of stretcher squads, he succeeded in evacuating all the wounded during a critical period of a withdrawal from a village, frequently going forward beyond the firing line in order to accomplish his task.

Temporary Captain James Allen Montgomery, R.A.M.C.

On his own initiative he organized a line of stretcher-bearers to search "No Man's Land." He personally took charge of the party, and was often under fire and within a few feet of the enemy.

Temporary Lieutenant David Assur Henry Moses, R.A.M.C.

He worked continuously at his aid post during three days' operations under heavy shelling. Frequently shells dropped close by, killing and wounding several men, but he remained at work and showed the utmost indifference to danger.

Captain George Morris, R.A.M.C. (S.R.).

He moved his aid post forward and worked there ceaselessly day and night until the battalion was relieved. The aid post three times sustained a direct hit from an enemy shell, but he immediately found another aid post, and continued to dress the wounded under continual shell fire.

Temporary Lieutenant Evan Edward Owens, R.A.M.C.

He carried on his work in a crowded aid post under continual shell fire with the greatest coolness and determination. Though blinded by gas, he continued for four hours to supervise the treatment of stretcher cases.



**Captain Harold Dobson Pickles, R.A.M.C.**

While in charge of bearers when a number of wounded were lying in a cellar and the adjoining building, in which a number of "P" bombs and S.A.A. were stored, was set on fire, he at once went to extinguish it and remove the ammunition. While doing so he, a M.C.O., and a man were wounded, but he got them both under cover. An hour later a second fire occurred, and he again went out to extinguish it. For three days he worked without rest superintending the evacuation of the wounded.

**Captain John Alexander Prillham, R.A.M.C. (S.R.).**

He was in charge of an advanced dressing station where there were a large number of wounded when the enemy attacked. The task of removing the wounded was an extremely difficult one owing to the proximity of the enemy and heavy shell and machine-gun fire, but he carried it out successfully, remaining on the spot until all the wounded had been evacuated. By his courage and devotion to duty he was the means of saving many lives.

**Captain William Robertson, R.A.M.C.**

He attended to the wounded in the open during an attack when the battalion was held up by heavy machine-gun and rifle fire and several casualties occurred. When two companies were cut off by heavy machine-gun fire and several casualties, he volunteered to try and reach them. His conduct throughout was most courageous.

**Temporary Captain Lionel Matthew Rowlette, D.S.O., R.A.M.C.**

He worked untiringly attending to the wounded under very heavy fire throughout the whole day, and set a magnificent example of courage and coolness to all.

**Temporary Captain Cedric Russell, R.A.M.C.**

He worked in the open attending to the wounded during an engagement, with complete disregard of danger under heavy fire.

**Temporary Captain Robert Rutherford, R.A.M.C.**

He worked continuously day and night at his aid post under continual shell fire. When the aid post had twice sustained direct hits and he himself was suffering from severe concussion, he established a new post and remained at work under heavy fire.

**Captain Wesley Herbert Secord, C.A.M.C.**

When in charge of the evacuation of the wounded from the forward area, during a heavy bombardment of gas and other shells, he made a tour of all the bearer posts to ensure that all ant gas measures were being employed. He attended to wounded men in the open during the bombardment, with complete disregard of danger. His coolness and courage were a splendid example to all.

**Captain William Ewing Sinclair, C.A.M.C.**

When in charge of bearers at the regimental aid post he worked for three days and nights attending to the wounded, under heavy fire and in the face of great difficulties. Though suffering severely from the effects of gas he remained at duty and set a magnificent example of courage and coolness to all.

**Temporary Captain Brian Herbert Swift, R.A.M.C.**

When the front line was driven back close to the battery positions, he moved about throughout the day from one battery to another, wherever his services were needed, with utter disregard of danger under heavy fire. He remained on the spot until the batteries had withdrawn, and was the last to leave the position. He set a splendid example of courage and determination.

**Captain Arthur Peregrine Thomson, R.A.M.C.**

He worked untiringly and with utter disregard of danger, attending to the wounded under heavy fire for several days during an engagement. It was entirely due to his efforts and example that a large number of wounded were safely evacuated.

**Temporary Captain George Dibbs King Waldron, R.A.M.C.**

When in charge of a party of bearers, though several times blown over by bursting shells, he succeeded in evacuating all the wounded of the brigade. On one occasion he assisted to carry a stretcher case through a heavy barrage. He continued to work till utterly exhausted.

**Captain Douglas Larmer Wall, R.A.M.C.**

He attended the wounded under heavy shell fire in most exposed positions. He showed great courage and determination.

**Captain James Anderson Young, R.A.M.C.**

When the building in which a number of wounded were lying was heavily shelled, with the assistance of another man he succeeded in carrying all the wounded into a cellar, though shells were continually bursting in the building. He showed the greatest courage and determination.

**Captain James Carruthers Young, R.A.M.C. (S.R.).**

While in charge of an advanced dressing station and when the village was continuously shelled he personally superintended the removal of many of the wounded to a safer position. During the night he had them all evacuated and established a new dressing station.

**FOREIGN DECORATIONS.**

The following members of the medical profession are included in the list of recipients of the Croix de Guerre conferred by the King of the Belgians for distinguished service during the course of the campaign (special Supplement to the *London Gazette*, July 12th):

Colonels: Courtenay C. Manifold, C.B., C.M.G., I.M.S., Arthur E. Ross, C.M.G., C.A.M.C.

Lieut.-Colonels: Henry C. R. Hime, D.S.O., R.A.M.C., James H. Neil, N.Z.M.C.

Major James H. Wood, C.A.M.C.

Captains (acting Lieut.-Colonels): William Tyrrell, D.S.O., M.C., R.A.M.C. (S.R.), William G. Wright, D.S.O., R.A.M.C.

Captains: Francis D. Aunesley, R.A.M.C. (S.R.), Colin C. Simson, M.C., A.A.M.C.

Temporary Captains: Andrew Climie, R.A.M.C., Roland A. H. Fulton, R.A.M.C., G. D. McClean, R.A.M.C.

**NOTES.****AUXILIARY HOME HOSPITALS.**

THE total number of auxiliary hospitals provided at home by the British Red Cross Society, the Order of St. John, the Joint War Committee, and the Territorial Force Association appears to be 1,484, containing 84,689 beds. They are distributed as follows:

Command.	British Red Cross Society	Order of St. John.	Joint War Committee.	Territorial Force Association.
	Hosp. Beds	Hosp. Beds	Hosp. Beds	Hosp. Beds
Aldershot ...	— 1,438	—	—	—
Eastern ...	26,412	58 4,185	3 345	16 1,165
Irish ...	— 21	4 15	25 1,564	— —
London ...	6,473	8 271	12 381	— —
Northern ...	— 6,741	89 4,896	— —	2 31
Southern ...	— 17,216	20 2,179	10 518	2 151
Western ...	— 16,150	55 3,918	7 618	— —
Total ...	1,172 64,448	255 15,467	57 3,427	20 1,347

In addition, the Admiralty has accepted a number of hospitals—through the British Red Cross Society, 9 hospitals with 606 beds; through the Order of St. John, 3 hospitals with 334 beds; and through the Joint War Committee, 1 hospital with 12 beds (in Ireland).

The Joint War Committee has recently decided to present to the American Red Cross a fully equipped hospital of 500 beds for the sick and wounded of the American army in France—a hut hospital which, benefiting by the experience gained since the war began, will, it is hoped, be the finest of its kind, in being erected on a site in Windsor Great Park granted by the King.

**UNQUALIFIED TREATMENT FOR SOLDIERS.**

On December 12th last an Army Council Instruction, No. 1802 of 1917, was issued, dealing with the treatment of officers and soldiers by unqualified practitioners, as follows:

1. An officer or soldier who may wish to consult or obtain treatment from an unqualified practitioner at the latter's residence may be permitted to do so at his own risk and expense.

2. Before permission is granted to visit such practitioner he must sign a statement to the effect that he fully understands that no liability for any expense incurred during the treatment, or for any unfavourable effects that may arise as a result thereof, will be admitted as a charge against public funds.

3. Before the officer or soldier first visits the unqualified practitioner he must be examined by two medical officers, and a clear statement made out of his condition. This statement will be retained for reference in the military hospital in which the patient is accommodated.

4. Accidents or untoward sequelae, the result of treatment by an unqualified practitioner, will not be regarded as giving the individual any claim to gratuity or pension.

This instruction was modified by a War Office letter of April 28th, 1918, stating that "no obstacle will be placed in the way of any officer or soldier who desires to avail himself of the services of a practitioner in manipulative surgery who is not possessed of a medical qualification," but adding that the procedure laid down in the instruction must be carried out as heretofore.

Cases of amoebic dysentery have been reported as improved after intravenous injection of salvarsan, and no doubt this may sometimes be effected unintentionally, so to speak, when an amoebic carrier is treated for syphilis. Calame (*Rev. méd. de Suisse rom.*, Genève, 1918, xxxviii, 125-137) has reported the results of giving enemas to a case of proved amoebic dysentery of three years' duration which had become resistant to emetine and showed extensive ulceration of the rectum with the passage daily of ten to fifteen stools containing blood. The patient's general condition was very bad, so, instead of appendectomy, enemas of neo-salvarsan, which in three other cases of ulceration of the rectum (one amoebic, the other two of unknown origin) had been encouraging, were tried. After the first enema blood disappeared from the faeces, and after the third there was one stool only daily. Nine enemas in all were given, the largest dose of neo-salvarsan in any one enema being 0.9 gram. Eventually there was a complete cure with a gain of 21 kilos (46 lb.) in weight.



## Correspondence.

### THE FUTURE OF THE MEDICAL PROFESSION.

SIR.—We are face to face with the greatest crisis in the profession—the possible establishment of a state medical service—and we are still pursuing the old dilatory wait and see policy which has characterized our proceedings through all time.

While articles are written on team practice, special departments for this, that, and the other, and so forth, men in active practice know that most of their anxiety is caused by the problem, What is to become of my capital invested in my practice? Every honest general practitioner knows that that is what is causing him anxiety.

Why not face the question at once? We know we shall not get any help or sympathy from the consultants whose work will not be touched. Medical members of the House of Commons have never been in touch with the needs of the general practitioner.

There is no one to help except each individual member of the profession whose pocket is going to be affected—pretty severely—by this new form of state control, and unless we rouse ourselves at once we shall wake up one day to find our interests have been entirely neglected.

Even at this moment public officials are doing tuberculosis work, ear work, eye work, maternity work, and, as I have heard stated, there will soon be a state medical officer to attend to diseases of the umbilicus. I am a loyal supporter of the British Medical Association and abominate the methods of the Panel Medico-Political Union. But the docile attitude of the former needs gingering with some of the fighting material of the latter.

Every other profession, and, if I may say so, trade, in the world has, by banding together, made itself strong enough to get what it wants.

If the state medical service is to come, as appears more than possible, let us at least be honest, and no longer pretend that our sole objection to its establishment is that we do not like being under the direction of other people, many of them no more competent to do the special work they are appointed to do than we are, but plainly make our view public to the world—that in no other business has it ever been decided that vested interests can be sacrificed at the will of Parliament, and that if a State Medical Service Act does ever come into force ample, just, and full compensation shall be paid to those whose incomes are crippled or impaired by its operation.—I am, etc.,

(Crawley, July 13th.)

SIDNEY MATTHEWS.

SIR,—There is very little doubt that in the future there will be some form of state medical service, which, if managed in a careful and thoughtful way, may benefit both the public and the profession, the former by receiving better service, and the latter by being prevented from becoming overworked automatons. But this can only be effectual if medical men are treated fairly, and I hope that the resolution passed by the Sussex Branch (SUPPLEMENT, July 13th, p. 11) will not be wasted on the desert air, but that the Association will take action to secure compensation for practitioners adversely affected by any system of state medical service. When one considers that the capital invested in a practice is a doctor's chief asset, and sometimes his only one, it is self-evident that any means taken to destroy it should call for compensation. In the case of the brewing trade the Government have recognized this, and the Association will be gravely wanting if the capital losses of medical men are not treated in like manner. A man who for years has worked strenuously and increased his practice should not be robbed of the fruits of his labour.—I am, etc.,

July 14th.

FAIRLIE.

SIR,—In Sir Bertrand Dawson's comprehensive and illuminating forecast of the future of medicine there is one inapt illustration which is given pride of place. He asks: "Who would dream now of treating phthisis (sic) outside such a special institution or colony?" I certainly would of my own free choice in 70 per cent. of the cases, and the medical profession must of necessity treat at least 90 per cent. of all the cases outside the sanatorium.

Further, I venture to prophesy that in fifty years, and probably much sooner, the sanatorium will come to

occupy the same position in any ideal scheme for dealing with tuberculosis as Greek will occupy in any ideal curriculum of an English university in the near future. Like the Greek language, it will be for the most part a delightful luxury of some small value for those who can afford to pay for it, and will never be an essential, except for a select few, who may need it urgently.

Recently I attempted, but without success, to persuade the Royal College of Physicians to appoint a committee of experts to evolve a scheme for dealing with the problem of tuberculosis on some scientific plan. I proposed the creation of a central tuberculosis institute, organized and controlled by medical experts, with the definite purpose of evolving truth out of the chaos that now reigns in our contradictory and discrepant views regarding the etiology, diagnosis, and treatment of tuberculosis. Thus expert physicians, surgeons, bacteriologists, haematologists, radiographers, financiers, and statisticians would be able to co-ordinate their labours so as to discover all that is true and discard all that is false in our present notions concerning the great problem of tuberculosis.

A Minister of Health must face the problem of tuberculosis, not as it affects isolated units, but in the aggregate. Tuberculosis cripples and disables men, women, and children in all ranks of life, but pre-eminently in the industrial classes, and we must never forget that the industrial efficiency of the human unit is our greatest national asset. Any system that can prevent tuberculosis doing its evil work will be an untold blessing. The welfare of the infant, the child, and the adult cries aloud for a victory over tuberculosis. In this conflict the sanatorium can never be or become a very valuable or decisive weapon. Whatever some physicians may say, economists, sociologists, philanthropists, and financiers will seek to find a more comprehensive, more expeditious, more convenient, more economical, cheaper, and more effective weapon than the sanatorium.—I am, etc.,

W. CAMAC WILKINSON, M.D., F.R.C.P.

London, W., July 16th.

### THE INDIAN MEDICAL SERVICE.

SIR,—It will be a source of great satisfaction to every member of the Indian Medical Service to realize that at last the reasons for the acute discontent in the service are known and understood by the Secretary of State. No one reading his reply to the deputation of June 27th can fail to appreciate his sympathetic grasp of the position and to look upon it as a happy augury for the future.

Mr. Montagu alludes to the abnormal war conditions, and the friction which compulsory reversion to military duty involves. Not one word of complaint would have been heard on that ground if officers had felt that the financial and other hardships entailed by the war were being equally shared by all. Unfortunately it is not so, and the feeling in the service is very strong that in a war of already four years' duration, of which the end has never at any time been in sight, some scheme should have been evolved to ensure that the whole burden of war service should not continue to be borne by the 339 members of a service of 700 who have been recalled to military duty up to the present time. It may be admitted that the 360 who remain in civil employment are necessary to carry on the medical work of the country. It may be further admitted that some senior officers occupying administrative posts and professorships cannot be spared without detriment to the state. There are others who would probably not be passed fit for military service. There remains, however, a considerable number of officers, serving chiefly as civil surgeons, who are in no way indispensable. Unquestionably these officers should be given a chance of serving in a military capacity, and their places taken by the senior men who were recalled to military duty early in the war and may now be said to have "done their bit." Moreover, those who are, for medical reasons, unfit for service in the field, should be graded as "fit for military duty in India," and recalled for that duty alone. Many of them would welcome this as a rest from their too strenuous civil life.

The contrast between the positions of the recalled and the unrecalled is so marked that the most elementary principles of justice demand a more equal distribution of the burdens. Take, for example, the case of a recalled senior major. At the age of 40 to 45, he finds himself



reduced to pay which barely suffices for the needs of his family in England, and such unavoidable expenses as insurance premiums and pension fund subscriptions. For his own expenses there will probably remain absolutely nothing. If he is fortunate enough to have any private means or savings, he may keep out of debt for a time, but it is unlikely that he can do so through four years of war. In most instances he is entirely cut off from his family, and cannot get any leave to England. He runs the risk of death, wounds, and disease. Not improbably he is employed in uninteresting work of a routine nature, and gets completely out of touch with the curative side of medicine—a very severe handicap when he resumes his civil career.

The unrecalled men remain in full enjoyment of such "plums" as the civil side of the service affords, since there are no rivals in the field. Financially speaking, they are "on velvet." Their domestic life continues its normal course, without the added expense of two establishments. They are engaged in the same interesting and varied professional work as in pre-war times.

There would be little profit in drawing attention to these matters if they were an inevitable consequence of war, and therefore irremediable; it cannot, however, be argued that the gradual transfer of a hundred or two of civil medical officers to military service and their replacement by an equivalent number of those recalled early in the war is an administrative feat which must baffle the Government of India for the entire duration of the war.

The present position is most unsatisfactory not only to the recalled but also to the unrecalled, who feel that they are denied all opportunity of seeing active service. Hitherto the official attitude has been "sympathetic-apathetic," if I may so term it, but the time has now come when appropriate action is urgently called for. An authoritative pronouncement that this action will be taken, and the interest of those who have up to now borne the heat and burden of the day duly considered, would be welcomed throughout the entire service.—I am, etc.,

July 12th.

"I.M.S."

#### THE ABUSE OF DRAINAGE TUBES.

SIR,—In the JOURNAL of June 29th (p. 718) Mr. Frank Hathaway has an interesting article on the abuse of drainage tubes.

After at least six years' experience of soft rubber drainage (dental dam) it is possible to emphasize the great advantages of its use. Mr. Hathaway might have gone further and pointed out the dangers of rubber tubing in producing necrosis of bone, secondary haemorrhage, and, when used in the abdomen, faecal fistula. With rubber tubing there is a constant elastic pressure exerted on the neighbouring parts, which is bound to produce pressure necrosis. Rubber tubing must be more uncomfortable for this reason than the adaptable soft material. Rubber tubing rarely drains along the centre—it is by capillarity between the tube and the soft parts; soft rubber drains by capillarity between the folds as well as the adjacent structures. They are painless and effective. In civil practice the commonest suppurative condition to treat is acute suppurative appendicitis. My practice is to make a gridiron incision, wall off the peritoneum with gauze, open the abscess and swab up the pus, remove the appendix, and drain with soft rubber, never making any counter openings unless, later, one is needed. In the last six years 135 suppurative cases have so been treated personally, and the mortality from all causes amounted to 12—about 8.8 per cent. The insertion of soft rubber to any depth in the pelvis is not so easy as rubber tubing, but the effect on the drainage and on the comfort to the patient is great.

After removal of tuberculous cervical glands, the soft rubber can be arranged so that portions may be placed at likely spots for lymph accumulation, and the drain brought out posterior to the sterno-mastoid in the hair region, while the anterior wound is sewn up.

In suppurating intermuscular wounds, such as are produced by war injuries, and septic compound fractures, Mr. Hathaway will find active and passive movements an asset in the way pus is pumped to the surface, just as, in the abdomen, getting the patients to move about early is helpful in any drainage.

Just now splints and plaster-of-Paris are the curse of the age, and there are thousands of men with stiff joints

and atrophied muscles, the result of such immobilization, who would be infinitely better, and many of them perfect, had active and passive movement been carried out from the earliest date. Just the other day, for example, a patient with a septic wound of the lower and outer part of the humerus was seen by me; the bone was not fractured completely, joint and nerves were intact. He had been treated with a sling for over two months, and no movement. His elbow is now quite stiff and it will take weeks to get complete use back. It is indeed most sad to see these cases. To invent a splint is wonderful; to do without splints and encourage early movement is not wonderful, but infinitely more effective.

If surgeons were only to give soft rubber a good trial they would not resort to tubing except in a few exceptional cases.—I am, etc.,

Edinburgh, July 9th.

J. W. DOWDEN.

#### THE TREATMENT OF FUNCTIONAL NERVOUS DISORDERS IN THE ARMY.

SIR,—Within the next few months a considerable number of members of the medical profession will be called up to serve with the R.A.M.C. Some will be men of experience attached to the consulting staffs of hospitals in London or the provinces, and many will be anxious, if possible, to do work that has some bearing on the less mechanical aspects of medicine.

Now, the present war has revealed a vast field for useful work in the treatment of those functional neuroses usually classed together under the heading of "shell shock." The War Office has initiated a system for dealing with such patients in special hospitals, under the care of officers specially selected for the purpose. Opportunities for instruction in the branch of medicine are given to those who, like the majority of the profession, are unfamiliar with the treatment of the neuroses.

As a certain number of medical men who are interested in, or have had previous experience in, this work, may be required, they should send in their names to the War Office, as soon as they are called up, stating their wish to undergo a course of training in this branch of medicine.—I am, etc.,

London, July 13th.

H. H.

#### THE BURDEN OF COSTLY REMEDIES.

SIR,—If the administrative ineptitude of the English portion of the Insurance Commission, resulting in an unfortunate panel practitioner being mulct in the cost of serum supplied to his panel patient, is an indication of the difficulties being experienced in establishing a Ministry of Health on a sound basis one may well despair of seeing the scheme drawn by Sir Bertrand Dawson's masterly hand ever realized.

But officialism, even in the Insurance Commissions, is not ever so. My experience, having paid for serum administered to a panel patient when I was on a county panel under the Scottish Commission, had an opposite result. Not only was I refunded my outlays, but the Commission at once issued regulations placing the various serums at the disposal of Scottish panel practitioners for administration to their panel patients, even, if I remember rightly, refunding the cost of telegraphic orderings.—I am, etc.,

Darlington, July 14th.

ALLAN GRAY.

### Universities and Colleges.

#### UNIVERSITY OF CAMBRIDGE.

THE following medical degrees were conferred on July 13th:

M.B., B.C.—H. Morrison, R. J. Hearn.  
B.C.—J. H. E. Moore.

#### UNIVERSITY OF BRISTOL.

THE following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—W. P. Taylor. Part I Only (including Forensic Medicine and Toxicology). F. V. Jacques.  
D.P.H.—A. G. Bodman.

#### UNIVERSITY OF LIVERPOOL.

THE Diploma in Public Health was awarded on July 6th to the following: E. H. T. Cummings, G. H. Darlington, J. Drummond, I. J. Lipkin, H. E. Middlebrooke, K. J. Rustonjee, R. C. Watts.



## UNIVERSITY OF BIRMINGHAM.

THE following candidates have been approved at the examinations indicated:

**FINAL M.B., Ch.B.—Class II.:** Alice M. Chinn, Olive O. Hooper, Mabel E. Prosser, E. B. R. Scurrway.

**FOURTH M.B., Ch.B. (Forensic Medicine and Toxicology, Public Health, Therapeutics and Special Pathology).—Class I.:** Dorothy Chataway and J. L. Taylor. **Class II.:** E. F. Brown, Constance B. Challis, Mary D. Gilson, E. G. T. Holden, T. C. McKenzie, Doris E. F. Stanton, and Honor M. Willis. **Passed in Therapeutics, Public Health, Forensic Medicine, and Toxicology:** E. N. J. Brett. **Completed examination:** Margaret A. Williams (Forensic Medicine and Toxicology).

**THIRD M.B., Ch.B. (General Pathology and Bacteriology, and Materia Medica and Practical Pharmacy).—Class I.:** W. S. Adams, Doris I. Bosworth, H. Donovan, Olive M. C. Southall, Kathleen M. Tillyard, and Hilda S. Wicker. **Class II.:** Ada V. V. Allen, W. A. Bryce, Edith E. A. Cooke, A. Epstein, Gladys M. Evans, Agnes M. Frew, B. Molloy, H. T. Roper-Hall, and Mary B. Stone. **Passed in Materia Medica and Pharmacy:** Edith M. Ainscow and E. Lowe.

For the Queen's scholarship, third year: H. Donovan and Kathleen M. Tillyard were equal; that for the fourth year has been awarded to Dorothy Chataway.

## UNIVERSITY OF EDINBURGH.

## GRADUATION CEREMONY.

At the graduation ceremony, on July 11th, Professor Sir Richard Lodge read a list of military honours gained by members of the University in the service of their country. In 1917 graduates or alumni of the University had obtained 2 D.C.M.'s, 3 D.S.C.'s, 74 M.C.'s, 30 D.S.O.'s, 15 C.M.G.'s, 5 C.B.'s; and in 1918, so far as the year had gone, they had won 2 D.C.M.'s, 3 D.S.C.'s, 83 M.C.'s, 40 D.S.O.'s, 15 C.M.G.'s (including two professors), 6 C.B.'s, and 2 Victoria Crosses (including a nephew of Professor Wallace). Fully a score of women graduates and alumni had joined the Q.M.A.A.C., and a number of graduates had been made Knight Commanders and Members of the Order of the British Empire, including one lady, who was one of the Prime Minister's secretaries.

The following were the recipients of degrees:

**M.D.—**A. J. Anderson, R. B. Barnett, R. Donaldson, W. B. Drummond, R. Gardner, J. W. Keighley, A. L. Krogh, A. L. J. Lum, W. J. Porteous, H. D. Robb.

**M.B., Ch.B.—**Lal Singh Anand, Dorothea I. Baird, I. A. Beckles, Z. J. de Beer, I. W. T. Benson, C. Blake, S. Boodoosingh, G. B. Brewster, H. J. Brink, G. Buchanan, R. E. J. Burns, R. T. Carr, J. A. L. Cook, J. H. Crawford, F. Xavier Maya Das, E. D. D. Dickson, Jean D. Don, J. K. van Oosterzee Dunning, G. W. C. Dunnlop, J. Edelstein, D. Fergusson, M. J. Gibson, Hassan Ali El Girby, F. Guparatna, Sukumar Dutta Gupta, W. H. Herberg, L. C. D. Hermite, N. Hirschman, F. Holmes, H. M. Jacobs, J. T. Johnston, A. Kleurman, D. A. Knight, D. C. Lamont, R. H. S. Langeveld, J. B. H. Liggins, Teong Kye Lwin, W. M. M'Alister, R. B. MacGregor, N. Macleod, J. M'Nabb, J. M. Macnab, R. C. B. Macrae, Mary P. Mair, M. Melvin, G. H. Middleton, J. C. B. Mitchell, J. S. Moroka, T. B. Moyes, A. J. Myburgh, H. J. Parish, H. S. Percival, J. Rauch, Gertrude M. V. Richardson, Dorothy A. Robertson, J. H. L. Shapiro, C. Simpson, F. W. Simon, D. W. Sinclair, Janet S. Smith, Mul Raj Soni, Marguerite R. Stirling, May L. Walker, R. Wallace, U. G. Williams.

\* Commended for thesis.

+ Highly commended for thesis.

† With first class honours.

‡ With second class honours.

The following awards were made:—**Ettles Scholarship:** W. F. Benson. **Beaune Prize in Anatomy and Surgery:** J. K. van Oosterzee Dunning. **Mouat Scholarship in the Practice of Physics:** H. R. Goldberg. **Conan Doyle Prize:** H. M. Jacobs. **James Scott Scholarship in Midwifery:** E. J. Burns. **Scottish Association for Medical Education of Women Prize:** Marguerite R. Stirling. **Dorothy Gilfillan Memorial Prize:** Joyce C. B. Mitchell. **Pattison Prize in Clinical Surgery:** R. L. Galloway. **Cunningham Memorial Medal and Prize in Anatomy:** R. G. McIntyre *in absentia*. **Whiteside Bruce Bursary:** Jessie Eeles.

Many of the recipients of degrees were in khaki and one of them wore the decoration of D.S.O. and the Military Cross. The Ettles prizeman was a surgeon probationer R.N.V.R. Miss May L. Walker, who received the degrees of M.B., Ch.B., also holds the M.A. and B.Sc. degrees, and is said to be the first woman to hold all three.

## UNIVERSITY OF ABERDEEN.

The graduation ceremony on July 9th was presided over by the Chancellor, the Duke of Richmond and Gordon. It was stated that the total number of graduates of the university, alumni, students, and members of the teaching staff who were not graduates, now on service for their country was 2,679.

The following were among the degrees conferred:

**M.D.—**Captain A. W. Hendry R.A.M.C.(T.C.).  
**M.B., Ch.B.—**G. S. Escoffery, James I. Semple, J. Alexander, W. Buchan, W. A. Bents, M. A. Dawson, A. M. Dugan, Isabella Ferguson, A. C. Hill, Mabel G. Lawson, R. D. Lockhart, V. McKenzie, J. W. Mann, J. Morrison, A. C. Paterson, J. A. Ross, J. C. Sleigh, Sophia K. G. Stuart, Gwendolen J. E. Wilson.  
**D.P.H.—**Staff Surgeon A. Reub, R.N.

\* With first class honours.

† With second class honours.

‡ Passed fourth examination with distinction.

§ Passed fourth examination with much distinction.

The Lizars medal in anatomy has been awarded to Annie Thain and G. O. Thornton (equal). The John Murray medal and scholarship, awarded to the most distinguished graduate for M.B. in 1918, has been conferred upon G. S. Escoffery (Kingston, Jamaica).

## UNIVERSITY OF DUBLIN.

## TRINITY COLLEGE.

**Diploma in Gynaecology and Obstetrics.**—The Board and Council have decreed: (1) That a Diploma in Gynaecology and Obstetrics be established, and that the examination for this diploma be open to all registered medical practitioners who, after the date of registration, have taken out a prescribed course at Trinity College and at the Rotunda Hospital or other hospital recognized for the purpose by the Board and Council of Trinity College. (2) That the course of study shall extend over one year. That six months' residence in Trinity College and six months' residence at the Rotunda Hospital be required. (3) That instruction be given during the year's course in practice of midwifery, practice of gynaecology, anatomy of the female perineum, elementary embryology, pathology of the female organs, and antenatal pathology. (4) That the examination for the diploma be in the same subjects.

The arrangements for the curriculum have been made by Trinity College jointly with the Rotunda Hospital.

## School of Physics.

The following candidates have been approved at the examinations indicated:

**FINAL MEDICAL, PART I—Medical Jurisprudence and Hygiene: Materia Medica and Therapeutics: Pathology:** J. S. Quinn, T. D. Gordon, H. Cohen, W. T. Micks, H. A. Burridge, C. J. de V. Short, W. J. A. Russell, Eileen H. Dowse, C. J. L. Brock, W. B. Fox, S. J. Lavery, R. E. Murphy, Jessie Gilbert, Olive Baile. **Medical Jurisprudence and Hygiene: Materia Medica and Therapeutics:** J. A. Acheson, S. R. Hill, G. FitzM. Keatinge, F. W. Robertson.

**PART II—Medicine:** A. L. Gregg, P. C. Parr, J. W. Scharf, L. Albertyn, J. G. Bird, S. G. Mitchell, L. J. P. Murphy, W. J. McClintock, D. S. Prentice, E. R. Tivy, C. G. Ambrose, B. D. Merrin, K. McG. Greer, E. J. Lyndon, Margaret Wolfe. **Surgery:** J. W. Scharf, E. F. Wilson, B. M. D. Devereux, E. E. Rollins, W. J. McClintock, Rita Henry, Captain J. E. Jameson, V. M. Synges, B. D. Merrin. **Midwifery:** Mary G. Sheppard, L. Albertyn, Ethel M. Luce, F. McG. Ferguson, R. M. D. Devereux, E. R. Tivy.

**D.P.H., PART I—Chemistry: Bacteriology and Pathology: Physics and Meteorology:** Captain J. Beckett, E. O. Bowie. **PART II—Sanitary Engineering: Hygiene and Epidemiology: Vital Statistics and Public Health Law:** R. A. Keane.

\* Passed on high marks.

The following awards have been made: **Fitzpatrick Scholarship, H. L. Parker. Medical Scholarships:—Anatomy and Institutes of Medicine:** E. H. C. Allen. **Botany, Zoology, Chemistry, and Physics:** D. S. Spence. **Henry Hutchinson Stewart Scholarships:—Anatomy and Institutes of Medicine:** A. J. L. Smyman, E. S. Smyth (special for two years). **Botany, Zoology, Chemistry, and Physics:** Dorothy A. Daly. **John Mallet Purser Medal, Captain G. H. Davis. Cunningham Medal, Edith F. Willock.**

## ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY Council was held on July 11th, when Sir George Makins, President, was in the chair.

**Council Election.**—The following four Fellows, elected into the Council on July 4th, took their seats: Sir John Bland-Sutton, Mr. Walter George Spencer, Mr. Ernest William Hey Groves, Mr. John Lynn Thomas.

Lieut.-General Sir Arthur Sloggett was admitted a Fellow of the College.

**Diplomas in Public Health.**—Six diplomas were granted jointly with the Royal College of Physicians to candidates found qualified at the recent examination.

**Election of Lecturers.**—The following lecturers were appointed—**Hunterian Professors:** Arthur Keith, Gordon Taylor, A. J. Walton, David Ligat, T. B. Layton, Alexander Fleming, E. G. Schlesinger. (Professor Keith will deliver six lectures, and the others one each.) **Arris and Gale Lecturers:** Edred M. Corner, Ernest M. Cowell, John C. Briscoe. **Arnott Demonstrator:** Arthur Keith.

**Election of President and Vice-Presidents.**—Sir George Makins was re-elected President for the ensuing year and Mr. W. F. Haslam and Sir John Bland-Sutton were elected Vice-Presidents.

The President reported that, in pursuance of a suggestion which had been made to him, he had taken steps to transmit the following message of greeting to the French nation apropos of the celebration of "France's Day" on July 12th in London and on July 14th in Paris:

From the President and Council of the Royal College of Surgeons of England.

BROTHERS-IN-ARMS WE GREET YOU!

Bound by ancient ties of blood and by the memories of many a gallant conflict in the past, to-day we stand as one Nation united in a sacred cause.

We have before us a happy prelude from the past. As the united efforts of Pasteur and Lister have laid low the tyranny of disease, so shall France and Britain conquer a tyranny still more remorseless.

Our future brightens, and shall shadow Gaul and Britain with a common birthright to remain a splendid heritage for all time.

## ROYAL COLLEGES OF PHYSICIANS AND SURGEONS, IRELAND.

The Reuben Harvey Memorial Prize has been awarded to William Robert Fearon, B.A., B.Sc., for his essay on "The amyolytic properties of urine," and a second prize has been awarded to Dr. Joseph W. Bigger for his essay on "The effects of keeping on the complementary power of guinea-pig serum."



## Obituary.

JAMES GREEN, L.R.C.P., M.R.C.S.,

Late Honorary Secretary and Treasurer, Southern Branch,  
British Medical Association.

WE regret to have to record the death of Dr. James Green of Mile End, Portsmouth, on July 14th. He had for some time suffered from cardiac symptoms, and had recently been obliged to give up his duties as Honorary Secretary and Treasurer of the Southern Branch, offices which he had held with much success during the last seven years. He received his medical education at the Manchester Royal School of Medicine, and obtained the diploma of M.R.C.S. in 1872, and that of L.R.C.P. in 1873. With regard to his subsequent career, Dr. Ward Cousins, who was President of the Association at its annual meeting at Portsmouth in 1899, when Dr. Green was secretary of the Section of Diseases of Children, tells us that soon after he obtained his diplomas Dr. Green entered into partnership with Mr. Scale, who occupied a very influential place in the social life of Portsmouth. Dr. Green, Dr. Ward Cousins continues, was a very able practitioner and warm-hearted friend, who always enjoyed the complete confidence of the whole profession in the neighbourhood.

Dr. Green had long taken an active interest in the British Medical Association. He was a member of the Central Council, and at one time chairman of the Public Health Committee. He was also an active member of the Medico-Political Committee, of the Poor Law Medical Officers' Subcommittee, and of the Medical Officers of Health Subcommittee. Dr. Green leaves a widow and family of seven sons and one daughter. His second son, Dr. Philip Green, has been a prisoner for some time in Germany. Another son is Temporary Captain E. A. T. Green, R.A.M.C., and a third is Lieutenant R. A. Green, Hampshire Regiment, both of whom have received the Military Cross.

DR. WILLIAM H. SLIMON, for over thirty years a leading practitioner at Clacton-on-Sea, died suddenly of heart failure on June 18th. He was born in Scotland in 1851, the son of a Scottish doctor, and was educated at the University of Glasgow, where he graduated M.B., C.M. in 1870 and M.D. in 1895; in 1883 he took the diploma of L.R.F.P.S. Glasg. He was a vice-president of the East Anglian Branch of the British Medical Association, consulting surgeon to the Cottage Hospital, Clacton-on-Sea, of which he was one of the founders, and consulting physician to the Ogilvie Homes, Clacton-on-Sea. Among his many public activities Dr. Slimon was a justice of the peace for the counties of London and Essex, vice-chairman of the Essex County Appeal Tribunal, and chairman of the Clacton War Pensions Committee. He was in practice in New Cavendish Street as well as at Clacton-on-Sea, and, after an exceptionally heavy day in London, he was about to return to Clacton in the evening, when the fatal seizure occurred. His death is greatly regretted, not only in Clacton, but throughout East Anglia.

DR. LEWIS STEPHENS LYNE LIDDELL, of Bury, Lancashire, died on June 30th, 1913, at Llanfairfechan, after some months of illness, aged 46. Dr. Liddell graduated M.B. and C.M. Edin. in 1897, and after being house-surgeon at Bolton Infirmary, and in private practice, took over the practice of the late Dr. Charles McLaren in Bury in 1909. He was the last surviving son of the late Mr. John Liddell of Pinkie Hill House, Inveresk, by his wife, a daughter of the late Mr. Lewis Stephens Lyne. In addition to his private practice, Dr. Liddell held the appointments of vaccination officer and medical officer to the guardians of the Union of Bury. His patients of all degrees had a great regard for him—a regard gained not only by sound professional knowledge and a high ideal of professional practice, but also by his kindness and his keen interest in those whom he attended.

SIR ROBERT BREDON, K.C.M.G., whose death is announced from Peking, was born in February, 1846, at Portadown, Ireland, where his father, Dr. Alexander Bredon, resided. Robert Bredon graduated at Trinity College, Dublin, passed out first at Netley for the Army Medical Staff in 1867, and was appointed to the 97th Regiment. On retiring from the army in 1873 he entered the Imperial

Maritime Customs, China, of which he became Deputy and afterwards acting Inspector-General. In 1910 he was appointed to the Chinese Board of Customs, but retired in deference to the wishes of the British Government. During the Boxer rising he took part in the defence of the Legations, and received the war medal and clasp. He had been the recipient of a number of foreign orders.

## The Services.

### AUXILIARY R.A.M.C. FUNDS.

THE usual quarterly meeting of the committee was held at 11, Chandos Street, London, on July 12th, when Major Maclean was in the chair, and several members, including Major-General T. H. Goodwin, Director General Medical Services, the Honorary Treasurer, and the Honorary Secretary, were present.

From the Benevolent Branch, for the relief of children of officers of the Auxiliary R.A.M.C. who died as a result of the present war, grants were made in three cases, to the amount of £176.

Grants from the Relief Branch, for the relief of the widows and orphans of the rank and file of the Auxiliary R.A.M.C., were also made.

Subscriptions and applications for relief from either Branch should be made to the Honorary Secretary, Auxiliary R.A.M.C. Funds, 11, Chandos Street, Cavendish Square, W.1.

### EXCHANGE.

CAPTAIN R.A.M.C., Yorkshire—shooting, fishing, hunting with hounds—ambitious to take Fellowship, seeks exchange with officer in Ireland; medical centre or near. Address, No. 2750, British Medical Journal Office, 429, Strand, W.C.2.

## Medical News.

DR. J. C. UHTHOFF has been promoted to be a Knight of Grace of the Order of St. John of Jerusalem.

IN the Parliamentary Notes in last week's JOURNAL was printed the statement by Sir Auckland Geddes with regard to new definitions for the medical grading for older men. This statement has now been issued to tribunals by the Local Government Board and the Scottish Office in a Memorandum, R. 218.

THE Principal of the Royal Institute of Public Health, Colonel W. R. Smith, M.D., having been elected Sheriff of the City of London, the treasurer of the institute invites Fellows and Members to contribute to the fund which has been formed to present Colonel Smith with his chain of office.

AN influential committee has been elected to advance the project of endowing a bed in the Royal City of Dublin Hospital in memory of the late Lieut.-Colonel Henry Moore, R.A.M.C. Mr. G. Jameson Johnston, F.R.C.S.I., 13, Lower Fitzwilliam Street, Dublin, is the honorary treasurer.

A MEETING of the Royal Sanitary Institute will be held in the Town Hall, Ipswich, on Saturday, July 27th, at 11 a.m., when a discussion on housing will be opened by Sir Henry Tanner, and a discussion on the provision of maternity homes by Dr. A. M. N. Pringle, M.O.H. Ipswich.

THE Council of Epsom College announces that there will be a vacancy for an entrance Salomons scholarship of £50 at the beginning of the Michaelmas term. The candidate must show an adequate standard of education for his age, and his financial condition must be such as to make it impossible or difficult to obtain an education at the college without the help of the scholarship. Applications should be sent to the secretary, at the office of the College, 37, Soho Square, W.1., by July 29th.

THE medical practitioners of co. Derry have recently fixed a scale of fees for the medical examination of applicants for insurance policies. The minimum fee for any sum of £500 and under was fixed at £1 1s., and £2 2s. for any sum over £500. The doctors of the county have pledged themselves to adhere to the fees they have unanimously fixed, and expect that neighbouring doctors will also insist on these fees, particularly in cases in which applicants are taken into other areas to be examined with the object of getting the work done at cheaper rates.

A MEETING of the Central Committee for the State Registration of Nurses was held in the Council Room of the British Medical Association, 429, Strand, on July 6th, with Dr. T. W. H. Garstang in the chair. Reports were received from the honorary secretaries and the Executive Committee. Upon the recommendation of the Executive Committee the request for representation of the Irish Nursing Board, approved by the Royal College of Surgeons



in Ireland, was agreed to. Various amendments to the Nurses' Registration Bill were agreed to. Resolutions were approved recording the opinion that registration of trained nurses should be carried out by an independent nursing council, constituted by Act of Parliament, and dissociated from any one organization of nurses, such as the College of Nursing, and protesting against a clause recently inserted in the bill drafted by the College of Nursing, which provides for the registration of specialists other than male and mental nurses.

THE late Miss Grace Ross Cadell, surgeon to the Edinburgh Hospital for Women and Children, who left £47,000, bequeathed £2,000 free of income tax to the Edinburgh Hospital for Women and Children and Hospice, to endow a bed in the Maternity Department in memory of her mother, £100 to the Leith Hospital, £1,000 to the Queen's nurses in Scotland, and £300 to the Leith Branch of the Queen's nurses. She made bequests to her four foster children which, in certain eventualities, may be given in respect of the girls to help the medical education of women in the University of Edinburgh, and in the case of the boys to the Edinburgh Medical Department. The residue of the estate is to be divided equally between the Edinburgh Hospital for Women and Children and Hospice and the University of Edinburgh to help in the medical education of women.

THE National Physical Laboratory has made arrangements after consultation with the department of Scientific and Industrial Research, and in conjunction with the British Chemical Wares Manufacturers' Association, and the British Laboratory Ware Association, for testing scientific glass ware on a more comprehensive scale than hitherto. The work done will include volumetric tests on graduated vessels of all kinds, tests on the resistance of vessels to chemical action, on filter paper, porcelain ware, etc. The tests will be of two grades: Class A, the examination of vessels of the highest accuracy, which will be carried out at the laboratory at Teddington; and Class B, the examination of vessels intended to possess only commercial accuracy, a work which it is hoped may eventually be done locally. The fees charged range from sixpence for a pipette with one mark, to five shillings for capacity test of gas burettes and tubes at five points. A paper of instruction as to the manner of sending scientific glass ware for testing can be obtained on application to the Director, National Physical Laboratory, Teddington, Middlesex.

## Letters, Notes, and Answers.

Authors desiring reprints of their articles published in the British Medical Journal are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

The postal address of the British Medical Association and British Medical Journal is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR OF THE BRITISH MEDICAL JOURNAL, *Atiology*, Westrand, London; telephone, 2631, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Mediscera*, Westrand, London; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### QUERIES AND ANSWERS.

ALON asks for the experience of any one who has used an auto-wheel attachment to a bicycle, more especially in wet and windy weather, and in mounting moderate gradients.

ELMAR asks for suggestions for the treatment of the headache so often complained of by men who have been gassed. In the cases he has seen the headache was chiefly vertical, was very severe, and got worse as the day went on, and was aggravated by brain work. He asks if it is circulatory or neurotic in origin.

### LETTERS, NOTES, ETC.

#### STUDENTS AND KHAKI.

LEX COMITANT writes: The medical student who joined up in 1914 and is now back to qualify—bereft of his uniform—is still open to base insults in the street. We keep applying to the War Office for permission to wear uniform (even to travel in or for occasional use), but the same icy reply always comes back: "I am directed to inform you, etc., that your request cannot be granted, etc., etc." We get no

seniority on our return to the army when we have qualified, and receive no consideration as far as our feelings are concerned for our past services. We spend our own money to qualify, and are grabbed as a matter of course again when qualified. When we look around and observe the numbers of men who with no previous army service are put into khaki to do their job, often with high honorary rank, it makes our blood boil to think that we are deemed unworthy to wear uniform.

#### "HEALTH RESORTS OF THE BRITISH ISLANDS."

THE editor (42, Elvaston Place, S.W. 7) of the book published some time ago with this title, finding it difficult owing to war conditions to get into touch with the original contributors, asks that those writers, and others representing health resorts, will as soon as possible send to him for a revised edition notes on changes of importance during the past six years.

#### COLLOIDAL MANGANESE IN SEBORRHOIC ECZEMA.

DR. WILLIAM HARGOOD (Sutton) writes: This is one case only, but to me so striking as to seem worthy of report. A girl, 9 years of age, was brought to the School Clinic of the Surrey Education Committee in March, 1917, with seborrheic eczema affecting the whole of the head, eyebrows, and ears. Masses of crust covered the scalp, and their removal disclosed pitted and inflamed surfaces. The eruption was complicated with impetigo on the face, neck, and shoulders. Her mother stated that the condition had existed for two years in spite of private and hospital medical treatment. The patient attended regularly this school clinic up to April, 1918; and, although at times the local applications used produced some temporary amelioration, at the end of the year she was in the same miserable condition.

On reading in your issue of April 20th, 1918, Sir Malcolm Morris's communication, I obtained the paper by Mr. J. E. R. McDonagh in the *Medical Press and Circular* of December 5th, 1917, and, following his practice, I, on May 7th, injected 1 c.cm. of intramine into the gluteal muscle. Seven days later an injection of 2 c.cm. of colloidal manganese was given, and the same dose repeated on two occasions at weekly intervals. By June 4th the skin was normal in appearance for the first time since the onset of the eruption three years ago. The skin remains clear up to the present time.

#### DRUGS IN INFLUENZA.

DR. E. B. FFENNELL (Southbourne) writes: During fourteen years' colliery practice I attended a great many cases of influenza, both epidemic and otherwise, and almost invariably put the patients on large doses of sp. or liq. ammon. arom. with in nearly every case very marked benefit. Often a simple mixture of this with sodium bicarbonate, and infusion of gentian or quassia was the only medicine required. To this day I dose my own family and myself with it when suspicious symptoms occur.

#### MEDICAL SICKNESS AND ACCIDENT SOCIETY.

OLD MEMBER writes: As one of the oldest members, may I also raise my urgent protest against the action of the members at the general meeting on May 3rd? I can hardly think that either they or the Committee can have seriously weighed the matter or they would not in such an apparently offhand and peremptory way have decided to deprive the old members of their last, and probably in some cases only, benefits during long membership at a time when the funds are in a sound condition. Many who, like myself, took an active part in founding the society, and have since worked hard in its interests, now find ourselves in the false position of having persuaded friends to join, pointing out as one of the advantages the bonus at 65. Had we old members, many of us living hundreds of miles from town, had a suspicion (we were hardly likely to have it) that our interests would be ignored and we be deprived of our rights, we should have found it quite impossible to defend them, largely on account of war contingencies, and that, to say the least, when we may be prematurely broken down in health by the extra work and strain involved, and almost broken in pocket by the increased expenses. Within my own personal knowledge I could cite instances in which this action, if carried out, will not only cause great injustice but will be cruel in its effects upon members and their dependants.

#### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s	d.
Seven lines and under	...	...	0 6 0
Each additional line	...	...	0 0 9
Whole single column	...	...	4 0 0
Whole page	...	...	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.



## BROKEN SLEEP.

BY

GUTHRIE RANKIN, M.D., F.R.C.P.,

CONSULTING PHYSICIAN TO THE DREADNOUGHT AND ROYAL  
WATERLOO HOSPITALS.

IN these strenuous times there has been probably no greater interference with the ordinary comfort of humanity than the broken sleep that has become such a widespread experience since the outbreak of war. The disturbance manifests itself in various ways: some cannot get off, but, once asleep, rest comfortably till morning; others go to sleep immediately on getting into bed, but wake during the early hours to toss and tumble a longer or shorter time until they fall anew into a troubled and unrefreshing slumber; others, again, hardly sleep at all, if their statements can be relied upon, though in most instances they at least doze more than they know. To all who suffer thus, in whatever degree, sleep, such as it is, brings no morning sense of refreshment and reinvigoration, and many are able only too truly to say with Job, "When I lie down I say, When shall I arise and the night be gone? and I am full of tossings to and fro unto the dawning of the day."

The sleeplessness which so often accompanies organic disease is a direct consequence of the primary ailment, and its treatment becomes merged in that of the general condition. But apart from disease, the sound and untroubled sleep of healthy youth comes to yield to a less settled habit of dreamless nights as the years go on. The drag upon tissue-life becomes responsible for diminished elimination of waste products, impaired capacity for perfect assimilation, and inability to respond fully to the demand of unusual effort. Moral responsibilities also multiply, and a progressive perception of the greater verities of existence creates new concepts of duty, which add to the burden of each day's endeavour. In addition to these causes, which are the normal fulfilment of life's destiny, the rhythmic process of natural sleep is liable to be interrupted by diverse disturbances of a functional type. The subtle problem of etiology is obscure, and cannot be given any one explanation. Every functional interruption of physiological processes is associated with a corresponding instability of the nervous centres, and there is no feature more insistent down the whole gamut of the complex symptomatology of neurasthenia than broken sleep.

In those who have inherited a gouty diathesis and who are of the neurasthenic type there is, after middle life, a striking tendency to an early morning disturbance of sleep. Somewhere between 2 and 4 a.m. rest is broken by a sensation of gastric discomfort revealed by flatulent distension and eructations of sour acrid fluid. Sodium bicarbonate or soda-mint tablets, or even a dry biscuit, affords speedy relief, and sleep returns. The explanation probably is an excessive secretion of gastric juice, such as is constantly met with in cases of fatigue dyspepsia. The trouble most frequently arises after a day of over-strenuous work or mental strain, especially if to this is added an unwise evening meal. It is a functional condition, due to pyloric spasm, which, when associated with acidity two or three hours after each meal during the day, and with tenderness in the epigastric region, is often attributed to duodenal ulceration. Its long continuance may ultimately produce a breach of surface in the duodenal mucous membrane, but with proper attention to diet and the assistance of suitable remedies, organic change may be obviated. This early morning waking is often the first symptom of excessive gastric secretion.

This terrible war has exacted from those who participate in its activities, as well as from those who "watch and wait," an enormous toll of misery both by day and by night. The man whose nervous system breaks under the strain of the horrors of active conflict finds his clinical counterpart in the mother, wife, or sweetheart at home, whose mental poise has equally, and after a similar manner, yielded to the burden of long-continued anxiety. Both have reached, through different channels, the limit of endurance, and the periodical repose which the nervous system can only obtain during sleep is interrupted, or, it may be, permanently broken.

The soldier suffering from shell shock cannot sleep because his cerebral centres have become obsessed and are kept active by the terrors of recent experiences. Similarly,

the anxious wife or mother cannot sleep because her mental anxieties have created an atmosphere of apprehension which fills every moment of her life, and cannot be soothed into recuperative oblivion owing to the imperfect quality of the rest which comes to her at night. Sorrow and suffering have become a dominating feature in almost every household. Life is no longer a struggle to escape accident and disease, but has become a purgatory of suspense and bereavement. The unspeakable horrors on battlefields and in prisoners' camps; the moans and mute appeal of suffering from numberless hospitals scattered all over the war area; terrible disasters at sea, and ghastly air raids at home, make dismal news our daily portion. The Angel of Death is abroad, and in one way or another his activities are evident in almost every corner of the earth. Peace of mind and safety of body, being alike imperilled, sleep, which is the guardian of both, has become fickle and unsatisfying.

There are admittedly great differences in the hours of sleep essential to the maintenance of individual health, but even when due allowance is made for personal idiosyncrasy it still remains true that under war conditions the normal nights of many have become disturbed and restricted. The physical changes which result from war rations, and particularly from the diminution of fats in the daily dietary, must be submitted to until supplies become again more plentiful; but it is of prime importance that habits of sleep should be preserved if the best chance for complete restoration of nutrition is to be maintained against the day when conditions of life resume the peaceful tenor of their way.

In order to effect this desirable end an attempt ought to be made by every middle-aged person who suffers from insomnia in whatever degree to mend matters by some attention to the details of routine habits. It is scarcely necessary to say that the bedroom should be well ventilated, quiet, and properly darkened. The bed coverings should be light, though sufficiently warm, and the pillows ought to be so arranged as to provide for a comfortable angle of support for the head. When cold feet are a source of discomfort bed-socks should be worn and the bed warmed before retiring to rest. No serious work should be engaged in after dinner, but an interesting and unexciting novel, or a game of some sort, is often a useful preliminary to going to bed. Exercise in the open air to the extent of a two-mile walk daily is desirable, and, for those who are well enough and can arrange it, a weekly afternoon spent on the golf course, the bowling green, or the croquet lawn will be well repaid. The morning bath should be warm—from 95° to 100°—and a few minutes may be devoted, with advantage, to abdominal massage under the water. When the state of the general health is such as to offer no counter indication, a Turkish bath once a week is a wise procedure. The old-fashioned plan of a hot mustard and water foot-bath at bedtime is useful in many cases.

A tablespoonful of paraffin taken before breakfast will serve to lubricate the intestine and keep the bowels in order, and once or twice every week 1 grain of calomel, with  $\frac{1}{2}$  grain of extract of colchicum made into a pill with 3 grains of rhubarb or colocynth, will provide for hepatic efficiency. If the bowels require help otherwise, a suitable dose of a mild aperient water, of which several manufactured in this country can now be obtained, or other simple saline, should be taken in the morning immediately after the bath. It is important to prevent, as far as possible, gastro-intestinal fermentation, and to this end periodical courses for about a fortnight of such a combination as the following may be recommended: Charcoal, beta-naphthol, ox gall, guaiacum, of each 3 grains, put into a capsule, and taken forenoon and afternoon. The dietary must be arranged so as to include meat and tea once a day only, and to limit sugar and carbohydrates. The evening meal should be light; it may comprise a teacupful of clear *consommé*, fish, chicken, or eggs with green vegetables cooked as a *purée*, and an omelette, custard, or junket with cream when obtainable, or a simple savoury. The question of stimulant is debatable, but a glass of light claret, chablis, or moselle is agreeable to many, and promotes digestion. An ounce of brandy or whisky taken in hot milk, or Benger's food, or arrowroot after getting into bed is, as a rule, a useful nightcap.

When, in spite of attention to such details, the nights still remain unsatisfactory, the question of recourse to



hypnotics requires to be considered. Obviously, it is better they should be done without if possible, but their disadvantages are more than counterbalanced by the restoration of energy provided by some hours of sleep. The assistance of suitable drugs, wisely selected, and not pushed to the extent of establishing a "habit," is so helpful that preconceived notions should not be allowed to prohibit their administration. Whatever hypnotic be chosen, the best results are obtained by giving it for three or four nights in succession rather than by leaving it to the patient's judgement to take as he pleases. By anticipating the risk of a bad night, the evil habit of broken sleep may be frequently escaped. The bromides are the simplest and least objectionable of all sedative drugs. They ought to be administered in full doses of 30 grains, and their efficacy will be much enhanced by combination with small doses of chloral hydrate. The latter drug has been handicapped by an unfortunate reputation for a dangerous influence upon the cardiac centres. This danger, if it exists at all except when the drug is exhibited in large doses, is grossly exaggerated, and may be disregarded altogether when the heart is sound. Ten grains given in combination with 30 grains of the bromide of sodium or potassium will be found efficacious in a large number of cases. The combination ought to be given half an hour before bedtime, and it may be repeated safely after two hours if the initial dose fails to produce the required effect.

When this fails, a trial may be made of bromidia in drachm doses, of chloralamide in 30 grain doses, or of chloralose in 6 grain doses; all of which are variants of chloral in combination. There are other alternatives to choose from; one of the following may be selected and administered in the form of a cachet:

Medinal	...	...	...	in 7 gr. doses;	or
Trional	...	...	...	in 15 gr. "	or
Sulphonal	...	...	...	in 20 gr. "	or
Adalin...	...	...	...	in 10 gr. "	or
Chlorotone	...	...	...	in 15 gr. "	or
Bromural	...	...	...	in 10 gr. "	or

Paraldehyde is valuable and should not be lost sight of, but it is a nauseous drug, and leaves such an unpleasant and tell-tale odour in the breath that it is not desirable except in cases where there is mental excitement and extreme restlessness. In these circumstances arises also the question of morphine and atropine, and there can be no doubt that one-quarter of a grain of the former with one-hundredth of a grain of the latter, given hypodermically for a limited number of doses, often saves the situation where milder remedies fail in their effect. This combination is specially indicated in cases where pain, from whatever source, contributes to the sleepless nights. Just as in the case of chloral, so in that of morphine, the spectre of evil after-effects or the possible creation of a drug habit cause it to be withheld in many instances in which its beneficent effect far outweighs any theoretic fear of evil consequences. Its abuse is no argument against its legitimate use, and of all the remedies we possess against the hopeless misery of insomnia to which nothing else has brought relief, it is a stand-by whose reliability and potency may always be depended upon. Combination with atropine increases its efficacy, and minimizes some of its penalties. It often happens with hypnotics, as with so many other drugs, that a combination of two or more is productive of happier results than the administration of any one by itself. There is space only to mention a few such combinations that answer well:

- Fifteen grains of trional with half a grain of codena.
- Twenty grains of chloralamide with thirty grains of potassium bromide.
- Ten grains of aspirin with seven grains of Dover's powder.
- Ten grains of bromural with one-sixth of a grain of morphine.
- Five grains of zinc valerianate with one eighth of a grain of heroin.

In cases in which there is a persistent high-tension pulse dependent upon sclerotic changes in the arteries, and the patient gets to sleep on first going to bed, but wakes within two hours, nitro-glycerine is of inestimable value. A tabloid containing 1 minim of the 1 per cent. solution of the drug put into the cheek the last thing at night and left to melt there gradually, often prevents increase of tension after getting to sleep, and may be safely repeated should the patient awake during the morning hours.

Electricity is said to be sometimes useful as a sedative agent, but its effects are uncertain and may prove to be exciting rather than soothing. Hypnotism also has its advocates, but, though possibly useful in carefully selected cases, it cannot be regarded as other than a doubtful and experimental remedy.

Finally, it is well to recognize the value of philosophy as a hypnotic. Submission to the inevitable and a cheerful acceptance of the duties and bothers of every day will go far to promote the likelihood of good sleep at night. The prayer of R. L. Stevenson is worth remembering:

The day returns and brings us the petty round of irritating concerns and duties. Help us to play the man; help us to perform them with laughter and loud faces, let cheerfulness abound with industry. Give us to go blithely on our business all this day, bring us to our resting beds weary and content and undisturbed, and grant us in the end the gift of sleep. Amen.

## THE "BUFFER-SALTS" OF THE BLOOD.

BY

W. M. BAYLISS, D.Sc.Oxon., F.R.S.,

PROFESSOR OF GENERAL PHYSIOLOGY, UNIVERSITY COLLEGE, LONDON.

WHILE I quite agree with Dr. Benjamin Moore (June 29th, p. 720) that the expression "buffer-salts," as applied to the constituents of the blood plasma, is undesirable and misleading, I am unable to share his views as to the reason why it is so. In the first place, the name "buffer" does not suggest the correct interpretation of the way in which these substances do their work. Their action is rather to soak up, as it were, an excess of hydrogen—or hydroxyl—ions by the formation of compounds which are much less dissociated electrolytically than the acids or alkalis added. The word arises from a mistranslation of the original word, "*tampon*." I owe some apology to the readers of this JOURNAL for calling attention to some points which I have already discussed elsewhere, especially in my *General Physiology*, but I hope that some purpose may be served by bringing them together in this place.

Dr. Moore's account of the history of the name "buffer-salts" is not quite complete. Its origin is to be found in a paper by Fernbach and Hubert, published in the *Comptes rendus* of the French Academy in 1900 (vol. cxxxi, p. 293), where *tampon* is used to express the soaking up of hydrogen ions by such salts as sodium bicarbonate. The fact itself is most clearly seen with this salt, and the whole mechanism of its action, together with the similar action of the phosphates, has been explained in detail by Lawrence Henderson in a series of articles in the *American Journal of Physiology*, commencing in vol. xv in 1906. The complete discussion is given in vol. xxi, p. 427. To put the matter briefly, although somewhat incompletely: when an acid which is stronger than carbonic acid, such as lactic acid, which is dissociated with the production of a large percentage of hydrogen ions, passes into the blood, it combines with a part of the bicarbonate contained in the plasma, forming sodium lactate, and is therefore neutralized. At the same time, carbon dioxide is driven off and escapes by the lungs. But, even if it did not escape, there could be only an unimportant rise in the hydrogen ion concentration, because carbonic acid is an extremely weak acid and is scarcely dissociated at all.

To return to the word *tampon*. The original meaning of the name, which is probably that which the French writers had in mind, is that of a plug of cotton-wool pressed into a wound or elsewhere in order to stop bleeding. It has come later to be used for a railway buffer. It is, in either case, not quite the right word for the case we are dealing with. What we want is something to suggest the use of a mop or swab to absorb blood or exudation, not to stop haemorrhage by pressure. The name *tampon*, however, was used by Sørensen in a long series of researches (*Études enzymatiques*), published in French in the reports of the Carlsberg Laboratory at Copenhagen. It will be found on p. 19 of the eighth volume (1909). This work was also translated into German, and will be found in the *Biochem. Zeitsch.*, vol. xxi; on page 149 of this paper the word *tampon* is translated "Puffer," and hence got into English as "buffer," a quite inappropriate word. The buffer absorbs the energy of the moving train, not the train itself.



In its application to blood the use of the name is unnecessary, since the only "buffer-salt" of any importance is the sodium bicarbonate of the plasma; phosphate is present here only in insignificant amount. In its behaviour towards acids the plasma reacts precisely like solutions of sodium bicarbonate, and so little doubt is there as to the existence of this salt in it that until recently the carriage of the carbon dioxide from the tissues to the lungs was generally believed to be effected by it. It is truly present in less quantity by weight than the proteins, but quite sufficient to neutralize the fixed acids produced in the tissues. The molar concentration, indeed, of bicarbonate is higher than that of protein on account of the enormous molecular weight of the latter. In the opinion of Dr. Moore the function of combining with excess acid is to be ascribed to the proteins, not to the bicarbonate. He gives no data for the statement that there are not enough salts to account for one-tenth of the "protective influence." But I take it that he refers to his titrations with strong acid and alkali, to be discussed below. As to the carriage of carbon dioxide, he appears to be unaware of the work of Buckmaster, who has shown that this function belongs to haemoglobin.

The proteins of the plasma are said to be responsible for at least 90 per cent. of the "protective action" of the blood. I confess that I cannot understand the meaning of the statement that "all the inorganic salts of the plasma, including even the sodium chloride, are held in union by the proteins." How, then, can the fact be explained that the electrical conductivity of the plasma is practically that of a solution of free salts? It is also inconsistent with what is pointed out in the next paragraph, namely, that the depression of the freezing point is that of a one-sixth normal sodium chloride; in other words, about that of the salts, if free. If the salts were combined with the proteins, the depression of the freezing point would be much less than this. It is true that Pfeiffer and Modolski<sup>1</sup> have described the formation of what they regard as chemical compounds between certain amino acids and certain neutral salts; but it is remarkable that sodium chloride was not one of the salts, and I have been unable to confirm their results, although the instructions given were followed exactly. Much less is there evidence of combination between proteins and salts. On the contrary, the freezing-point measurements of Bugarsky and Liebermann<sup>2</sup> showed distinctly that this was not the case. Hardy<sup>3</sup> also was unable to find any evidence of chemical combination between salts and globulins.

The reason why Moore and his coadjutors found serum proteins to be able to neutralize acids and alkalis was because they used strong acid and alkali. Such are never sent into the blood stream as products of metabolism, and the representation of the "buffer" action of blood as related to these unphysiological reagents is incorrect. There is no evidence that proteins combine with the relatively weak organic acids produced in tissue metabolism. If an indicator such as neutral red, which reacts to small changes of hydrogen ion just around the point of neutrality, be added to serum, it will be found to change colour when a very small amount of lactic acid is put in, showing that the proteins have not taken it up. The change of colour can easily be shown to be due to the carbon dioxide liberated from the bicarbonate, since it can be brought back on exposure to air. The production of the carbamino acids of Siegfried is limited to the simpler amino acids; according to this observer himself, even leucine does not form one. However, I found, by conductivity measurements signs of combination of carbon dioxide with leucine. But there is no trace of the effect with proteins. We may also call to mind the results of Fletcher and Brown,<sup>4</sup> who showed that the only carbon dioxide given off by muscle on heating arises from the decomposition of sodium bicarbonate by the lactic acid formed. This applies up to the temperature at which destruction of the proteins occurs. Before the view put forward by Moore can be accepted, it is necessary that experimental evidence be brought showing that a pure protein solution can take up in combination sufficient carbon dioxide to account for that given off by plasma on the addition of a strong acid. Findlay<sup>5</sup> shows that no carbon dioxide is taken up by egg white, a very small amount by gelatin.

But there is no doubt that proteins are able to form true salts with strong acids and bases. They can combine with the former by aid of their basic ( $\text{NH}_2$ ) groups and

with the latter by aid of their acidic (carboxyl) groups. The reason why they do not combine with weak acids or neutral salts is clearly that the  $\text{NH}_2$  and  $\text{COOH}$  groups are, in neutral solutions, united together by anhydride formation. In order that any combination may take place with other substances, this internal anhydride structure must be broken down by hydrolysis, a process that requires the aid of a strong acid or base.

It is somewhat remarkable that serum proteins are, chemically, very inactive substances. They do not serve for nutrition of the tissues, and their chief function seems to be to give a colloidal osmotic pressure to the blood, so that it shall not lose water to the tissues too rapidly. They have also an important part to play in the clotting process. I venture to think, however, that the term "reactivity of the serum" is not a particularly lucid one. It is usually associated with the capacity of readily entering into chemical reaction with other substances.

The fact that salts are formed by proteins with strong acids and bases is the cause of the rise of osmotic pressure observed in such cases by Roaf and Adamson. These salts are dissociated electrolytically, and, as I have shown elsewhere, all the ions are osmotically active. Various explanations might be given of the fact referred to by Moore, that the addition of a very small amount of acid lowers the osmotic pressure. It may be due to the decomposition of a small quantity of a sodium salt of protein present in the serum owing to escape of the normal carbon dioxide and the consequent development of alkalinity.

The use of the name "buffer-salts" in application to blood plasma is to be deprecated, as it seems to me, because it is apt to give an air of mystery to what is merely a simple property of bicarbonates. The expression "sodium bicarbonate" is all that is wanted in place of "buffer-salts" in this connexion.

No satisfactory name has been suggested for the general property as possessed by many weakly dissociated electrolytes. "Tampon" is better than "buffer" in any case.

## REFERENCES.

- <sup>1</sup> Hoppe-Seyler's Zeitsch., vol. lxxxi, p. 329; and vol. lxxxv, p. 1.
- <sup>2</sup> Pflüger's Archiv, vol. lxxvii, p. 51. <sup>3</sup> Journ. of Physiol., vol. xxxiii, p. 251. <sup>4</sup> Ibid., vol. xlviii, p. 177. <sup>5</sup> Kolloid. Zeitsch., vol. iii, p. 169.

## THE PART PLAYED BY THE BONE GRAFT.

BY

MARCUS MAMOURIAN, F.R.C.S.E.,

SURGEON TO THE DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL,  
ASHTON-UNDER-LYNE.

THE subject of bone grafting, which has acquired so great an importance to-day, has engaged the attention of surgeons for more than a century. Albee mentions Merren as having carried out experiments in 1809. The wonderful researches and operations of Ollier and Macewen appeared as long ago as 1867 and 1881. Singularly enough, the biology of bone and the bone graft still remains undetermined. The main views may be summarized as follows:

1. Bone is osteogenetic. The bone graft is osteogenetic and can live and grow without periosteum. (Macewen, Groves.)
2. Fragments of bone grow better than an entire piece. (Macewen.)
3. Periosteum acts as a limiting membrane and has no osteogenetic power. (Macewen.)
4. The periosteum is the principal agent of bone growth. The bone graft can live and grow by virtue of its own periosteum. (Ollier, Axhausen, and most of the American writers.)
5. The bone graft is osteo-conductive. (Murphy.)
6. Bier and others attach great importance to the cambium layer, endosteum, Haversian canal linings and marrow.

1, 2, 3. Macewen is the protagonist of the "bone from bone" theorists. His teaching is mainly founded upon his famous case (1882) in which part of the humerus of a boy was excised for osteomyelitis and restored by the implantation of small sections of bone obtained in the course of several osteotomies. The graft, therefore, was comminuted and homoplastic, and the logical inference is that the reconstruction of the diaphysis was brought about by the increase in size and coalescence of the fragments of bone. In the absence of a radiographic record all explanation as to the process of restitution must be more or less conjectural, or, at most, based upon experimental findings. The remarkable feature of the case is, that although the shaft is supposed to have been restored without the help of a "limiting membrane," yet there was limitation of size



and shape. Now, this is explained by "the law of natural adaptation," which seems to be the basis of all the theories on the survival and growth of bone grafts. It may be pertinently asked, however, if this law is potent enough to enable a parasitic piece of bone to acquire vitality, growth, and shape, how is it that, often enough, it fails to influence the two segments of a broken bone even when placed by open operation in ideal apposition and alignment? Macewen's technique is a direct challenge to the present practice of utilizing autogenous bone grafts covered with periosteum and firmly contacted with the recipient bone ends.

4. The teaching of the periosteum school is based upon the histological evidence that the cells of the periosteum of the bone graft show active proliferation. The loss of nuclear staining and the ultimate absorption of the bone cells is generally admitted, hence the convenient hypothesis that the vascularized strip of periosteum is the parent of the new bone. McWilliams is so strong in this belief as to doubt the possibility of successful bone grafting if the graft be denuded of its periosteum; while Groves is equally emphatic in his contention "that the process takes place by the proliferation of the cells of the bone itself." Macewen's work is sufficient refutation of McWilliams's claim, and my case J. A., with a complete x-ray record, is additional proof that bone can regenerate by means of grafts (I use the phrase advisedly) without periosteum. If the periosteum is the bone-forming medium, why advocate "whole thickness" grafting with rigid fixation? why adopt a procedure which can only be justified by the assumption that the graft can live in its entirety?

5. Murphy considered the problem on Barth's lines, and advanced the view that the graft is osteo-conductive—that is, that it acts as a scaffolding and gets gradually absorbed. He thus differs from the rest in admitting neither periosteal osteogenesis nor the survival of osteoblasts.

In the radiograms of my cases, taken at frequent intervals during the last four years, the disappearance of the graft can be traced in the clearest possible manner, and in no instance have I been able to verify "the increase in thickness which is considered to be the single sure sign of the continuance of the life of the graft" (Ollier, McWilliams). The increase in thickness is due to the deposit of new bone around the graft and not to any hyperplasia of the graft itself.

The great diversity of opinion amongst experimentalists leads us to the true conclusion, which is, that all the elements that enter into the constitution of bone are required for osteogenesis, and in agreeing that the best results are obtained from autogenous bone grafts with their periosteum and endosteum, all practical surgeons confirm this opinion.

It has generally been taken for granted, however, that the bone graft, once vascularized, behaves like normal bone, notwithstanding the fact that bone implanted anywhere but in a bone space always gets absorbed. No one has ever been able to produce progressive bone growth in a region where there has been no bone before.

In all these polemics there are two factors which do not appear to have received adequate consideration—namely, the periosteum and bone of the grafted limb. In no case could it be assumed that the shaft and periosteum have been destroyed or removed in their entirety by disease or excision. As a rule portions of the diaphysis and the whole periosteal sheath remain, and, even under the worst conditions, shreds of periosteum and spicules of bone are left in the gap.

What is, then, the part played by the bone graft from the time of its insertion to its disappearance?

In my opinion, all that the graft does is to supply what may be called the biochemical stimulus or irritant which has been abolished by trauma or disease, the new bone being formed from the diaphyseal ends, from periosteal and bony remains in the shaft zone, and in the young by epiphyseal lengthening. Dead bone acts in a similar way, but much less effectively. This is the explanation of Macewen's case and of my case J. A., with practically identical features. How else is it possible to account for the restoration of bone even after the graft has been actually excluded like a sequestrum and the graft bed in a state of profuse suppuration? The cambium layer and Haversian linings are cited by some as explaining these occurrences. No cambium or any other layer can float in pus and live.

The stimulating property of the bone graft has been noted by many, but only in the sense of a limited degree of cellular activity sufficient to cause fusion between the graft and the diaphyseal stumps. No one, however, seems to have considered this stimulus as the essential and all-important function of the graft.

Distinction must also be made between the use of a graft in an inert and in an active osteogenetic field. In cases of excision of the diaphysis in the young the new bone is often attributed to the graft, though regeneration usually takes place whether a graft is used or not. But even in children the graft is indicated, because it serves as an intraperiosteal splint, stimulates and accelerates bone growth, with the result that the shaft is reproduced perfectly and in less time.

Albee's book is full of illustrations intended to show the increase in size of the graft and the evolution of the medullary cavity, but in most of them the outline of the periosteum is discernible owing to the laminae of bone still adhering to it.

The success of the inlay method is due to the facts that it entails the exposure of the healthier sections of the bones and that each tissue is stimulated by its like. The more anatomical the "sitting" of the graft the better the result. When a graft is not absorbed and remains identifiable for six months or more, even though seemingly united by callus, the union will be found to be false and fragile and the graft undergoing cartilaginous change. (Case T. E.)

Bone graft surgery is not as widely practised as it deserves to be. In the mutilations of war, osteomyelitis, tuberculous disease, ununited fractures—in short, in all cases necessitating excision of bone, in spinal caries and in fractures of the spinal column the bone graft is an unrivalled means of repair and cure.

#### DESCRIPTION OF CASES.

##### Case 1.

J. A., aged 8, operated on for acute osteomyelitis, August, 1913, came under my care in August, 1914. There had not been the slightest attempt at bone growth for twelve months. The gap measured over six inches; the diaphyseal ends were nipple-shaped and sclerosed. An autogenous bone graft without periosteum was placed *in situ*; its upper end was placed in "shavings" raised with the chisel, and the lower end in the medullary canal (Fig. 1). There was no firm contact in Murphy's sense. The graft was cut with chisels. Fig. 2 (September 1st, 1916) shows great increase in length of the upper segment. The shaft was still incomplete, the gap measuring about 1½ in. with the rib in position. The parents objected to more bone being taken from the sound leg. Rarefaction of the lower segment was noticeable in the radiogram. The rib was completely absorbed. Fig. 3 shows inlay grafting without periosteum (circular twin saw) in February, 1917, and Fig. 4 the completed shaft.

##### Case 2.

A. F., aged 9, had tuberculous diaphysitis of the radius of many years' standing; there was mixed infection, with profuse suppuration and sinuses. Fig. 5 shows the extensive involvement of the shaft.

Excision of diaphysis was performed and graft without periosteum inserted, as shown in Fig. 6. Small drainage tubes are seen in the periosteal sheath and laminae of bone adhering to periosteum. Fig. 7 shows active osteogenesis and the shapelessness of the new bone. The graft is faintly visible. Fig. 8, from a radiogram taken after eight months, affords evidence of the perfect restoration of the shaft.

##### Case 3.

H. B., aged 17, was suffering from tuberculous disease of a phalanx (Fig. 9). A graft without periosteum was placed in the periosteal sheath (Fig. 10). Bone formation around the graft is seen in Fig. 11, and absorption of the graft and completion of the phalanx in Fig. 12.

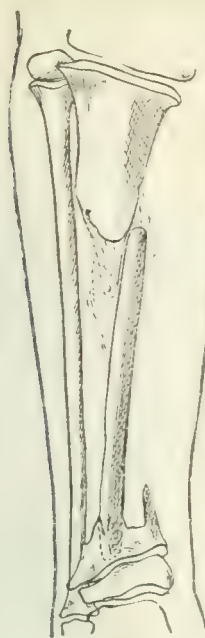
##### Case 4.

T. E., aged 16, was seen with compound fracture of the tibia and virulent sepsis. Fig. 13 shows the loss of bone and the nipple-shaped and sclerosed diaphyseal ends. There was no sign of new bone for twelve months. Inlay grafting with periosteum (circular twin saw) was performed in December, 1915. By May, 1916, there was firm union. Fig. 14, from a radiogram taken on readmission to hospital for fracture in the region of graft in August, 1917, shows the graft still identifiable, and the callus above and below and the fracture. At the operation the graft was found to be quite soft and was cut out with the knife. The part was regrafted (inlay with periosteum) and there is now firm union.

I am indebted to Dr. Woodburn Morison, radiographer to the District Infirmary, for the radiograms.

Owing to the difficulty of reproducing radiograms under existing conditions, due to shortage of paper, drawings in Indian ink, made from the radiograms by Mrs. Williamson, of Ashton-under-Lyne, have been reproduced here.





J.A. 1.  
FIG. 1.



J.A. 2.  
FIG. 2.



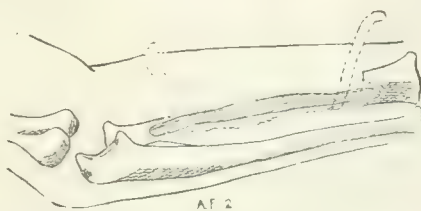
J.A. 3.  
FIG. 3.



J.A. 4.  
FIG. 4.



A.F. 1.  
FIG. 5.



A.F. 2.  
FIG. 6.



A.F. 3.  
FIG. 7.



A.F. 4.  
FIG. 8.



H.B. 1.  
FIG. 9.



H.B. 2.  
FIG. 10.



H.B. 3.  
FIG. 11.



H.B. 4.  
FIG. 12.



T.E. 1.  
FIG. 13.



T.E. 2.  
FIG. 14.



# A REPORT ON THE "INFLUENZA" EPIDEMIC OF 1918.

BY  
OLIVER H. GOTCH, M.B., Ch.B.Oxon., M.R.C.P.Lond.,  
TEMPORARY SURGEON R.N.,

AND  
HAROLD E. WHITTINGHAM, M.B., Ch.B.Glasg.,  
TEMPORARY CAPTAIN R.A.M.C.,  
CENTRAL ROYAL AIR FORCE HOSPITAL, HAMPSHIRE.

The present outbreak of influenza in epidemic form is claiming considerable attention from a medical as well as from an economic and even military standpoint. Though clinically very similar to other epidemics in former years, it is nevertheless sufficiently distinct to merit a detailed description. The following notes are based on the study of the first fifty cases which occurred amongst members of the Royal Air Force in this hospital.

## Etiology.

The average age incidence in these cases was 24.

A Gram-negative micrococcus, similar in most respects to *Micrococcus catarrhalis*, was grown (in all cases) from nasopharyngeal swabs and sputum. This was the predominating organism. In some instances an almost pure culture was obtained. Pfeiffer's influenza bacillus was only cultured in 8 per cent. of the cases, though influenza-like bacilli were observed by direct smears in 62 per cent. of the cases. A Gram-negative micrococcus resembling meningococcus was isolated in 10 per cent. of the cases, and Hoffmann's bacillus in 4 per cent. *Streptococcus brevis* and the pneumococcus were present in several cases, but not in large numbers. Experimental inocula-

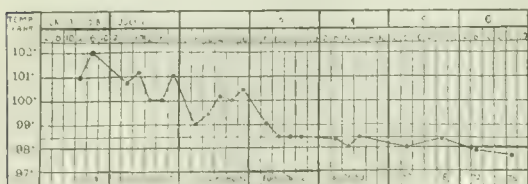


FIG. 1.—Influenza, three-day type (Captain B.). Note the relatively slow pulse.

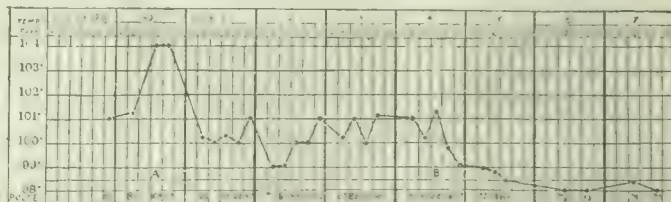


FIG. 2.—Influenza, 5-6 day type (Lieut. I.). Note relatively slow pulse; bowels confined. A, Tepid sponged. B, Soap and water enema; aspirin 10 grains.

tion of the Gram-negative micrococcus on the mucous membrane of the nasopharynx in two healthy persons produced the disease in typical form. The micrococcus was recovered from the throat and sputum of these cases during the disease. It seems, therefore, that the micrococcus is probably the specific organism, either alone or in conjunction with the *B. influenzae*.

## Symptoms.

The incubation period is short, about one to two days.

In a typical case the onset is strikingly sudden. A patient may go to bed apparently well and wake up complaining of body pains, headache, malaise, etc.; or he may be at his work, when he suddenly feels violently giddy, and in a few seconds may fall to the ground in a state of collapse. The two commonest initial symptoms are a slight feeling of chilliness and malaise, quickly becoming worse for each minute the patient is up and about. A diffuse headache soon follows, and an uncomfortable feeling of tightness and soreness in the throat and nose with a slight dry cough. The second day of the disease finds the patient a good deal worse, with, in addition, painful photophobia. There is a great desire to sleep the whole day (in some cases the somnolence has been the only symptom from first to last). The appetite is quickly and completely lost; the bowels are confined, but marked gastro-intestinal symptoms are rare, though violent vomiting has been an initial symptom. Diarrhoea was not observed. Colicky abdominal pain without other symptoms and signs, except the fever, occurred in one case. The third day will, as a rule, see an improvement in the general feeling of discomfort, though the physical signs are usually more marked and the cough troublesome. Backache may be severe. By the fifth day the patient feels very much better; appetite returns and headache and photophobia are absent or slight. The morning of the fifth day marks the beginning of convalescence. The patient feels quite well and the appetite is keen. A good deal of weakness, however, is

present, and if the patient is allowed up before the sixth day he may feel extremely giddy, faint, and sick. Convalescence is rather slow, and the majority of patients do not recover their strength for a week to ten days after getting up.

## Physical Signs.

The second or third day will present the most characteristic physical signs, which are:

1. A toxic appearance.
2. Heavily-coated tongue.
3. Injection of the conjunctivae, and signs of acute inflammation of the whole mucous membrane of the mouth, including gums and tongue, and of the nasopharynx. A milky mycelial growth is spread all over the inside of the mouth, and is usually most abundant opposite the last molar teeth. The gums are generally tender and may bleed slightly, either spontaneously or on touch. The breath is heavy and foul.
4. The temperature rises rapidly, and usually is highest on the second or third day. High temperatures of 103° F. and over are common. The highest temperature recorded was 106° F. There are two distinct types of fever, a three-day and a five-day. Of our cases 66 per cent. belonged to the three-day type and 34 per cent. to the five-day type. In the latter type there is often somnolence from the onset, and lasting three to four days. Defervescence is in all cases by lysis. In some the temperature may remain between 102° F. and 104° F. for three or four days before yielding. The fifth day usually finds the temperature normal or subnormal (see Figs. 1 and 2).
5. The pulse is slow (76-110), even when the temperature is continuously high.
6. Death may occur on the fourth or fifth day in the pneumonic form.

7. Slight bronchitis was present in several cases, and we have seen four of the pneumonic form, two of which died, but these latter were not studied in this hospital.

8. The urine is decidedly scantier in amount than normal. It is high coloured, and contains albumin in 90 per cent. of the cases. The amount of albumin present varies from a faint trace to 0.5 part per 1,000 (Esbach). Hyaline and granular casts were present in 50 per cent. of all cases on the third and fourth days. In the five-day fever type of the disease casts were present in 85 per cent. of the cases, but only in 36 per cent. of the three-day fever type. Blood casts were observed in 4 per cent. of the cases. The view that this urinary condition is something more than mere febrile albuminuria is borne out by the fact that two cases presented typical renal oedema—that is, swelling of the subcutaneous tissues of eyelids, back, and ankles. The kidneys were not palpable in any case,

TABLE I.—Presence of Albumin and Casts in the Urine of Patients Suffering from Influenza—1918 Epidemic.

Day of Disease.	No. of Cases Examined.	Percentage with Albumin.	Percentage with Casts.	Day of Disease.	No. of Cases Examined.	Percentage with Albumin.	Percentage with Casts.
1	18	55	0	9	15	60	0
2	21	85	19	10	13	46	0
3	32	99	47	11	13	38	0
4	32	84	50	12	12	41	0
5	24	75	12½	13	11	9	0
6	24	50	12½	14	3	12½	0
7	22	68	9	15	3	0	0
8	20	65	10	16	8	0	0



but slight tenderness in both loins was commonly elicited. The casts usually disappeared by the fifth or sixth day, but in some cases not till the ninth; the albumin continued down to the eighth or ninth and even to the fifteenth day.

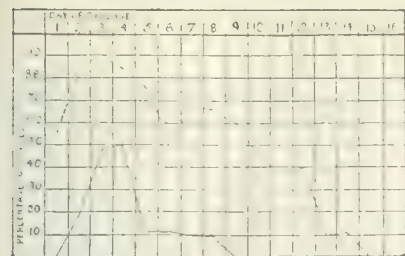


FIG. 3.—Graph showing percentage of cases of influenza with albumin and casts in the urine (1918 epidemic). Continuous line—casts; broken line = albumin. Note rise in percentage of cases with albumin on the seventh day, due probably to patients getting up on the sixth day.

is a point of difference with cases of influenza in former epidemics, especially that of 1889-1890, where the lower pole of the spleen usually became palpable.

#### Examination of the Blood.

Total white counts were done daily between 10 and 10.30 a.m. They showed a distinct leucopenia at the

The opinion that this albuminuria is part of the disease is established by its absence on the first day in 50 per cent. of the cases and its disappearance as convalescence progresses (see Fig. 3 and Table I).

#### 9. Enlargement of the spleen

was not found clinically in any of the cases. This

TABLE III.—Daily Differential Counts in the Influenza Epidemic of 1918.

Day of Disease.	Capt. R.		Lieut. I.		Lieut. G.	
	P.	L.	P.	L.	P.	L.
1	83½	16½	84½	15½	87½	12½
2	81	19	86	14	83	12
3	66½	33½	69½	30½	68½	31½
4	75	25	70½	29½	68½	31½
5	78½	21½	84½	15½	79½	20½
6	66½	33½	73½	26½	60	40
7	—	—	—	—	46	54
8	—	—	—	—	66	34
9	—	—	—	—	55	45
10	—	—	—	—	53	47

P. = Polymorphs (that is, transitionals, neutrophils, eosinophils, and basophil polymorphonuclear leucocytes).  
L. = Lymphocytes (that is, large and small lymphocytes and hyaline leucocytes).

Daily differential leucocyte counts showed a marked relative neutrophilia during the leucopenia, followed by a slight increase of the small lymphocytes when the leucocytosis set in. We have found in previous cases of influenza (Pfeiffer's bacillary type) that there was leuco-

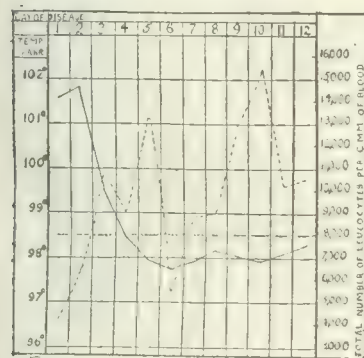


FIG. 4.—Total leucocyte count in influenza. Composite curve of six cases showing the average daily number of leucocytes per cubic millimetre of blood. Continuous line = temperature; broken line = number of leucocytes per c.mm. The curves were obtained by striking an average of the daily temperatures and leucocyte counts of six cases.

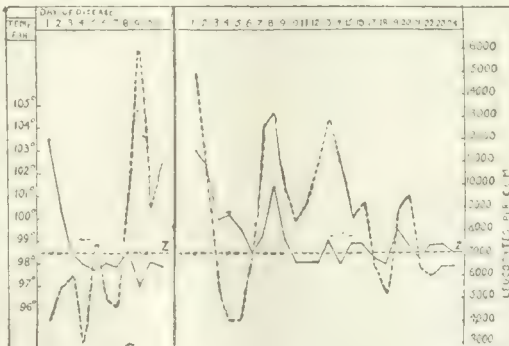


FIG. 5.—Graph showing the temperature and leucocyte curves in influenza and trench fever. Continuous line = temperature; broken line = daily total white blood cell count. The straight broken line (Z) indicates the normal temperature and white cell count. Note the leucopenia in the febrile stage of influenza, whilst in trench fever the fever is accompanied by a leucocytosis.

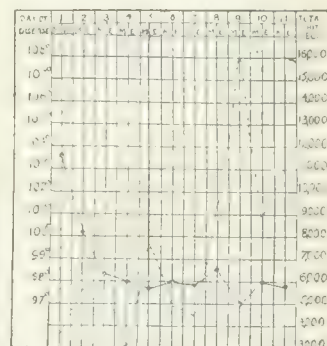


FIG. 6.—Influenza, three-day type (Lieut. W.). Note the leucopenia during the febrile period, followed by a leucocytosis on the eighth day. Continuous line = temperature; broken line = number of leucocytes per c.mm.

height of the fever (3,000 to 4,500 per c.mm. being a common figure), followed on the third or fourth day by a moderate leucocytosis (14,000 to 18,000 per c.mm.). (See Figs. 4 to 10 and Table II.)

TABLE II.—Daily Total Leucocyte Counts in the Influenza Epidemic of 1918.

Day of Disease.	Lieut. G.	Lieut. I.	Lieut. W.	Capt. F.	Capt. R.	Cadet V.
1	4,062	7,500	3,750	—	5,000	4,062
2	8,750	5,000	5,625	6,875	6,250	7,500
3	6,875	9,062	5,937	5,312	18,750	15,250
4	7,500	6,875	3,125	9,375	14,062	13,125
5	20,000	11,875	7,500	14,375	16,562	8,750
6	4,062	5,000	5,000	4,687	7,500	5,937
7	4,375	13,750	4,375	10,620	16,250	3,125
8	12,500	11,250	9,375	8,125	7,500	5,937
9	13,750	12,187	16,250	12,500	—	10,000
10	15,625	13,750	8,750	13,125	—	—
11	7,500	7,500	11,250	15,000	—	—
12	11,250	10,000	—	—	—	—

Counts = No. of leucocytes per c.mm. of blood.

penia followed by leucocytosis, but, unlike this epidemic, the leucopenia is accompanied by lymphocytosis, and the leucocytosis by neutrophilia. Such a picture as the present epidemic gives strongly suggests a micrococcal in contradistinction to a bacillary infection. The only other point of interest is a marked fall, almost absence, of eosinophil cells during the fever.

Of special interest is the chart reproduced in Fig. 10. The blood of this patient was examined daily for fifteen days before he developed influenza. A glance at his chart shows the distinct leucocytosis accompanying his pyorrhoea, but with the onset of influenza the rise in his temperature coincided with a marked leucopenia, followed on the fifth day by a leucocytosis. A distinct relative increase in the polymorph leucocytes appeared with this leucopenia, followed later by a relative and absolute lymphocytosis.

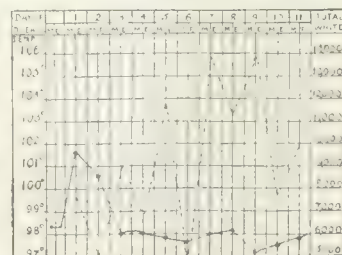


FIG. 7.—Influenza, three-day type (Lieut. I.). Note the leucocytosis following the fever. Continuous line = temperature; broken line = number of leucocytes per c.mm.

#### Blood Cultures.

So far no organisms have been isolated.



### Comparison of Blood Picture with that of other Diseases.

The blood picture of the disease differs considerably from that of trench fever, pyorrhoea alveolaris, malaria, and bacillary influenza.

**Trench Fever.**—Here the leucocytosis is distinct, being highest when the temperature is highest and lowest when the temperature is on the fall. Moreover there are definite curves in the daily total white counts corresponding to the fever waves (Fig. 5).

**Pyorrhoea Alveolaris.**—This condition is mentioned because of the acute gingivitis which accompanied nearly all the cases of influenza observed by us. The blood picture in well-established pyorrhoea shows a marked swinging leucocytosis unaccompanied by pyrexia and resembling very closely chronic trench fever (see Fig. 10).

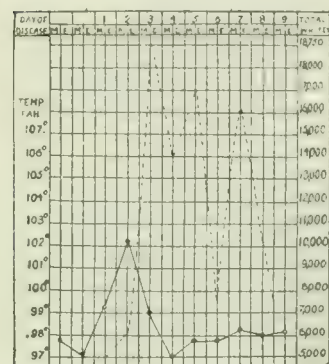


FIG. 8.—Influenza, three-day type (Captain R.). Note the leucopenia during the fever and post-febrile leucocytosis. This case suffered from furunculosis, which perhaps accounts for a higher leucocytosis than usual. Continuous line = temperature; broken line = number of leucocytes per c.mm.

**Malaria.**—In tertian malaria the blood counts show a leucocytosis and leucopenia on alternate days, even when there is no pyrexia. Leucopenia accompanies the height of the fever, and is marked by a relative neutrophilia, followed in a few hours by a mononuclear increase. This is of importance in recognizing the onset of influenza in an old malarial case, as in such cases the mononuclear increase does not appear until about the fifth day or so after the height of the fever.

**Bacillary influenza** has been dealt with above.

### Treatment.

Rest in bed on a milk diet is essential. Fluids in the form of imperial drink should be taken in abundance; not less than 4 to 5 pints daily.

Quinine appears to exert no influence on the disease, either one way or the other. It has no effect in reducing the temperature, nor is its use warranted as a prophylactic. This was strikingly shown by three patients with acute malaria in the wards, who were taking 30 grains daily for several days before they finally succumbed to the influenza. The drug has been given a thorough trial but is now abandoned.

Aspirin appears to have a decided, and in cases a very striking, effect, almost specific; 10 grains should be given thrice a day. In severe cases, accompanied by high temperatures with vomiting and collapse, the effect of aspirin 15 grains, swallowed with  $\frac{1}{2}$  to 1 oz. of brandy in water, with 3 drachms liq. ammonii acetatis, is immediate.

No local treatment to the mouth or throat is necessary, but boro-glyceride is very useful in cleaning the tongue and gums. Soreness is relieved by inhalations of friar's balsam, and by sucking potassium

chlorate lozenges. Calomel is best avoided. Enemata (soap and water) gave quick relief to the temperature and depression on the fourth day in three cases.

During convalescence the best diet is eggs, fish, and chicken, with an ample allowance of fresh vegetables and fruit. On the other hand, meats, strong soups, mustard, pepper, and beverages such as coffee and strongly-made tea, are not to be taken. In view of the evidence of slight nephritis, this seems a reasonable and necessary precaution. Freedom from strenuous active duty for a week after convalescence has become established, is also a

wise measure. On that point mention may be made of a young lieutenant engaged in instructing cadets. He was sent back to duty after two days' semi-convalescence, and reported himself at the Mount Vernon Hospital two days later, complaining of weakness, headache and backache. His urine contained numerous typical hyaline casts.

Patients cannot be considered cured while this abnormal urinary condition persists. As is mentioned above, the urine is not free from albumin until about the tenth day, or even as late as the twenty-first day.

### Prophylaxis.

In default of isolation, which is wholly impracticable, no satisfactory prophylaxis is available. Swabbing the throat with a solution of mercury perchloride (1 in 1,000) in an equal quantity of glycerin, or

repeated spraying of the nasopharynx with a solution containing free chlorine, seem as good preventives as any. The administration of quinine in any form is useless, and cannot be too strongly condemned in these days, as it is a waste of a valuable drug. One of our cases had been twice inoculated with a mixed *B. influenzae*, *M. catarrhalis* and *pneumococcus* vaccine, the last inoculation being, three months before his present illness. He had a typical attack of influenza (see Fig. 9).

### Summary.

1. The specific cause of this epidemic of an influenza-like disease appears to be a Gram-negative micrococcus, perhaps in association with *B. influenzae*, the latter being only isolated in 8 per cent. of the cases.

2. Incubation period one to two days. Duration three to five days, the five-day fever type being more severe and the casts found in the urine more numerous.

3. The chief symptoms are: (a) Body pains, (b) malaise, (c) headache, (d) anorexia and constipation, (e) cough, (f) photophobia.

4. The chief physical signs are: (a) High temperature with maximum reading on the second day, (b) tongue heavily coated, (c) acute pharyngitis, stomatitis, gingivitis, and conjunctivitis, (d) albuminuria with hyaline and granular casts.

5. Blood counts show leucopenia with relative neutrophilia at the height of the fever.

6. Treatment.—Rest in bed. Free movement of bowels. Aspirin 10 grains thrice a day, until the temperature is

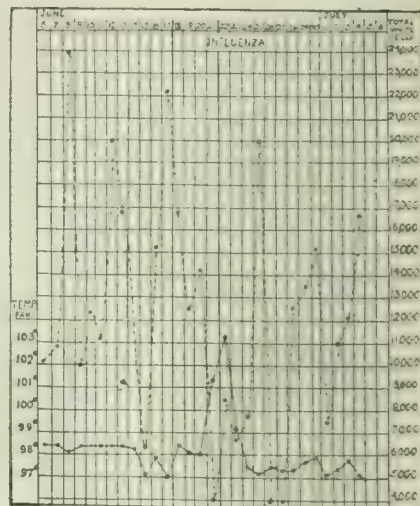


FIG. 10.—Pyorrhoea and influenza (Lieut. G.). Note the onset of influenza (June 21st), corresponding with a distinct leucopenia. The leucocytosis of pyorrhoea alveolaris without pyrexia is well shown. Continuous line = temperature; broken line = number of leucocytes per c.mm.

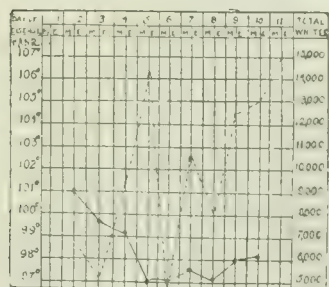


FIG. 9.—Influenza, three-day type (Captain F.). Note the post-febrile leucocytosis. This patient was inoculated with mixed influenza vaccine three months previously. Continuous line = temperature; broken line = number of leucocytes per c.mm.

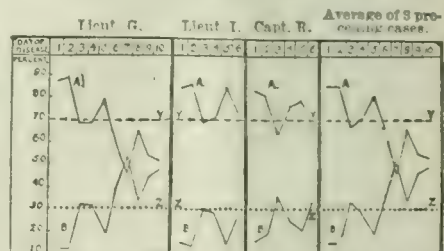


FIG. 11.—Daily differential leucocyte counts in the influenza epidemic of 1918. These curves show distinctly a polymorphonuclear increase in the first five days of disease, and a lymphocytic increase after the fifth day. This is the reverse to true bacillary influenza. A = Percentage of polymorphonuclear leucocytes; B = percentage of lymphocytes and hyaline; Z = normal percentage of polymorphs, that is, 70 per cent.; Z = normal percentage of lymphocytes, that is, 30 per cent.



normal. Light diet and avoidance of bodily and mental exertion until the albumin has disappeared from the urine.

We here take the opportunity of thanking Lieut.-Colonel Muecke, R.A.F., for his kindness in granting us every facility for conducting this work. Most grateful thanks are also due to Dr. Carrie Sims and Miss Maud Samuel, B.Sc., for much valuable help.

[Since going to press a Gram-negative diplococcus (fairly large) has been isolated from the blood of two patients during the height of the fever. Attempts at subculturing failed in both cases.—H. E. Whittingham.]

## THE DOCTORS' PROBLEM.

BEING THE PRESIDENTIAL ADDRESS TO THE SOUTH WALES AND MONMOUTHSHIRE BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

BY

LIEUT.-COLONEL A. LLOYD JONES, M.R.C.S., D.P.H.,  
R.A.M.C.(T.R.).

MUMBLES, GLAMORGANSHIRE.

MANY questions of vital interest are not unlikely to arise during the coming twelve months. The time was, not so very many years ago, when doctors met to discuss the scientific aspects of their work, but of late years men's thoughts have been absorbed in questions of a living wage, and cognate subjects; and there is a spirit of unrest abroad. The general practitioner feels some one has stolen a march on him, and, as if in a nightmare, feels his helplessness to make good his lost opportunity. Any large public body, with law at its back, can still pounce down upon him, and say, "Here, do this work for us, and take so much pittance for doing it." To any other man, or body of men, in this land of freedom such action would be intolerable, and would be unanimously and strenuously opposed, but the doctor tamely submits. What else, poor fellow, can he do? He has no organization that has legal power to take a stand and protect him.

The working man, for instance, is not asked by Government or by National Labour Commissioners to do everyday work for the country and accept what the authorities like to give him. No, it is exactly the other way round; it is he who dictates the terms, and, what's more, gets them! The working man has gone through the mill for ages; and, however much he may be belittled by the professional man, he at least has the intelligence to know that in union is strength, and that his strength is in his trade union.

The analogy may not be very complimentary to the profession, but it clearly suggests that we might learn wisdom from this industrial ant. It may sound "low down" to have to join a "trade union" in order to have and to hold our just rights. We may call it a "professional" union, but its powers must come through the Trades Union Acts, which have forestalled us.

There is one body over us that could come to our rescue, were it but expressive of the life and soul of our profession, and that is the General Medical Council. Our old crafts and guilds, and our modern universities and colleges, obtained charters and privileges which were merged into a General Medical Council, on which these bodies alone were represented till of late years. The general practitioner was practically ignored, and might have been non-existent as far as his representation on this august body was concerned. The result has been that the General Medical Council has never been in touch or sympathy with the bulk of its registered members, which embrace the whole profession. Its deliberations are restricted to its statutory powers—namely, overhauling education, collecting registration fees, and exercising discipline over common-law offenders, all of which powers could be easily performed by a couple of the existing committees of the British Medical Association. This General Medical Council is so firmly established in and satisfied with its legal powers that it has never shown any disposition to enter into the daily life and concerns of the medical profession at large by giving them adequate representation for its taxation; and as far as its further efforts to aid and guide the general medical practitioner are apparent it might be a majestic sphinx, and nothing more.

We feel the birthright and destinies of our struggling profession are in its hands; the public and Parliament know it only too well, and laugh at us; and we, as an awakening body politic, are just beginning to realize our ignoble and painful position. So with such a terrible dead-weight against us we are driven to seek some other constitutional means of consolidating our forces for a more advantageous stand in vindication of our very existence.

The one body that nearly the whole profession, at home and abroad, looks up to for help and guidance in its hourly trouble is the British Medical Association. There is no other powerful organization in being and working so representative of its members and so democratic; and there is none so alive with the aspirations and activities of our daily life as is that stalwart tree, of which we are a branch here to-day. It has grown through much labour and patience and many vicissitudes, and pulsates as much to-day as of yore with the sincerest desire to represent the highest ambitions of our lot.

It cannot be expected to do everything for us; it is but a voluntary agency, and volunteers are out of date and no good in a fight. It has no statutory powers, and consequently has no compulsion over its members. To obtain these all-important powers it must petition Parliament, and it must proceed through Acts on the Statute Book. With such a legislative lever it could move mountains of inertia. This step may again sound *infra dig.* to professional units who have been nurtured on individualism; but Parliament itself submits to this law of majorities and to the ruling of democracy, which has come to stay, whether we like it or not.

With this much accomplished, our Association, reinforced with law and authority, can organize its ranks for any emergency; and it can then, with the deliberate and mature judgement of its members, dispute any encroachment on our just rights. To obtain this we must contribute to its funds liberally, as the lawyer does to his incorporated society and the working man to his union; we must not expect work for nothing, or the 9d. for 4d. business.

There is, as you all know, a new scheme in the wind which threatens to obscure most of those that in the past have exploited our brains and sinews—I mean the Ministry of Health. Whether this Ministry be an expansion of the so-called National Health Insurance Commission, or of the Local Government Board, or a combination of both, I know not, but in either case we have to be prepared for some revolutionary change, for better or for worse as regards ourselves. If we are united in professional solidarity, we can view the matter with equanimity and see that justice is done; if not—well, the devil help the hindmost!

We have had a brush with the Commissioners, which has left a stain of the conflict that has not yet been wiped out; still we must not grumble now at not having had our armour on at that time. The Local Government Board we have known as not an over-lenient taskmaster, with its ever-increasing duties and its never-increased pay, and its never-to-be-forgotten acquiescence in the universal reduction of the doctors' notification fee whilst every other worker had his fees raised. The Poor Law authorities have alone been conspicuous for their compassion to their officers, as well as to their poor; but alas! their days are doomed; and a glorified pauper attendance is being hatched to supplant it, called "state service."

Whatever the functions of this Ministry may be, and whichever of these bodies may predominate in its administration, the experience of the past decade has taught us to be wary, and not to be caught napping. If, however, we do not as a medical body benefit by experience, and protect ourselves, as others do, as one voice, a similar fiasco must be expected again; and our professional status must sink in the eyes of our sister professions into hopeless mire.

The admission of women into the medical profession will ultimately prove our emancipation from such as cheap contract practice, with its counter prescribing and dispensing, certificate scribbling, and the rest of that mechanical clerical drudgery into which we are gradually being dragged down with each state innovation. For contract practice can only be properly and honestly undertaken after liberal actuarial calculations of remuneration, holidays, emergencies, and like considerations have been duly taken into account. Woman's constitution will scarcely permit of her continuously performing the physical labour of man, and she will necessarily specialize



in domains more congenial to her nature. Her sphere will always be more in the realms of pure medicine than ours, and her presence and co-operation must exercise a refining and uplifting tendency. The fear of competition from her is groundless so long as the professional practice on both sides is honourable, and we can always trust the women-folk to look after our finance better than ourselves. The jealousies that have existed to our cost between men will pale into insignificance in the presence of women, and our mutual confidences will grow. With such a partner in the field we can confidently look forward, for her clear insight and natural intuition will quickly sift and settle our difficulties and weld our scattered ranks into a homogeneous and victorious army. In fact, woman seems destined to bring about that happy union, call it trade or professional, of which we sorely stand in need, and I wish she were here already within the inner fold.

This ideal state will then give us the leisure to think out the numerous problems that bind us to the community and to the individual, and enable us to give of our best to the claims of learning and of labour.

Before concluding, let me emphasize the particular work of reconstruction we are called upon to discharge in view of the termination of this interminable war. Our brave colleagues who are out look forward to a better condition of things on their return, and it is ours to put the house in order for them. They have learnt the stern lessons of "union is strength," and "divided we fall"; and what better lesson can we carry into practice on their behalf?

If there be a better and sounder method of banding ourselves together than the one herein advocated, and seriously entertained by the Association some years ago, let it be forthcoming, and be well threshed out; and we shall gladly clutch at any straw that will direct us and our fellow voyagers into a harbour of safety. So long as mental and social unrest continues with regard to our professional status and prospects, so long will men be unable to give their undivided attention to the best work, and so long will the nation suffer, and be the poorer; hence this economic question cannot stand where it is.

The returning soldier will bring with him military regulations, which allow one surgeon to a battalion; and we in civil life must see to it that on his return there be one doctor to the thousand, with corresponding pay and allowances; and if the market requires more of us, it must requite us accordingly. Unless some such course is adopted in the immediate future men must specialize, or enter the services, or adopt some other vocation in life, or the general medical practitioner as we have hitherto known him will become as extinct as the dodo.

Let me please, Gentlemen, before sitting down, apologize as a Welshman for daring to pronounce an opinion on medical politics, whilst Wales has neither university nor college hall nor licensing body to raise a voice with medical authority. We Welshmen are deeply conscious of our inferiority in number and influence in this land of our birth; but we yield to none in our will and wish to uphold the best traditions of our noble calling. And it is to a mode of maintenance, or rather restoration, of this lofty standard that I have ventured to-day to ask your indulgent interest in a possible solution of this knotty and pressing problem.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### VANGHETTI'S OPERATION.

THE article in the BRITISH MEDICAL JOURNAL of July 20th on this method of utilization of the muscles of a stump to actuate artificial limbs prompts me to record my experience of the operation in two cases. The first of these was a patient with an amputation of the right arm at the junction of the middle and lower third of the humerus, who reached this country with his stump practically healed. When soundly healed the noticeable features of the stump were the mobility of the soft parts over the end of the bone, the absence of wasting of the biceps muscle, and the patient's power of still contracting it. These conditions rendered the stump, in my opinion, an ideal one for an attempt at "cinematization" by the tunnel method. The operation was performed according to the method described

in detail by Professor Pellegrini in his paper read before the Inter-Allied Conference on the after-care of disabled men in London, in May, 1918. In this operation the tunnel is formed by a bridge flap and not from a single pedicle flap; the tunnel so formed is slipped between the superficial and deep halves of the muscle mass. The operation itself presented no difficulties and has the advantage over Sauerbruch's method of lessening, if not eliminating, the risk of death of a part of the skin tunnel.

The operation was followed by a flare-up in the form of mild skin infection. Fortunately it reacted promptly to treatment, and did not interfere with primary union of the wounds. At each end of the tunnel there was, however, a little necrosis of skin, probably due to the sutures being tied too tight. These are now epitheliating, and the patient is wearing without any discomfort a length of No. 12 bougie in the tunnel until the time comes to fit the rod and connexions of the artificial limb. Happily he needs no encouragement to keep up the tone of the muscle by constantly contracting it.

The second case was that of a patient who more than twelve months ago received a gunshot wound of the left elbow with loss of the articular ends of humerus and ulna, together with a portion of the ulnar nerve. Operative attempts at the restoration of a stable joint having failed, at the request of the patient amputation was decided upon as better than either a flail or fixed joint. In this case the "clava," or peg type of motor, was formed by bringing out from the middle of an anterior flap a mass composed of the tendon of the biceps, the lower end of the brachialis anticus, and the brachial artery, which was thus divided and tied at a point below the line of the amputation itself. This mass was surrounded with skin reflected for the purpose as part of the anterior flap.

It is, of course, too soon to say one word about the eventual usefulness of the motors in these two cases, but it appeared to me of value to describe them at this time to draw attention to two types of cases seen here at home in which the operation is indicated. There are, firstly, those cases of amputation in which the healing process has been so satisfactory that without the risk of any damage to a good stump an attempt of this kind to add to its usefulness appears a justifiable procedure; and, secondly, there are cases of late amputation to rid the patient of a limb rendered useless by complete loss of function from one cause or another, in which "cinematization" can be added to the deliberate amputation at one operation. Whilst it may be possible, as the writer of last week's article suggests, for the operation of "cinematization" to be performed at casualty clearing stations or elsewhere in France, the most numerous opportunities will surely arise at the base hospitals in this country. Those who are in doubt as to the real usefulness of these plastic motors—those who heard Professor Patti's lecture and saw his films will not be of their number—should bear in mind that if the operation fails, or the patient loses interest, or if for any other reasons no actual use is made of them, their formation in no way interferes with the fitting to the stump of an ordinary artificial limb, and the patient, therefore, is in no sense worse off. It cannot be wrong to submit any procedure which holds out a reasonable prospect of improving the function of amputation stumps to an interested and painstaking trial.

London, W.

ERIC PEARCE GOULD, M.Ch., F.R.C.S.

#### TREATMENT OF ACUTE SEPTIC GINGIVITIS.

It is important to call attention to the quite unnecessary vigour with which acute septic gingivitis is not infrequently treated by wholesale extractions of the teeth. A very intractable and depressing affection if improperly dealt with, it is in reality very amenable to appropriate treatment, and that fairly quickly, the pain by which it is accompanied being speedily relieved.

The routine treatment I have found efficacious is, after thoroughly rinsing the mouth with an iodine wash, to apply tiny pellets of wool soaked in camphor and carbolic acid (equal parts) well up into each interdental gingival space for a few minutes; this quickly eases the pain produced by any instrumentation. A fresh paste made by mixing equal parts of thymol, dried alum, and oxide of zinc with the oily camphor-carbolic mixture is then carefully packed into the gingival spaces and round the necks







be mapped out into definite areas according to the organs involved, thus supporting in a very convincing manner the conclusions previously arrived at by others.

In his second appendix the author offers some advice to intending research workers which may well be taken to heart as coming from one who has had exceptional opportunities for judging the conditions of success and failure in the past. He deplores the waste of time and energy which has too often occurred owing to want of previous clinical experience on the part of the researcher, and would require him to have a clear conception of the object in view in order to avoid futile investigations. The qualities needed for successful research are not possessed by every one, and no amount of enthusiasm will supply their place. The clinical indications of incipient disease are always calling for more precise study, but it is obvious that the hospital ward is not the place in which it can be pursued. It is to the family practitioner that such early symptoms are revealed, but under existing conditions it is almost hopeless to look to him for systematic research work. Moreover, in the vast majority of cases the earliest indications are not regarded, and the doctor's aid is not sought until something definite occurs. Only in a very limited number of instances would patients who do not regard themselves as ailing submit to the frequent supervision and examination that would be required to carry out effective research. Even with the consent of the patient, the average practitioner is not, as a rule, in the position to carry out systematic investigation. His training in that respect has not prepared him to form anything more precise than a general impression. The early stages of disease, its progress, and the action of remedies, together with the management of the lives of individuals with impaired health, are all subjects calling for further research. But the researcher must be trained to observe, and he must have practical knowledge of the directions in which special information is to be pursued. Sir James Mackenzie's book should help him on his way.

#### THE EAST AFRICAN CAMPAIGN.

MR. R. V. DOLBEY, M.S. Lond., F.R.C.S., who was in London on a holiday from British Columbia in August, 1914, and at once joined the R.A.M.C., published fifteen months ago, in a volume entitled *A Regimental Surgeon in War and Prison*, an account of his experiences, first with the British Expeditionary Force until he was taken prisoner in October during the first battle of Ypres, and then during the winter of 1914-15, when the German officers in charge of prison camps, by a mixture of brutality and incompetence, inflicted horrible hardships on the soldiers and civilians who had fallen into their clutches. What the German officer was in Flanders and the prison camps such he was also in East Africa—arrogant, callous and bombastic in success, and abjectly self-pitying when things went wrong for him. Those who remember Captain Dolbey's earlier book will look forward to reading his new volume, *Sketches of the East Africa Campaign*,<sup>1</sup> and they will not be disappointed, for though it is not a connected narrative but a succession of sketches concerned with General Smuts's operations in 1916, it gives an insight into the difficulties and hardships of a prolonged campaign about which comparatively little has been heard in this country.

The Germans had in Colonel von Lettow a leader of great energy and resource, who knew the country well and seems fully to have understood the importance of feeding the white man in the tropics. The British forces were not so well off in this respect, for the Germans were falling back towards their bases while the British line of communications through a country with few or no roads was constantly lengthening. The great scourge was malaria; there were not a few cases of cerebral malaria and many of blackwater fever, in the treatment of which Captain Dolbey praises salvarsan and subcutaneous saline injections. Fighting troops on the move through bush cannot use mosquito nets, but "mosquito oil," a mixture of citronella, camphor, and paraffin, the author says, will protect the face and hands for six hours at least. There were not wanting minor scourges also—tick fever, so called because it is due to a spirillum carried by a tick that lives in the soft floor

of native houses, the three-day fever transmitted by the sandfly, and the skin affections produced by the botfly and the jigger, the last named so great a pest that Captain Dolbey says "at least 5 per cent. of our army, both white and native, are constantly incapacitated. Hundreds of toenails have I removed for this cause alone." Captain Dolbey describes two operating theatres he set up, the one at Handeni in a German gaol converted into a hospital, and the other at Morogoro, where he had excellent service from a German sister. At both he had as operating-room orderlies Nazoro from the shores of Tanganyika and Ali, of gentler manners but less trustworthy.

The forces on both sides consisted largely of Africans, but the British included detachments of the Indian army, which gave a good account of themselves. The book contains a number of illustrations, including some German photographs which fell into British hands.

#### LORD LISTER'S LIFE.

SIR RICKMAN GODLEE's biography of *Lord Lister*,<sup>4</sup> published in November last, has reached a second edition. Dr. W. W. Keen of Philadelphia wrote in his review of the book in *Science* last month that "as a biography the story is too detailed to be easy perusal for the non-medical reader." General observation and the appearance so soon of a new edition encourages a more generous view of the non-medical reader, who, like Dr. Keen, has in considerable number realized that the book "is more than a biography. It is an important historical document." Dr. Keen gives some personal reminiscences of Lister's visit to America in 1876 to attend an international congress held in Philadelphia during the Centennial Exhibition there.

There (he writes) I saw, heard, and met Lister for the first time. The general tone of the discussion in the surgical section, of which Lister was chairman, with the exception of a few, was that the system was little if anything more than "surgical cleanliness"! I was an attentive listener, was wholly converted to Lister's views, and I began to practise his method when I went on duty at St. Mary's Hospital, October 1st, 1876, and have never for a moment ceased to be an enthusiastic disciple. My results were marvellously different from what they had been in the same hospital for ten years. "Experientia docet." I know whereof I speak by bitter prior experience.

The new edition is substantially identical with the first. A few slight changes and additions have been made; one or two mistakes, chiefly in dates, detected by the author rather than by his reviewers, have been corrected, and the index has been made fuller.

#### NOTES ON BOOKS.

THE second edition of Professor C. D. AARON's large book on *Diseases of the Digestive Organs*,<sup>2</sup> written with especial reference to diagnosis and treatment, is a comprehensive and well-illustrated volume, fully up to date. It is meant for the practitioner of medicine as well as the specialist, and may fairly be said to meet the needs of both. It may be recommended as a full and practical treatise on diseases of the alimentary tract.

So many dramatic and even slightly feverish textbooks are put before the medical student nowadays that it is quite a relief to meet with one that still adheres to the old-fashioned and conservative lines of last century. Dr. THACHER's edition of AUSTIN FLINT's *Manual of Physical Diagnosis*<sup>3</sup> may be described as one of these. It deals chiefly with the use of percussion and auscultation in diseases of the chest, and at the end of the volume is a short chapter on examination of the abdomen. The text has been brought up to date by the editor, and for clearness and conciseness leaves nothing to be desired. The book may be warmly recommended to medical students anxious to learn how to make the best use of their hands and ears in diagnosis.

<sup>1</sup> *Lord Lister*. By Sir Rickman John Godlee, Bt., K.C.V.O., M.S., F.R.C.S. Second edition. London: Macmillan and Co., Ltd. 1918. (Med. 8vo, pp. xix + 681; illustrated, 18s. net.)

<sup>2</sup> *Diseases of the Digestive Organs; with Special Reference to their Diagnosis and Treatment*. By Charles D. Aaron, Sc.D., M.D., Professor of Gastro-entology in the Detroit College of Medicine and Surgery, etc. Philadelphia and New York: Lea and Febiger. 1918. (Roy. 8vo, pp. 818; 156 figures, 48 routine diagrams, 9 coloured plates. 7. 0dols.)

<sup>3</sup> *A Manual of Physical Diagnosis*. By Austin Flint, M.D., LL.D. Seventh edition, revised by Henry C. Thacher, M.S., M.D. Philadelphia and New York: Lea and Febiger. 1917. (Post 8vo, pp. 381; 26 figures, 2.10dols.)

<sup>4</sup> *Sketches of the East Africa Campaign*. By Captain Robert V. Dolbey, R.A.M.C. London: John Murray. 1916. (Ct. 8vo, pp. xxi + 219. 6s. net.)



Dr. S. YOUNG's admirable textbook on *Stoichiometry*, now in its second edition, is one for teachers and advanced students of chemistry. It may be explained that "stoichiometry" is a hideous word connoting the measurement of chemical combination in definite proportions, and its application to quantitative chemical calculations. Dr. Young's book is a thoroughgoing account of physical chemistry from what may be called the quantitative point of view, with chapters on the determination of atomic weights and on the periodic law. The treatment is mathematical throughout.

*Stoichiometry.* By Sydney Young, D.Sc., F.R.S. Textbooks of Physical Chemistry, edited by Sir William Ramsay, K.C.B., F.R.S. Second edition. London: Longmans, Green and Co. 1913. (Demy 8vo, pp. xiv. + 363; 93 figures. 12s. 6d. net.)

## THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

### Subscriptions to the Second Appeal.

THE following subscriptions and donations to the Fund have been received during the fortnight ending July 22nd:

	£	s.	d.		£	s.	d.
Dr. Montagu Cutcliffe ...	1	1	0	Sir R. Hampden Smith ...	5	0	0
*Lady Gorlon ...	5	0	0	Dr. J. Walker ...	2	2	0
Anonymous ...	0	12	0	Mr. G. H. Dawson ...	5	0	0
Dr. J. A. Wilson ...	1	1	0	Mr. A. F. Burnett ...	1	1	0
Mr. T. N. Eastland ...	1	0	0	Dr. Bernard Relton ...	1	1	0
Dr. Eveline Cargill ...	2	2	0	Dr. J. F. Stockwell ...	5	0	0
Dr. A. Bowe ...	1	1	0	Dr. H. M. Rainsford ...	3	0	0
Dr. Osborne Johnson ...	1	10	0	Surg.-Gen. F. J. Lilly,			
Dr. J. W. Papillon				R.N. ...	1	1	0
(quarterly) ...	0	10	6	Mr. A. J. Phillips ...	3	3	0
Captain A. N. Singer				H. H. E. ...	5	5	0
N.Z.M.C. ...	2	2	0	Dr. J. Tremlett Wills ...	5	5	0
Mr. Harold Barwell ...	5	0	0	Mr. E. S. Upton ...	0	10	6
Mr. John Dunlop ...	1	1	0	Dr. Chas. Lathbury ...	1	1	0
Dr. R. M. Boodle ...	1	0	0	Lieut.-Col. E. Hobhouse,			
Captain S. J. Irwin,				R.A.M.C.(T.) ...	3	3	0
R.A.M.C. ...	5	5	0	Dr. H. J. Wheeler ...	5	0	0
Sir H. Bell Longhurst ...	5	0	0	Dr. Bernard Spilsbury ...	5	5	0
Dr. John L. Speirs ...	2	2	0	Dr. E. D. Kirby ...	1	1	0
Dr. A. Laslett ...	2	2	0	Miss Everina S. J. Massy,			
Dr. R. H. Steen ...	1	1	0	M.B. ...	1	1	0
Dr. Charles D. Muspratt				Mr. A. P. McCallum,			
Captain Wm. B. Jack ...	1	1	0	M.P.S. ...	5	0	0
Miss R. K. Spencer,				Dr. A. A. Parson ...	1	1	0
M.P.S. ...	1	0	0	Mr. T. Baker, M.P.S. ...	1	0	0
Dr. Faithful Smith ...	1	1	0	Mr. S. Summers ...	0	2	6
Lieut.-Colonel H. Jones,				Mr. W. S. Howorth,			
R.A.M.C.(T.) ...	5	5	0	M.P.S. ...	0	5	0
Dr. D. Yellowlees ...	5	0	0	Dr. J. Crisp Griffiths ...	2	2	0
Dr. W. E. Scott ...	3	3	0	Messrs. James Beard,			
Mr. Idwal Parry ...	1	1	0	Limited ...	3	0	0
Dr. J. Kirk ...	1	1	0	Dr. E. Kershaw ...	2	2	0
Dr. J. Farmer ...	1	0	0	Dr. Heywood Smith ...	1	1	0
J. F. C. Wood ...	1	1	0	Dr. J. T. Churchill ...	2	0	0
Mr. W. E. Morris ...	0	5	0	Dr. W. J. Stephens ...	0	10	6
Dr. H. D. Hartham ...	1	0	0	Dr. T. H. Galbraith ...	5	5	0
Dr. F. de Havilland Hall				Sir James O. Affleck ...	10	10	0
†Sir R. Murray Hyslop ...	5	5	0	Lieut. -Colonel R. D.			
Dr. Thos. Baker ...	2	2	0	Hotchkiss, R.A.M.C. ...	1	1	0
Anonymous ...	5	0	0	Dr. C. R. Marshall ...	1	1	0
Mr. E. D. Telford ...	5	5	0	Captain T. T. Apsimon ...	1	1	0
Dr. W. B. Hunter ...	2	2	0	Mr. J. A. Buckley ...	2	2	0
Dr. R. E. Lord ...	1	1	0	Dr. W. Snodgrass ...	3	3	0
Mr. S. H. Campion ...	0	10	0	Captain R. M. Barwick,			
Dr. E. M. Johnstone ...	5	0	0	R.A.M.C. ...	10	10	0
Mr. C. G. Trinder ...	1	0	0	Dr. W. B. Russell ...	1	1	0
Dr. J. B. Hurry ...	1	1	0	Major R. Stirling ...	3	3	0
Mr. Fergus F. Stewart ...	0	5	0	R.A.M.C.(T.) ...	1	1	0
Mr. E. J. Foules ...	2	0	0	Dr. T. G. Stonham ...	1	1	0
Fleet Surgeon E. O. B.				Fleet Surgeon O. C.			
Carbery, R.N. ...	1	0	0	Macmillan ...	1	1	0
Dr. Thomas Eastes ...	1	10	0	Dr. and Mrs. J. F.			
Dr. W. P. Dickson ...	1	1	0	Blackett ...	1	1	0
Dr. H. Mallins ...	1	1	0	"A Friend" ...	100	0	0
Dr. Charles S. Simpson ...	1	1	0	Staff Surgeon B. S.			
†Mr. Roger Beck ...	5	5	0	Robson ...	5	0	0
Mr. Frederick Williams				M. C. ...	5	0	0
Messrs. Westmacott and				Dr. B. ...	10	0	0
Son ...	2	2	0	Sir Rickman J. Godlee ...	4	4	0
Miss Harriet M. Jones ...	0	10	0	Captain F. A. Hampton,			
Dr. G. A. Grierson ...	2	2	0	R.A.M.C. ...	5	0	0
Miss S. M. Ross, M.D. ...	1	1	0	Dr. G. Peterkin ...	2	2	0
Dr. Jas. Henderson ...	2	2	0	Mr. H. B. Morgan, M.P.S. ...	0	10	0
Sir John Broadbent ...	5	5	0	Dr. T. Fawcett ...	5	5	0
Dr. W. Camac Wilkinson				Dr. R. Kay ...	2	2	0
Dr. Ernest Thomson ...	1	1	0	Mr. C. J. Heath ...	5	5	0
Mr. A. Wright ...	0	5	0	Captain and Mrs. J.			
Dr. J. E. Moorhouse ...	2	2	0	Rutter Williamson ...	5	5	0
Dr. J. W. Roberts ...	1	0	0	"Returned Red Cross			
Dr. W. J. Dewar ...	2	0	0	Salary" ...	4	4	0
Mr. Norman Smith ...	0	5	0	Dr. M. A. Teale ...	1	1	0
Dr. A. D. Hughes ...	1	1	0	Stourbridge Medical			
Well-wisher ...	0	5	0	Society ...	3	3	0
Mr. J. R. Wretts ...	3	3	0	Dr. G. I. Dudley ...	1	1	0
Dr. W. B. Whitmore ...	5	0	0	Dr. J. Fawcett ...	5	5	0
Captain Russell Steele,				Dr. J. P. Purvis ...	2	2	0
R.A.M.C. ...	1	1	0	Mr. A. H. Bell ...	1	1	0
Captain E. D. Gairdner,				Dr. C. Riviere ...	2	2	0
R.A.M.C.(T.) ...	3	3	0	Dr. F. Gourlay ...	1	0	0

\* Per Dr. Des Voeux.

† Per Sir Thomas Barlow.

Subscriptions to the Fund should be sent to the Treasurer, Dr. H. A. Des Voeux, at 14, Buckingham Gate, London, S.W.1, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited.

## SPECIAL RATIONS FOR INVALIDS.

### NEW REGULATIONS AS TO PERMITS.

IN the JOURNAL of March 9th, 1918, we published the regulations as to the granting of certificates to invalids for extra quantities of certain foods, which had been made by the Ministry of Food. The question of the special needs of invalids has received continuous attention from the Ministry and its medical advisers, and the Food Controller has now issued, in connexion with the scheme of national rationing introduced on July 14th, fresh regulations and a revised list of diseases for which, when extra rations are medically certified to be necessary, food control committees may make grants without reference to the Ministry.

The new regulations have been made after consultation with the advisory committee nominated by the Committee of Reference of the Royal Colleges of Physicians and Surgeons, and with representatives of the Medico-Political Committee of the British Medical Association. The general procedure is given in Memorandum N.R.3, summaries of which have appeared in the lay press this week. It does not apply to Ireland, where special arrangements are in force.

### Application Forms and Certificates.

Application must in all cases be made to the food control committee of the district in which the patient lives, and not to the Ministry of Food direct. Extra rations, or white flour as the case may be, can only be purchased by means of authorities issued by food control committees, and may not be supplied by retailers on doctors' certificates without such authority. Application forms can be obtained from local food offices.

Applications for extra invalid rations of meat, butter, or margarine, and for extra sugar must be made on Form N. 36; applications for white flour on Form N. 8; applications from expectant mothers on Form M. 55. No applications need be made on behalf of nursing mothers as such, since they can obtain the infant's ration without a doctor's certificate. Form N. 36 gives the headings of a certificate to be filled up and signed by the medical attendant in charge of the case stating the disease from which the patient is suffering, and specifying the minimum amounts of the food in question which in his opinion are required by the patient each week.

Certificates should be clearly written, and in addition to stating the name of the disease should give some indication of its stage or seriousness, and it will be of assistance to the medical advisers of the Ministry if the general nature of the patient's diet is also indicated. In no case will extra meat be sanctioned for making beef-tea, for which purpose meat extract, with or without the addition of milk powder, may be used.

### Information for Medical Practitioners.

The Ministry of Food has also published special leaflets (N.R. 5 and N.R. 5a) for the use of medical practitioners only, indicating more precisely the circumstances in which special rations may be ordered for invalids and the diseases for which extra rations may be granted by food control committees. These leaflets are to be circulated to registered medical practitioners by local food offices, and may be obtained on application to those offices.

The Food Controller fully understands the difficult position in which doctors are sometimes placed when asked to sign certificates for extra rations, but he relies upon the profession to help him in safeguarding the national food supplies by giving certificates only in those cases in which extra allowances of rationed foods are essential. It is clear that any extension of the privileges already granted might give rise to abuse through the importunity of patients; the Ministry is therefore anxious that medical practitioners should be on their guard as far as possible against furnishing certificates lightly. Impudent patients should be reminded that a doctor has no power to grant extra rations, but only to recommend a case for such a grant when he is convinced of its necessity; and that the final responsibility for giving or withholding a grant rests with the Ministry of Food, which has to take into account not only the needs of the individual, but also the state of the national supplies.

### Extra Meat and Fats.

Leaflet N.R. 5a gives a list of diseases in which committees may grant extra rations of meat, butter, and



margarine, where medically certified to be essential, together with the maximum weekly quantities (inclusive of the ordinary ration) which can be allowed in any case, and the maximum period for which the allowance may be made. Eight classes of case are recognized:

1. Active tuberculosis, pulmonary or otherwise.
2. Diabetes and glycosuria.
3. Graves's disease (exophthalmic goitre).
4. Pernicious anaemia.
5. Cancer.
6. Senile dyspepsia.
7. Convalescence after severe illness, severe operation, or serious loss of blood (including childbirth in which the child does not survive).
8. Infantile diarrhoea and wasting (marasmus). In the case of children under 2 years suffering from this complaint, committees may grant extra meat up to 2 lb. a week for a maximum of four weeks for the purpose of making raw beef juice where certified necessary by the doctor.

In writing certificates for cases of tuberculosis it is important to use the word "tuberculosis." If it is desired to avoid the use of the word "cancer" on the certificate, such terms as "new growth," "malignant disease," "neoplasm," or "epithelioma" may be used. Applications for extra rations of meat and fat for patients with diseases other than those just mentioned must be forwarded by the local food office to the Medical Section of the Ministry. It is found that the terms "pancreatic insufficiency" and "coeliac disease" are used so loosely that any certificates bearing these diagnoses alone can no longer be recognized; hence, a brief statement of the patient's symptoms should be supplied as well.

Where a patient is medically certified as being unable for a specified reason to take one or other of the following foods—butter, meat, bacon, or butter—his rations may be interchanged at the discretion of the committee in the following proportions: One weekly butcher's meat coupon = one weekly bacon coupon = one monthly butter-margarine coupon. This arrangement does not, however, apply to cases falling into the eight classes mentioned above. If in any such case the question of interchange arises so as to cause the maximum ration to be exceeded, the application will be referred to the Ministry as an exceptional case.

#### White Flour.

The Food Controller is advised that no ordinary disease requires bread made from white flour, and its use must be confined to special cases in which it is essential. Applications for white flour must be made separately on Form N. 8. Leaflet N. R. 5A gives a schedule of diseases for which the food control committees will have power to grant permits for not more than 14 lb. of white flour in all, which should last six weeks. The diseases are:

- Active gastric ulcer.
- Active duodenal ulcer.
- Malignant disease of the stomach (gastric carcinoma).
- Senile dyspepsia.
- Chronic diarrhoea.
- Intestinal ulceration.

By "active" gastric or duodenal ulcer is meant either that stage of the disease in which the patient is undergoing treatment in bed, or a convalescent period immediately following it. The term "senile dyspepsia" is used for that form of flatulent indigestion often met with in aged persons in association with chronic bronchitis or cardiac weakness.

In the case of senile dyspepsia or gastric carcinoma, applications for renewal may be granted by food control committees without fresh medical certificates; in all other cases applications for renewal must be made on a fresh form—N. 8—and forwarded to the Invalids' Flour Subsection, Medical Section, Ministry of Food, 29, Upper Grosvenor Street, W.1.

With regard to diseases not mentioned in the schedule, it is hoped that medical practitioners will only sign certificates in such cases when convinced that the present bread is unsuitable even when toasted.

#### Sugar: Milk.

Patients medically certified to be unable, for some reason specified on Form N. 36, to take solid food may be granted extra rations of sugar for a period not exceeding four weeks, but no grant of extra sugar will be made to any patient who is receiving any invalid's rations of meat, butter, or margarine. The total sugar, including the ordinary ration, must not exceed 1 lb. a week, except in the case of tube-fed patients. No extra sugar is allowed for bottle-fed babies. Generally speaking, extra sugar will only be granted to patients certified to be unable to take solid food either by reason of difficulty in swallowing or because their disease necessitates a "slop diet." The

nature of the disease and the general character of the diet should always be stated in the certificate. The ordinary sugar ration is regarded as sufficient for artificially fed infants and healthy children.

Food committees may issue a ticket for priority in the supply of milk to any person who is entitled for reasons of health to a specified quantity of milk per diem. Doctors are asked to recommend milk rather than extra allowances of meat and butter wherever this will meet the needs of the patient, since extra rations can only be granted when the patient cannot obtain sufficient nourishment in unrationed foods.

#### Expectant and Nursing Mothers.

Expectant mothers during the last three months of pregnancy may be granted two extra meat coupons a week, or one butter and margarine coupon a week, on production of a certificate on Form M. 55, signed by a doctor or by a certified midwife. Provision is made for nursing mothers by the issue to infants from birth of the ordinary child's ration as well as a priority certificate for milk. In the event of stillbirth or the death of the infant within one month, the mother may, if this is medically certified as necessary, receive the allowance permitted for severe illness or after operation. Moreover, expectant and nursing mothers attending approved maternity feeding centres may receive meat at such centres free of coupon up to 12 oz. per head per week.

#### Emergencies and Special Cases.

In cases of grave emergency, where the doctor certifies that the life of the patient is in danger unless extra rations are granted, committees may grant extra rations, for one week only, up to a maximum (including the ordinary ration) of butcher's meat 2 lb., butter and margarine twice the ordinary ration. Beyond the first week applications for extension or renewal must be referred to the Special Diseases Subsection on Form N. 36, the envelope being marked "Grave emergency."

While it is not the practice of the Ministry to grant extra rations to discharged soldiers and sailors in the absence of definite medical grounds duly certified, special consideration is usually given to applications made by them on such grounds. Survivors from torpedoed or shipwrecked vessels, who have been subjected to serious privations and are medically certified on Form N. 36 to need additional rationed foods, may be granted invalids' special rations on the same scale as convalescents after serious illness.

Lastly, exceptional cases of disease not covered by the provisions set out above may be referred to the Special Diseases Subsection; but such application must be supported by strong medical certificates, and grants will only be made in very exceptional circumstances.

It will be seen that the responsibility falling upon the medical profession in connexion with certificates for special rations is heavy, and may place them at times in an invidious position. The leaflets issued by the Ministry for their special guidance should be studied with care.

THE Franco-Anglo-American League for combating cancer was formed not long ago in France. Among the founders are many medical notabilities—French, British, and American. The President is M. Justin Godart, formerly Under Secretary of State for the Health Services of the French army. A leading part in the organization of the league has been taken by Dr. Hartmann, professor of clinical surgery in the Paris Faculty and surgeon to the Hôtel-Dieu. Its objects are the creation of centres of treatment for patients, especially soldiers and refugees, suffering from cancer; the prosecution of research on the nature, causes, and prevention of cancer; the dissemination of elementary knowledge as to the earliest symptoms of cancer, so that they may be dealt with before the disease has become incurable, and the creation of teaching centres. The chief centre is in Paris, and others are being established in the university towns of France. One has already been formed at Bordeaux on the initiative of Professor Chavanuaz; another at Lyons under that of Professor Bérard with the co-operation of Dr. Auguste Lumière, who has placed his laboratories at the disposal of investigators; and a third at Montpellier by Professor Forgues. In the work of the league special attention will be devoted to a study of the use that can be made of radium and the Roentgen rays in the non-surgical treatment of malignant disease.



# British Medical Journal.

SATURDAY, JULY 27TH, 1918.

## MEDICAL VISITORS IN GREAT BRITAIN.

ENGLAND—let us, even with the fear of the hospitable Scot before our eyes, say Great Britain—is a country whose friendly feeling towards her allies has not found adequate expression, and is therefore very imperfectly understood. Especially would we wish that medical officers of the great Overseas Dominions and of the American Army should understand that we mean well, though, like the Scots lover, we may be gey slow in the comin' on.

We of the same tongue, the same ideals, and the same blood, want more occasions to know each other socially, and better opportunities to learn from each other scientifically. Can it be said that the medical officers of the Overseas Forces who, these last four years, have been with us more or less continuously, or have come here on leave or duty from France or the Mediterranean, have found either the social welcome or the scientific comradeship they had the right to expect? We fear that the answer must be in the negative. We have perhaps thought ourselves too busy; it is true that the teaching staffs of the medical schools have been depleted, and those members of them still on duty heavily occupied in war work, but the regrettable fact remains that there has been little attempt to organize any system of putting our visitors in the way of meeting members of the profession in this country socially and informally, or of helping them to see the work done in the hospitals. It is not yet too late to take advantage of this great opportunity of proving to the medical officers of the Overseas Forces that we hope the time they spend here will be both pleasant and profitable, that the wish is that every possible facility for following the progress of military and civil medicine, surgery and pathology may be freely open to them, and that we ardently desire that they shall take back with them friendly remembrances.

The arrival of so many American medical officers in Europe and their presence from time to time in this country is another reason for setting our house in order. While the war lasts we would like them to look upon Great Britain as a second social and scientific home. The spirit in which our American colleagues have come into this war has been admirable and enviable. They have with utmost frankness said: "We want you to tell us all you know, the mistakes you have made and how you have righted them, so that, as nearly as possible, we may start in where you are now." They will not doubt that it is our desire that they should benefit by anything that experience and research have taught us, well knowing, indeed, that they will return good measure heaped up and overflowing. In France we believe such store as we have has been very freely opened, but the same cannot be as fully said of our achievements at home.

The fault, if fault there be, has not been all on one side, for the efforts made from early days have not always met with a response as general as was hoped. The British Medical Association invited Overseas medical officers to make use of its library and reading-room and extended the invitation to American medical officers so soon as they began to come to or through this country; the possibility of doing something more

is being raised at the Annual Representative Meeting this week. The Royal Society of Medicine, which has one of the two finest medical libraries in the country, has invited Overseas and American medical officers to make use of it and to attend its scientific meetings; through its energetic secretary, Mr. MacAlister, it has offered literary assistance in the way of furnishing references and abstracts, and has also done much to supply information as to facilities for seeing hospital work in London.

It is to be feared, however, that too much has been left to individual effort and to chance, and we are glad to learn that steps will probably be taken to set up some temporary organization for collecting information of the kind our visitors need, and devising means for bringing it to their notice more prominently and continuously than has hitherto been found possible. If the plan is to have all the success desired, the co-operation of the senior officers of the Army Medical Services will be needed. We hope that the Directors-General and the Directors and Deputy Directors of Medical Services of the British Overseas and American Forces abroad will be disposed to assist the idea by consenting to make known officially any arrangements that can be made in Great Britain.

In speaking of the need for a temporary plan now we are quite well aware that we are touching only the fringe of a much larger subject—the need for the organization of post-graduate teaching in London on a larger scale and sounder footing than has existed in the past. The British Universities show encouraging signs of a disposition to take steps to induce young graduates from the Overseas Dominions, from the United States, and from the Continent, who have hitherto been in the habit of going to Germany, to come after the war to this country instead; but, as Sir Richard Lodge said at the graduation ceremony in Edinburgh the other day, if the Universities are to be successful in this effort they must be able to offer not only a degree but also training, and facilities for special study and research. Gallant efforts have been made from time to time in London, but the want of success of the London Polyclinic is sufficient to show that there was something wrong with the methods adopted. There is reason to hope that a satisfactory scheme permanently to fill the existing want will shortly be evolved, for we know that the subject has had serious consideration. It is, however, too soon to discuss here the steps that should be taken.

## THE PANDEMIC OF INFLUENZA.

THE influenzal pandemic has been on the wane for the past two or three weeks, so far as our present advices report, both in this country and among our troops and allies on the Continent. It has already given rise to a great quantity of ephemeral medical literature, and no doubt in the future will form the subject of more deeply studied and even laboured official reports. Is it possible, meanwhile, to draw any definite conclusions as to its origin and nature? There seems good reason for supposing that it came to us from Spain, in the first instance, in April last. It is generally agreed that it is an acute bacterial infection, and the general consensus of opinion seems to indicate Pfeiffer's *Bacillus influenzae* as the infecting agent. But by no means all the medical men and bacteriologists who have investigated the epidemic will agree with so summary a generalization.

In some instances Fraenkel's pneumococcus has been indicated as the cause of this "influenza"; it would be interesting to know how far such pneumo-



cocci would prove pathogenic on inoculation into experimental animals. Other investigators have found a Gram-negative micrococcus, resembling the meningococcus at first sight but later proving to be a *Micrococcus catarrhalis*, to which the local epidemic was attributed. Others, again, have found true pneumobacilli; and others have found various organisms in combination, and are inclined to attribute the disease to a combination of, say, *M. catarrhalis* and *B. influenzae*, as do Surgeon Gotch and Captain Whittingham, on page 82 of this issue. It is true that such a symbiosis is not common in the diseases of human beings, although it may occur in scarlet fever. But in the large majority of localities Pfeiffer's bacillus has been found, both in this country and on the Continent, in a greater or smaller percentage of the throat swabs taken from the patients, and more often, we believe, in the expectoration in cases complicated by bronchitis or bronchopneumonia. An involvement of the kidneys, such as Gotch and Whittingham describe as common, has not been generally noted.

The importance of acute pulmonary infections, in the production of trench nephritis, for example, is a point that has not infrequently been raised in recent years; it would seem that *post-mortem* evidence of an acute infection of the kidneys has been met with in fatal cases of influenza during the past two months, but only exceptionally. As a rule death has been caused by acute asphyxiating bronchiolitis or by bronchopneumonia, due in most instances to Pfeiffer's bacillus; no single variety of *post-mortem* findings can be described as typical, and this is perhaps natural in view of the fact that the patients dying of this influenza are for the most part the older patients with lungs already diseased—adherent, emphysematous, bronchitic, or what not. This may account for the fact that the mortality has been set as high as between 1 and 2 per cent. in some of the recent reports of local influenzal epidemics; absolutely, of course, such a figure is low, but in view of the general mildness of the disease as we have recently seen it, it may be looked upon as relatively high.

That we have to do with anything other than a pandemic of influenza may fairly be regarded as most unlikely. Certainly some investigators have failed to isolate the influenza bacillus from the secretions of some or all of their "influenza" patients, but this is a phenomenon not rare in true influenzal epidemics. The suggestion that we have to do with an outbreak of glandular fever rather than influenza is supported by Captain Burnford's observation, recorded in our last issue, that the patients have a general lymphadenitis, or enlargement of the lymphatic glands. But is such an enlargement ever absent in any large percentage of our soldiers, sick or well? Probably not; in fact, we cannot regard his arguments in favour of some diagnosis other than that of influenza as conclusive.

#### A VENEREAL MATERNITY CENTRE.

IN the JOURNAL of January 12th, when discussing the problem of congenital syphilis, we made passing reference to the venereal centre for pregnant women which the guardians of the City of London Union have established at Thavies Inn under the charge of Dr. John Adams. The experiment of grouping together as in-patients parturient women suffering from venereal disease was begun in September last under the auspices of the Local Government Board and the Metropolitan Asylums Board. The premises at Thavies Inn were built for the purpose of an infirmary, and were adapted without difficulty to the special requirements of a small lying-in hospital. Every case is investi-

gated and reported on very fully, in accordance with a special scheme of note-taking devised by Dr. Adams, and the pathological work of the centre is carried out by Dr. A. E. Stansfeld at St. Bartholomew's Hospital. It was contemplated at first that the work would be mainly connected with the mothers, but as time went on it has been extended to the treatment of the newborn babies with antisyphilitic remedies. A large room on the ground floor has been converted by means of partitions into a labour ward and treatment room. The routine treatment for syphilitic mothers is by intravenous injections of galyol or novarsenobillon, before and after labour. The infants receive intramuscular injections of galyol in glucose; the first injection is given between the seventh and tenth day, sometimes earlier, and the dose is repeated weekly or fortnightly. Both mother and infant also receive intramuscular injections with mercurial cream, the B.P.C. 40 per cent. preparation being used. Up to the present nineteen children of syphilitic mothers have received antisyphilitic treatment, and there has been one death only, that of an eight months baby. With few exceptions the infants gave strong positive Wassermann reactions when born. The weights are taken weekly and recorded on the case-sheets. The treatment has produced no apparent ill effects, and all the infants (except one whose mother's milk was poor) have gained steadily in weight, whilst the tendency has been for the Wassermann reaction to become less strongly positive, and in several instances a negative result has already been obtained. Thirteen infants have left the centre, but seven or eight of these still come up for fortnightly inspections and treatment. The results so far are encouraging, and although it is still quite in the experimental stage, the work of the Thavies Inn centre would appear to open out a fruitful field for research.

#### PICRIC ACID JAUNDICE.

SINCE the outbreak of war the consumption of picric acid, with the intention of imitating jaundice and so escaping military service, has attracted a good deal of attention. Epidemics of this spurious jaundice have been described, and the medical journals, especially in France, have contained a number of articles on the subject, the first as long ago as 1914 by Garnier, Vannier, and Roussille.<sup>1</sup> Marie<sup>2</sup> contributed an excellent critical review last year, and quite recently Malmjac and Lioust,<sup>3</sup> from an examination of the urines of 1,029 cases of real or simulated jaundice, have isolated 129 cases of picric acid jaundice. Five, ten, or fifteen grains of picric acid taken internally in one, two, or three doses irritate the alimentary canal, causing vomiting and diarrhoea, and turn the urine pomegranate red; much of the picric acid is removed by vomiting and in the loose stools, but there is always enough to stain the skin and conjunctivae yellow, the blood serum being yellow, instead of green as in ordinary jaundice, and the cerebro-spinal fluid also yellow. Some discussion has taken place as to the excretion in the urine which begins three hours after the acid is taken; Malmjac and Lioust state that for the first twenty-four hours picric acid is found in the urine, and that after this its amino-derivative picramic acid (dinitro-amino-phenol) appears, and that its amount, relative to that of picric acid, progressively increases, the urinary excretion of the acids continuing on an average for twenty, but sometimes for as long as thirty or even forty days. They also state that the skin of the head excretes picric acid only, while from the surface of the abdomen, armpits and groins both picric and picramic acid can be obtained. Except for the initial gastro-intestinal symptoms and the pigmentation of the skin and mucous

<sup>1</sup> Garnier, Vannier, et Roussille, *Arch. de méd. et de pharm. mil.* Paris, 1914, lxiii, 361.

<sup>2</sup> P. L. Marie, *Ann. de méd.*, Paris, 1917, iv, 85-107.

<sup>3</sup> Malmjac et Lioust, *Journ. de physiol. et path. gén.*, Paris, 1918, xvii, 685-691.



surfaces there may be no symptoms at all; but in susceptible persons and after large doses the cells of the liver may be affected and bile may appear in the blood serum and the urine, so that there is a true jaundice due to picric acid; this is likely to occur about the eighth to the ninth day after the picric acid is taken. Among their 129 cases Malmjac and Lioust found urobilin present in 35 per cent., bile acids in 27 per cent., bile pigment alone in 7 per cent., and both bile acids and pigment in 17 per cent. The presence of bile in the urine does not interfere with the chemical detection of picric and picramic acids. The presence of these acids makes it highly probable that the acid has been taken by the mouth, for observations appear to show that workers in munition factories do not absorb enough picric acid to allow of its detection in the urine. Pauly,<sup>1</sup> however, published a case of acute yellow atrophy of the liver in a female munition worker, and, by a process of exclusion of other causes, ascribed it to the toxic effects of melinite which contains picric acid, but the urine was not examined for picric or picramic acid. The liver weighed 21 oz. In ordinary obstructive jaundice bile appears in the urine from the onset in considerable quantities, whereas when bile is found in the urine of persons who have swallowed picric acid, it is not until after a week's interval that bile, and then in relatively small quantities, is detected in the urine.

#### THE ANTI-BERI-BERI VITAMINE.

In 1914 Braddon and Cooper and also Funk published experiments which they thought showed that when fowls or pigeons are fed on polished rice or starch, with or without a fixed amount of the antineuritic vitamine, polyneuritis comes on sooner if the proportion of carbohydrate in the food is increased, and on these grounds they concluded that the antineuritic vitamine plays an active part in carbohydrate metabolism. As this is in direct contradiction to Vedder and Clark's experimental work, Vedder<sup>2</sup> has returned to the subject, for the question is not only of scientific interest, but of practical importance; the physiologist requires an exact knowledge of the part played by vitamins, and it is essential that the sanitarian and physician should be provided with precise information as to the amount of vitamine-containing food necessary in the diet. Vedder believes that for the building up of the body, especially of the nervous system, a definite supply of vitamine is required, varying slightly with the individual and the amount of work done, but quite irrespective of the quantity of carbohydrate in the dietary. On the other hand, if Braddon and Cooper and Funk are correct in their interpretation, it follows that the more carbohydrate is eaten the more vitamine must be supplied. Vedder's fresh experiments appear to prove that the antineuritic vitamine is not concerned in carbohydrate metabolism, and justify the practical corollary that in arranging a diet to prevent the onset of beri-beri it is sufficient to ensure the consumption of the amount of antineuritic foodstuffs (beans, rice polishings, barley, etc.) that experience has shown will prevent the appearance of the disease, without any reference to the quantity of carbohydrate consumed.

#### SERUM TREATMENT IN SCARLET FEVER.

In an excellent paper on the treatment of scarlet fever with the serum derived from patients convalescing from the disease, Drs. Kling and Widfelt<sup>3</sup> report results that must be regarded as highly satisfactory. A severe epidemic of scarlet fever began in Stockholm about August, 1916, slowly dying down after May, 1917. In twelve months from September, 1916, there were 2,165 cases, with 152 deaths; 327 of the cases were classed

as "severe." The serum employed was taken from convalescent scarlet fever patients from four to seven weeks after the onset of the disease; the blood was drawn off by the insertion of a coarse aspiration needle into a vein at the bend of the elbow, an adult yielding 200 or 300 c.cm., a child 200 c.cm. or less. The serum was drawn from the clot forty-eight hours later, 200 to 300 c.cm. blood giving 50 to 150 c.cm. serum. This was tested for Wassermann's reaction, which proved positive in 10 out of 196 samples, and for the presence of bacteria by culture in deep glucose-agar tubes (to exclude the presence of anaerobes). Carbolic acid was added as antiseptic to 0.5 per cent. Thus prepared the antiscarlatinal serum was kept on ice until used, usually for two or three weeks. The number of patients with severe attacks of scarlet fever treated with it was 237. Whenever possible (202 cases) the intravenous route was chosen for the administration; if no adequate vein could be found, it was given by intramuscular injection. Children under 5 received 20 to 25 c.cm., big children and adults from 40 to 60 c.cm.; in most cases a single dose was enough. The serum was first employed in the middle of November, 1916, and it is noted that the first three patients receiving it died; but the early mortality, which had averaged 50.5 per cent. among the 91 severe cases treated without the serum, fell to 10.5 per cent. in the 237 severe cases that received the serum. The late mortality among the severe cases was 19.8 per cent. before and 7.2 per cent. after the use of the serum was instituted. The total mortality among the severe cases was 70.3 per cent. without and 17.7 per cent. with the use of the serum. The serum treatment usually brought about a critical fall of 2° or 3° C. in the patient's temperature within twenty-four hours in straightforward cases, with great improvement in the general condition, and often a deep and refreshing sleep, the pulse-rate falling from 140-160 to 100 or less. This was the case in 101 out of 115 such instances. The action of the serum was less well marked in 80 patients with complications (lymphadenitis, purulent rhinitis, otitis, and so forth), but none the less an improvement was generally observable. Nothing like severe serum sickness was seen in any of the patients treated with the serum; a few had a brief rigor soon after its injection, and half a dozen exhibited a slight urticaria that may or may not have been due to its use. It is noted that 111 out of the 186 samples of serum employed were used alone, unmixed; 43 of these 111 were derived from mild cases of scarlet fever, 56 from moderately severe, and 12 from severe cases. Good therapeutic results were obtained from 60, 66, and 66 per cent. respectively of these three varieties of serum; whether the serum was taken from the patient in the fourth, fifth, sixth, or seventh week after the onset of the fever seemed to make no difference to its therapeutic value. The earlier the antiscarlatinal serum was administered to the patient the better the results obtained—if in the first three days, over 90 per cent. of cures, whereas 5 out of the 10 patients receiving it on the sixth day died. The serum seemed not to lose its value after keeping for two months. As for the avoidance of scarlatinal complications by the patients treated with the serum, the hopes the authors at first felt were, as they say, soon gravelled; thus there were 21 per cent. of cases of nephritis among 212 of the serum-treated patients, and 21.5 per cent. among 1,923 other cases in the same Stockholm epidemic. Otitis, mastoiditis, and lymphadenitis seemed commoner among the patients who did not receive the antiscarlatinal serum. In conclusion the authors state their belief that the human antiserum is specific against scarlet fever and its presumably invisible virus; the super-added streptococcal infection common in scarlatina is left untouched by the human serum, and should perhaps be combated by the use of a suitable antistreptococcal serum. They think their human antiserum is both antitoxic and bactericidal.

<sup>1</sup> R. Pauly, *Lyon méd.*, 1917, cxvii, 61-62.

<sup>2</sup> F. B. Vedder, *Journ. Hyg., Camb.*, 1918, xviii, 1-9.

<sup>3</sup> C. Kling and G. Widfelt, *Hygiea*, Stockholm, 1918, lxxx, 2.



### THE HERRING HARVEST.

Among fish the herring comes next after the sprat as a cheap source of protein and fat. For a shilling the sprat yields 2,640 calories and the herring 1,320, the difference being partly accounted for by the waste of 18 per cent. in the herring since the bones and head are not eaten, while it is reckoned that the whole of the sprat is consumed. Professor D'Arcy Thompson devoted a recent Chadwick lecture to the natural history and commercial importance of the herring. The herring lives near the surface, and draws its nutriment from the minute and microscopic life which there abounds. The herring swims mouth open, drawing large quantities of water through a complicated gill system which forms an exquisitely complete sieve. Unlike other fish that live at the bottom of the sea, picking up small shellfish, crabs, and worms, there are no bounds to the herring's food, and it becomes more abundant where the microscopic life of the sea is plentiful. Professor Thompson made an elaborate calculation as to the number of herrings from which the harvest is drawn. A good-sized shoal of herrings might measure seven or eight miles in length and two to three or four miles in breadth, and was at least twenty feet deep. A rough estimate would be one herring to every cubic foot of water. Such a shoal would probably contain 10,000,000,000 herrings, and there were many such shoals, for the herring was found in the White Sea, on the coasts of Iceland and Canada, and of the North and South of Scotland, all through the North Sea, and in many other places. The total annual catch of the Scottish fisheries only represented about one-fifth of a single shoal, and the total annual catch of the English fisheries rather less. The entire catch of Northern Europe did not equal the number of herrings in a single shoal. The great increase in the Scottish herring fisheries dated from Huxley's Commission, which was instructed to report as to what regulations were necessary and desirable. Huxley's conclusion was that no regulations were required, and the acceptance of this opinion was shortly followed by an immense increase in the take of herrings dating from 1870. A regulation swept away by the Huxley Commission was that the nets should have an inch mesh; but herrings varied in size on different parts of the coast. The largest herring came from Stornoway; those from Lowestoft and Yarmouth were smaller. As the nets shrank somewhat rapidly in the salt water, the fishermen began with the fresh nets at Stornoway in the spring, and in the autumn, when they had shrunk, used them for the smaller fishes of Lowestoft. The prosperity of the herring industry very often coincided with the prosperity of nations, and the history of the herring fishery goes back to the time of the founding of the great Hanseatic League in the twelfth century. The arms of Lubeck are three herrings on a gold ground, a sign and emblem of the prodigious wealth that for two or three hundred years the Hanseatic League drew from the Baltic herring. At intervals of about a hundred years or rather more, ever since the twelfth century, the herring fishery has flourished and again dwindled away. A period during which the Baltic fishing dwindled gave the Dutch a great opening, and the Hanseatic power passed away for ever. In spite of many ups and downs this country had never had to experience those great herring famines which had changed the history and brought ruin or alternative prosperity to so many busy ports of Northern Europe. The herring, Professor Thompson concluded, was indeed a very great fish—it was not only the material of a trade, but the material of the wealth of nations.

### THE WORK OF NATIONAL SERVICE MEDICAL BOARDS.

VERY good progress has been made in the great task of medical examination of the large number of elder men who were rendered liable to service by the last Military

Service Act. The work has had to be done under considerable strain, but the great pressure is now over and the calls that will in future be made upon the National Service medical boards will be much lighter. The work, we can confidently assert, has been extremely well done, and any errors in medical examination have been extremely few. Certain members of Parliament have seized upon any and every opportunity to criticize the work of the boards, but even their keen eyes have been able to detect very few examples of error, and in not a few of the cases about which questions have been asked it has been plain that no error was committed. The fact is that the medical profession has again responded admirably to the country's call, not only in numbers—we believe that there are close upon three thousand members of the National Service medical boards—but also in the careful and conscientious manner in which the very responsible duties of these boards have been carried out.

### VACCINES FOR INSURANCE PATIENTS.

THE London Panel Committee has again discussed the question of the supply of autogenous vaccines and has adopted a recommendation that such vaccines should form part of medical benefit, but that the cost should not be borne by the drug fund. The Panel Committee urged upon the Insurance Committee the advisability of including in the list of persons who are in agreement to supply drugs and appliances under the Insurance Acts the names of institutions or persons in a position to supply such vaccines for the use of the insured population.

### A MINISTRY OF HEALTH.

THE Ministry of Health Bill, which has been under the consideration of Sir George Cave's Home Cabinet, will not, we imagine, prove to be a measure as comprehensive and revolutionary as recent debates and discussions might lead the public to suppose. In this connexion we may recall the suggestion put forward last January<sup>1</sup> by a group of ten members of Parliament headed by Major Waldorf Astor, now Parliamentary Secretary, Ministry of Food. The group advocated the combination and reorganization of existing departments for the setting up of a Ministry of Health, and submitted the heads of a bill providing that so soon as the new Ministry had been established by Parliament all the powers of the Insurance Commissions for England and Wales, and all the powers of the Local Government Board, should be transferred to it by Order in Council, that the health functions of other departments should be taken over at such times as were found convenient, and that there should be power to transfer from the new Ministry to other departments any functions transferred to it at first for the sake of convenience but found to be unsuitable for a health ministry to perform. Under this scheme the new Ministry would be simultaneously acquiring and shedding powers, and although the method was recognized to be clumsy, the promoters believed that by this expedient matters of national health would be discussed on their merits undisturbed by conflicting claims of rival authorities. Writing on the subject some four months ago, we said that the indications then were in favour of the Government bill being a measure to amalgamate the Insurance Commissions in England and Wales with the Local Government Board, leaving the non-medical functions of the latter department to be shed at a later date. There is general anticipation that the medical functions of the Board of Education would also be handed over, but with this possible addition the present position appears to be the same to-day as it was in March. If the bill is introduced in this form, it will undoubtedly come in for much criticism. If it means that the Ministry of Health, to quote Sir Bertrand Dawson's words, is not to have "a bigger horizon than

<sup>1</sup> BRITISH MEDICAL JOURNAL, January 19th, 1918, p. 98.



the Local Government Board and Insurance Commission, then we must emphatically say "No." On principles, as he said, there can be no compromise—"the practice of putting the skilled under the control of the unskilled must cease." One plan for preventing the perpetuation of this evil in the new Ministry is outlined in the scheme of the British Medical Association, which proposes the establishment of an Advisory Council of experts. This council should hold regular meetings not less often than once a month, should have direct access to the Minister, and should have the power of initiation—that is to say, it should have the right and obligation to tender its advice to the Minister on any subject which it considered ought to be dealt with, and not merely on such matters as the Minister referred to it. It is proposed to meet the objection that the Board's advice could always be overruled by the Minister, acting perhaps under the influence of permanent officials—not experts either in medicine or any of the other professions concerned in the prevention of disease or the maintenance of health—by requiring reports of the Advisory Council to be presented to Parliament. What value this expedient would prove to have in practice is a matter upon which there is room for difference of opinion; but, provided the Minister had efficient permanent medical officials in an independent position of direct responsibility to him, it would undoubtedly afford some safeguard against the risk of "putting the skilled under the control of the unskilled."

A FORTNIGHT ago we mentioned that the Royal College of Surgeons had accepted the invitation of the Royal College of Physicians to appoint a joint committee to consider the proposals for the establishment of a Ministry of Health, and it was added that the committee would probably co-opt representatives of the Society of Medical Officers of Health. We understand that at a recent meeting of the joint committee of the Colleges this intention has been carried out, and that Dr. Hamer, M.O.H. London, Dr. H. R. Kenwood, Chadwick Professor of Hygiene in the University of London, and Dr. Robertson, M.O.H. Birmingham, will join the committee. The representatives of the College of Physicians are the President, Dr. Norman Moore, Sir Bertrand Dawson, Sir J. F. H. Broadbent, and Dr. Ormerod (Registrar). The representatives of the College of Surgeons are the President, Sir George Makins, Sir Berkeley Moynihan, Mr. Waring, and Mr. Ryall.

COLONEL H. M. W. GRAY, C.B., has, by desire of the Director-General, relinquished the post of Consultant Surgeon to the Third Army of the British Expeditionary Force in France, and is now associated with Sir Robert Jones, C.B., Director of Military Orthopaedics, in the conduct of that department. Colonel Gray will not at once resume work as surgeon to the Aberdeen Royal Infirmary, as his new duties will make it necessary for him to reside for the present in London, where are the head quarters of the orthopaedic department.

THE KING has appointed Mr. R. R. Cruise, C.V.O., F.R.C.S., to be surgeon oculist, and Sir Harry Baldwin to be surgeon dentist, to His Majesty.

THE Home Secretary has appointed a departmental committee to inquire into the conditions of service of superintendents, teachers, and other officers of reformatory and industrial schools, and to make representations as to the number and qualifications of the officers required in the several classes of schools and the appropriate scales of remuneration for such officers, and to prepare an estimate of the additional cost to the schools resulting from such recommendations. The chairman is Dr. A. H. Norris, Medical Inspector of Reformatories and Industrial Schools.

## Medical Notes in Parliament.

**A Ministry of Health.**—Sir William Collins, on July 23rd, asked Mr. Bonar Law whether, in view of the conflicting and varied interests involved in the question of a Ministry of Health and the number of Government departments concerned, he would consider the desirability of setting up some form of Government inquiry, by Royal Commission or otherwise, into the desirability and practicability of instituting a Ministry of Health. Mr. Bonar Law replied that the Committee on Home Affairs hoped shortly to settle a satisfactory scheme. The Government still considered that the appointment of a Royal Commission was unnecessary. It will be remembered that on July 10th the Speaker refused leave to move the adjournment of the House to raise a debate on the proposal for a Ministry of Health, but promised to reconsider the matter. On July 19th, in reply to a question by Mr. Booth, who had a blocking motion down, the Speaker said that he could not accept a motion for adjournment (on ground of "urgent public importance") to call attention to the fact that the Government had not introduced a particular bill, because if he did so he would open a door for similar motions upon any particular topic in which any forty members might be interested.

**Army Medical Establishments in France.**—In answer to Dr. Chapple, Mr. Macpherson, on July 18th, said that the Army Council had now considered the report of the Committee on Medical Establishments in France, and such action as was desirable had been taken.

**Medical Officers Prisoners in Turkey.**—Colonel Burn asked whether British medical officers, both of the R.A.M.C. and the I.M.S., who were prisoners in Turkey were receiving smaller pay and allowances than when they were on active service in Mesopotamia or elsewhere, although they were still working as doctors; whether the War Office would arrange that they be given the full pay and allowances which they drew on active service on receipt of certificates from them or on other evidence that they had medical charge of prisoners; and whether those of them who drew free rations while on active service would be given an allowance in lieu for the period covered by such certificates or evidence. Mr. Forster replied that British officers, both of the R.A.M.C. and of the I.M.S., are on their release or exchange credited with the full Indian pay of their substantive appointment for any period of their captivity during which they certified that they were fully employed with the care of British or Indian sick and wounded. Ration allowance was issuable only to officers when they were on active service.

**Medical Grading.**—Sir Auckland Geddes, on July 18th, replying to Mr. Rendall, said that the grades into which the men of the new military age were divided were distinguished from those applicable to their juniors. Tribunals had been informed that men placed in Grade I (B 1) were to be regarded as "not fit to be trained in the first line infantry," and that, in considering the relative military value of men in the new classifications Grade II (B 2) and Grade III (B 3), they must assume that these men were of substantially less military value than men under the previous Military Service Acts who were placed in Grade II or Grade III respectively. The effect might be made clear by example: A man of the old military age in Grade III might be fit only for sedentary work at his trade—for example, shoemaking—whereas a man of 45 in Grade II (B 2) might be perfectly fit for posting to the Labour Corps.

**Medical Examination of School Children.**—Mr. Munro informed Colonel Collins that schemes for the medical examination of school children had been adopted by the whole of the School Boards in Scotland, and, except in the county of Shetland, had actually been brought into operation. In some districts, however, the work had been temporarily interrupted owing to the depletion of the medical and nursing staffs through the war.

A BOARD of medical officers, which includes among its members Professor Victor C. Vaughan and Colonel William H. Welch, has been appointed by the American Government to make an investigation into the nature, causes, means of prevention, and treatment of pneumonia and its complications in the various military camps of the United States.



# THE WAR.

## A NAVAL AMBULANCE TRAIN.

IN the account of land medical transport arrangements contributed by Surgeon-General Sir James Porter and Staff Surgeon A. Vavasour Elder, to the *BRITISH MEDICAL JOURNAL* of April 28th, 1917, and since reprinted in *British Medicine in the War*,<sup>1</sup> a sketch was given of the general organization of this work, and more particularly of the naval ambulance trains which form the most important link in the system. The authors of that article took a very large share in planning and perfecting the arrangements, and their names are by general consent identified with the system.

The first properly equipped ambulance train made its initial run on October 14th, 1914; it afterwards came to be known as Naval Ambulance Train No. 1, and was followed at intervals by Nos. 2, 3, 4, and 5. Early in 1916 Sir James Porter, finding that the machinery had grown to such dimensions that a central office in London was indispensable, took up his post at the Admiralty as principal medical transport officer. Since September, 1917, the work has been carried on by his able successor, Deputy Surgeon-General C. S. Woodwright. The whole system is thus controlled at the centre by the Medical Transport Department at the Admiralty. The two chief local centres of activity are at Edinburgh and at Chatham. Of these, in the nature of things, Edinburgh comes first in importance, and the work there has developed more and more during the course of the war. The medical transport officer for Scotland is Deputy Surgeon-General Stanley Nance, who has been concerned with this particular service from the beginning of the war, and his office is in Edinburgh. At Chatham are kept most of the stores for the trains and ambulances, whilst all those occupied in the trains are borne on the books of the Royal Naval Dépôt (H.M.S. *Pembroke*) at that port; the present medical transport officer is Fleet Surgeon Kenneth H. Jones. There are other subsidiary dépôts at Hull, Plymouth, and Portsmouth, and many assistant medical transport officers are spread about the country from the north of Scotland down to Devonshire. Through the courtesy of the Medical Director-General, Sir William Norman, we have lately journeyed more than a thousand miles on a naval ambulance train, and in this way were able to see the system at work.

It will be remembered that the special feature of the naval sick transport is that a lying-down case is put to bed at once in the standard naval pattern cot and is never moved out of it from the time he is wounded or falls sick in the fighting ship until he finally reaches a base hospital; patient and cot travel together all the way, and the whole transport system has been designed and built up around this central idea. The standard naval cot is in fact one of the few direct links between the days of Nelson and the Grand Fleet of 1918. It consists essentially of a portable canvas bed with bedding, easily loaded and handled, and as easily slung. Hospital ships, motor ambulances, and ambulance trains are all fitted to accommodate the standard cot, and for every "loaded cot" that it receives a medical unit gives up a clean, empty cot in exchange.

Patients from the Grand Fleet and the northern coast hospitals are in ordinary times brought down to Edinburgh by smaller ambulance trains and distributed among the hospitals in the neighbourhood, whence they are evacuated by a full-sized ambulance train which makes a weekly trip to the main naval hospitals in the south of England. The train making this "routine distribution run" usually begins its journey near Edinburgh. Sick and wounded are often landed direct from hospital ships in the Firth of Forth, while at Edinburgh more patients from the naval hospitals join the train by ambulance car. The object of the circular tour of Great Britain is to distribute patients to their respective home ports or dépôts.

The amount and kind of medical attention given during the journey is governed by the principle that the train is "an ambulance and not a hospital." Thus the main purpose in view is to make the patients comfortable and not to give treatment beyond the immediate necessities of each case *en route*; dressings and medical treatment are

therefore reduced to a minimum, although means are supplied for dealing with emergencies, including a small dressing station equipped with instruments and drugs, and a simple form of operating table.

The train on which we travelled is the latest member of the group of large trains; it was built for the Admiralty by the London and North-Western Railway Company. The engines are supplied by the various railway systems over which the train travels, the movements being arranged between the naval medical transport officers and the railway executive. The train consists of twelve coaches, arranged in the following order: baggage coach; staff coach, with quarters for medical officers and nursing sisters; officer patients' day coach, with cooking galley and pantry; officers' cot coach; three men's cot coaches; administration coach, containing main cooking galley, stores, and office; men's day coach; two men's cot coaches; and lastly the crew's coach, with separate quarters for petty officers. At the far end of the first and last coaches there is a brake compartment for the guard, with an electric signalling device for communication between the driver and guard in whichever direction the train is travelling, while the main parts of the train are linked together by telephone. The internal arrangements of the train were set out very clearly in the article by Sir James Porter and Staff Surgeon Elder, and we can vouch for the comfort and completeness of the equipment therein described, as well as for the sailorlike precision with which all is done. The essence of the medical transport service is expedition; its motto is speed without confusion, haste without hitches. These conditions can only be fulfilled by careful preparation and constant practice.

The medical staff of the ambulance train consists of a surgeon-in-charge and another medical officer; nursing sisters are only carried in exceptional circumstances. The right-hand man of the surgeon-in-charge is the sick berth steward—an experienced petty officer of the regular sick berth staff. The remainder of the crew, thirty-six in number, are drawn from the auxiliary sick berth reserve. One petty officer acts as baggage master, another checks the cases, and a third, with special railway experience, is concerned with the running of the train, and acts as a link between the railroad authorities and the surgeon-in-charge. The personnel also includes a chef and two cook's mates, and a writer for clerical duties. Alternate four-hour watches are kept by day and night, the crew being divided for this purpose into port and starboard watches as afloat. The patients and their baggage are grouped according to their various destinations. Telephone and telegraph are always employed to advise the medical transport officer to whose district the naval ambulance train is proceeding to let him know the approximate time of arrival and number of cot and sitting patients, so that he can arrange requisite ambulances to meet them.

When carrying patients the cots are hung in two tiers by chains from the carriage roof, lateral jolts being absorbed by elastic pads and the Elder spring clip. Metal bed frames are also carried for use in special cases; they can be slung like cots, and wooden slats ("cot spreaders") are available for fracture patients. The virtualization of the train is mainly done from the dépôt at Chatham, but perishable stores may be bought locally as required. The food is abundant and well cooked, and emergency rations are carried for patients and crew to avoid any risk of shortage. The galleys hold in compact form everything needed for gas cookery, and there is ample water storage. The full cot capacity of the train is 136, including 24 cots for officers; this total can be increased in an emergency. Sitting accommodation is provided in the daytime for non-cot cases by an ingenious method of converting cots into sofas by stacking them along the sides of the ward coaches. Thus during a daylight journey the maximum accommodation would be 98 cots and 162 sitting cases. The men's day coach serves as a messroom, and, when required, as an ablution coach. One coach is set aside for sitting patients with venereal disease, and their bedding and utensils are kept apart and disinfected at the dépôt.

On arrival at Chatham every train discharges its soiled cots and is completely fitted out with clean cots ready for the next run. Besides a large number of equipped cots, stores of blankets, mattresses, and other bedding are kept at Chatham, for use if occasion arises, while in the trains extra blankets and other bedding are kept for use at the discretion of the train surgeons.

<sup>1</sup> *British Medicine in the War*. With coloured plates and numerous illustrations in the text. London: The British Medical Association. (Pp. s + 138. 2s. 6d.)



## CASUALTIES IN THE MEDICAL SERVICES.

## ROYAL NAVY.

*Wounded.*

Surgeon Probationer H. S. Savage, R.N.V.R.

## ARMY.

*Killed in Action.*

CAPTAIN E. P. W. WEDD, M.C., R.A.M.C.

Captain Edward Parker Wellman Wedd, M.C., R.A.M.C., was killed in action instantaneously on July 13th, aged 34. He was the elder son of Mr. E. A. Wedd, J.P., of Great Wakering, Essex, and was educated at Cheltenham College, where he was stroke of the college boat in 1901; at Caius College, Cambridge, where he gained his blue, rowing against Oxford in 1905, and graduated B.A. in 1906; and at St. Bartholomew's Hospital. He took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1911, and afterwards acted as house-surgeon to the West London Hospital. For some years before the war he had held a commission in the Yeomanry, and in that capacity went to the front in November, 1914, and had served there ever since. After serving on the staff for some time he took a temporary commission in the R.A.M.C. in 1917, and received the Military Cross last April.

*Died of Wounds.*

CAPTAIN P. M. MACLACHLAN, R.A.M.C.

Captain P. M. MacLachlan, R.A.M.C., was reported as having died of wounds, in the casualty list published on July 18th.

*Died in Service.*

CAPTAIN F. METCALFE, R.A.M.C.

Captain Frank Metcalfe, of Newcastle-upon-Tyne, died in the Framlington House Hospital for Officers on July 10th, aged 26. He graduated M.S., B.S. Durh. in 1914, and joined, in August, 1914, the 1st Northumberland Field Ambulance. He went to France with his unit in April, 1915, and did much arduous work there. He was invalided home in September, 1916, with myelogenous leukaemia, but, under treatment in the 1st Northern General Hospital, he made a seemingly marvellous recovery. He was posted to Catterick in April, 1917, and, at his own request, went to France in August. He came through the March retreat, but his health then broke down completely.

*Wounded.*

Captain J. M. Forsyth, M.C., R.A.M.C.

*Prisoners of War.*

Captain A. C. Hepburn, R.A.M.C.

Captain W. J. Hirst, R.A.M.C.

Lieutenant A. S. Findlay, R.A.M.C. (temporary).

## DEATHS OF SONS OF MEDICAL MEN.

Moxon, Jack, Corporal Australian Imperial Force, youngest son of the late Dr. William Moxon of Matlock, died in hospital abroad on July 2nd, aged 22.

Pearson, William Reginald Guy, Captain R.A.F., who lost his life on June 20th, aged 21, through a collision in the air, was the second son of Dr. Spencer Pearson of Clapham Road, S.W., and was educated at Ashdown Park and Berkhamstead. At the outbreak of war he enlisted in the Empire Battalion Royal Fusiliers, and, receiving a commission in the A.S.C., proceeded to France in January, 1915. He soon afterwards joined the R.F.C. and acted as an artillery observer. Returning to England, he completed his training as a scout pilot, and served in France in a fighting squadron for nearly a year, during which time he had over fifty encounters with enemy machines, and was officially credited with having brought down eleven German aeroplanes. He became a flight commander and gained his captaincy, being mentioned in dispatches.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]

## HONOURS.

The following medical officers have been decorated for services in the operations against Zeebrugge and Ostend on the night of April 22nd-23rd, 1918.

## D.S.O.

Surgeon Frank Pearce Pocock, M.C., R.N., *Iris II*.

By his devotion to duty he undoubtedly saved many lives. When *Iris II* was hit he at once commenced tending the wounded, and as all the sick-berth staff were killed, had all the work to do alone. After the dynamo was damaged he had to work by candle and torchlight.

*Distinguished Service Cross.*

Surgeon William Little Clegg, R.N., *Vindictive*.

Was in charge of the stretcher parties on the upper deck of *Vindictive*. Landed on the mole to recover casualties. Later, when he was proceeding with his party along the forward mess deck of *Vindictive*, a shell entered and burst close to him, killing one of his stretcher-bearers. He continued his work immediately, and by his personal example kept his stretcher parties going.

The following statements of services of the medical officers specially promoted in connexion with the same expedition have been issued:

Staff Surgeon James McCutcheon, R.N., *Vindictive* (promoted to Fleet Surgeon).

Was the senior medical officer of the force. It would be difficult to exaggerate the splendid qualities displayed by this officer. He organized the medical arrangements excellently, and imbued his subordinates with a fine spirit, and by his own personal skill and attention contributed to the saving of the lives of many gallant officers and men.

Surgeon Henry St. C. Colson, R.N. (promoted to Staff Surgeon).

Was attached to the R.M. storming party. He worked for many hours under the greatest disadvantages in gas fumes and by the light of a torch only with the utmost devotion to duty.

A Supplement to the *London Gazette* of July 18th contains the following statements of the acts of "conspicuous gallantry and devotion to duty" for which the awards announced in our issue of February 23rd, 1918, were conferred.

*Second Bar to the Military Cross.*

Temporary Captain Archibald Fullerton, M.C., R.A.M.C.

He worked untiringly under heavy shell and machine-gun fire, attending to the wounded of his own and other units. His fearless conduct undoubtedly saved many lives.

*Bar to the Military Cross.*

Captain William Fotheringham, M.C., R.A.M.C. (S.R.).

He attended to the wounded in an exposed position under heavy hostile gas shell fire. Though suffering badly from gas he continued at work with the greatest courage and determination until he was blinded by gas.

Temporary Captain William John Knight, M.C., R.A.M.C.

He worked continuously during an engagement attending to the wounded under heavy fire, and later went into a village which was being heavily shelled and brought away several wounded men. He went back to the front line after the position had been evacuated and brought back several badly wounded men. He worked with untiring energy throughout the operations, and saved many lives.

Captain Frederick William Lees, M.C., C.A.M.C.

He worked untiringly attending to the wounded and superintending their evacuation. Though his aid post was continually under heavy shell fire he carried on his work with an energy and cheerfulness which were a splendid example to all. He saved many lives by his devotion to duty.

Captain Thomas Ainsworth Townsend, M.C., R.A.M.C.

Although twice wounded he refused to have his wound attended to, and continued to dress the wounded under a continuous and heavy concentration of high-explosive and gas shells. Not only did he attend the wounded and gassed of his own unit, but rendered aid, under conditions of great difficulty, to wounded of neighbouring battalions, whose medical officers had become casualties. His complete disregard of personal danger and splendid devotion were a magnificent example to all.

*Military Cross.*

Temporary Captain Eric Phillip Blashki, R.A.M.C.

He went forward during an engagement and established a dressing station in an advanced position. He remained at his post under heavy shelling and collected the wounded from an area swept by machine-gun fire. He showed the greatest courage and resource.

Captain Frank Chadwick, M.B., R.A.M.C.

After the troops had been withdrawn he remained with the wounded all night in an advanced position, and organized their removal in the face of great difficulties. By his courage and determination he succeeded in getting all the wounded away.

Temporary Captain Thomas Maitland Crawford, R.A.M.C.

He was wounded and rendered temporarily unconscious by a shell which mortally wounded the colonel and adjutant of his battalion. As soon as he recovered he attended to their wounds, and remained on the spot without having his own wounds dressed until stretcher-bearers arrived. He reported to brigade headquarters before having his wounds attended to, and showed splendid courage and self-sacrifice.

Temporary Captain William Claughton Douglas, R.A.M.C.

While returning from the regimental aid posts he came under a heavy barrage, and was slightly wounded. Seeing that some men further back had been wounded, he at once went to their assistance, got them under the only available cover, attended to their wounds, and organized stretcher parties for their removal. His prompt and gallant action saved the lives of two seriously wounded men.

Temporary Lieutenant Frederick Barnes Elwood, R.A.M.C.

He worked with the greatest coolness and energy throughout two days' operations, attending to the wounded in his aid post close to the firing line. Later, he went out with his stretcher-bearers, and brought back many wounded who were lying out in "No Man's Land."

Captain Archibald McLaren Ferrie, R.A.M.C. (S.R.).

He continually exposed himself to heavy fire in attending to the wounded during an attack. Later, when an officer was wounded and was lying out in an exposed position, he crawled out and brought him in over ground swept by the enemy's fire. His gallantry and courage undoubtedly saved many lives.

Captain George May Foster, C.A.M.C.

He was in charge of the evacuation of the wounded from the front line during the operations, and set a splendid example to his stretcher-bearers by his courage and determination. He led a party to remove several stretcher cases under heavy shell fire, and, though wounded himself, he attended to their wounds and arranged their removal.



Temporary Captain James Huntly Legge, R.A.M.C.

In the course of an enemy counter-attack, which almost succeeded in penetrating to his ad post, he, with the greatest coolness and courage, continued his work of clearing the wounded, not only of his own battalion, but of other units. Throughout, the hostile fire was intense, and it was due to his untiring efforts that so many wounded were quickly and efficiently evacuated.

Captain Reginald Devereux Moore, R.A.M.C.

He worked continuously for eight days attending to the wounded at an advanced dressing station, often under shell fire. His organization of the work was excellent, and by his courage and cheerfulness he inspired all ranks with confidence, which assisted them materially in the performance of their duties.

Captain John Gilbert Morgan, R.A.M.C.

When the advanced dressing station had been ordered to withdraw he went forward with a party of bearers and successfully cleared a number of wounded from the regimental aid posts. The operation was carried out under continuous shell and machine-gun fire.

Captain Alfred Stannage Porter, R.A.M.C.

He dressed many wounded during the operations, working in the open under intense fire, and set a splendid example of courage and self-sacrifice.

Temporary Captain John Oscar Thomas, R.A.M.C.

He dressed a wounded officer and man under heavy fire and got them to a place of safety. He showed great coolness and courage.

Temporary Captain Philip Hewer Wells, R.A.M.C.

He attended to the wounded of several units who were lying out in an exposed position under fire. He worked throughout the night, often under an intense bombardment of gas and H.E. shells, and by his courage and self-sacrifice saved many lives.

Temporary Captain Ernest William Gilmore Young, R.A.M.C.

He collected and dressed the wounded in an exposed position under heavy fire and remained on the spot after the withdrawal of the regiment until all the wounded had been brought in.

Captain Gavin Young, R.A.M.C.(S.R.).

While attending to the wounded under heavy machine-gun fire he worked up to the leading wave and searched the whole ground for wounded under continuous fire, and, owing to his exertions, all the wounded were evacuated with great rapidity. Later he showed great courage and devotion to duty in rescuing wounded from destroyed dug-outs under shell fire.

4th Class Assistant Surgeon James Garnett Goodman, I.S.M.D.

He remained tending the wounded under heavy fire until every case had been evacuated, after which he followed the battery into action. On the previous day, seeing the battery come under an intense shell fire, he at once went up to the guns to render assistance. His coolness, initiative, and keenness were most marked.

## Scotland.

### THE SCOTTISH UNIVERSITY CONSTITUENCY.

UNDER the new franchise Act the four Scottish universities form a single constituency with the right to return three members. Hitherto the Scottish universities have formed two constituencies—Edinburgh and St. Andrews, the present representative being Sir Watson Cheyne, and Glasgow and Aberdeen, the present representative being the Right Hon. Sir Henry Craik. A man is entitled to be registered as a parliamentary elector for the Scottish University constituency if he is of full age, and not subject to any legal incapacity, and is qualified under Section 27 of the Representation of the People (Scotland) Act, 1868. A woman is entitled to be registered if she has attained the age of 30 years, and would be entitled to be registered if she were a man. So far no very active steps seem to have been taken in Scotland in anticipation of the general election, which it is believed will take place in January next, if not in November, but it is considered probable that Sir Watson Cheyne and Sir Henry Craik will be nominated again, and that for the third seat there may be several independent candidates. This seems to be indicated by two recent events: one is an advertisement calling "a meeting of members of the Scottish University Councils favourable to a candidature in support of the programme of the new Labour Party" on July 11th; the result, so far as we are aware, has not been made public. The second event is an announcement that Sir John Collie "has been invited to become a Liberal candidate for the Scottish Universities." Other names also have been mentioned. Apparently, however, nothing is yet settled, but in view of the fact that it is now again thought probable that a general election may take place as early as next November or December, we anticipate that an announcement will shortly be made. We are informed that the approaching election was briefly discussed at the annual meeting of the Edinburgh Branch, but that no decision was then taken.

### ADMISSION TO SCOTTISH UNIVERSITIES.

An ordinance, dated July 17th, of the University Courts of St. Andrews, Glasgow, Aberdeen, and Edinburgh, relating to admission for the purposes of graduation, has been issued. A Scottish Universities Entrance Board will be

constituted consisting of sixteen members, four appointed by each University Court, and of these members two at least must be professors or lecturers. Each member will hold office for four years except that of the four first elected by each University Court one will hold office for one year, one for two years, one for three years, and one for four years. The duties of the Entrance Board will be as follows:

1. In the case of schools in Scotland which regularly present candidates for the group certificates of the Scottish Education Department, to determine as to the length and general character of the courses of secondary education, the satisfactory completion of which may be deemed suitable by the universities as entitling applicants for admission thereto.

2. In the case of other schools in Scotland, to determine whether their curriculum of secondary education is of such a character as may be deemed suitable by the universities as entitling applicants for admission thereto.

3. To determine what leaving or other certificates shall be accepted by the Board.

4. To determine all questions relating to the tests of fitness for admission to the universities.

The Board will have power to consult with the Scottish Education Department and other authorities, to make representations to the University Courts, to appoint special committees of advice, and to deal with complaints or appeals from applicants for admission.

## England and Wales.

### NATIONAL SERVICE MEETING.

ON the invitation of Sir Charles Bedford, the Commissioner of Medical Services for the London region, a gathering of the chairmen and members serving on the London Recruiting Boards, to the number of about 200, took place in the Caxton Hall, Westminster, on July 23rd, to meet the Chief Commissioner, Sir James Galloway, K.B.E., C.B., who was accompanied by Sir John Collie, of the Ministry of Pensions.

Sir Charles Bedford made a few introductory remarks, in which he mentioned that the boards in the London region had had to be increased from 20 in March last, when he took charge, to 54 to-day. He offered his personal thanks for the good work done, especially during the two recent special recruiting efforts. The very onerous work had been successfully accomplished.

Sir James Galloway, who was in the chair, explained that he had now so many calls upon his time that it was not possible for him to go round personally and visit the boards as at one time he did; he therefore welcomed the opportunity of meeting the members in a body, and offering them not only his own thanks, but also, as he was empowered to do, the thanks of the Ministry for the whole-hearted manner in which they had carried out their very arduous and difficult duties. They had undoubtedly done excellent work, but he did not wish them to remain satisfied. As the result of the experience they had all had, whether on the administrative or executive side, they must realize that perfection had not yet been attained and that all their efforts should be put forth to improve their organization and the quality of their work. They were about to enter a comparatively quieter time after the first week of August, and he invited the members to discuss matters among themselves and with their chairmen, and put forward any suggestions that might help towards improvement. The work, much of which was pioneer work, was interesting. The members of the boards were for the most part private practitioners who in the past had to deal only with the sick and diseased, and therefore had not had the opportunity of knowing what the normal condition of health was in reference to climate, nature of work, crowded surroundings, and other conditions of life. Conscriptio had given the profession the first real opportunity of studying these questions and of gathering information, and it was of the utmost importance that advantage should be taken of it to the full, with a view to the improvement in the general health of the people by legislation or otherwise.

Sir John Collie, who also spoke, laid emphasis on the direct bearing which efficient medical examination and grading of recruits had upon the pensions responsibilities of the country.



## CEPHALITIS, MYELITIS, AND INFLUENZA.

The annual report of the Medical Officer of Health for London, Dr. W. H. Hamer, for the year 1917 has been issued. It states that the prevalence of notifiable infectious diseases was, generally speaking, remarkably low, the only exceptions being diphtheria and cerebro-spinal fever, each of which, however, showed a slight decline upon the incidence in the previous year. Towards the end of 1917 and early in 1918, there was a new development having special interest in connexion with observations made in London during the last four years with regard to influenza and cerebro-spinal fever. In 1914, 1915, and 1916 statistical evidence was obtained to the effect that epidemics of these two diseases occur concurrently, and also in a certain sequence to one another, and reference was made to the epidemic relation between poliomyelitis, cerebro-spinal fever, and influenza. At the end of 1917 a distinct change of type was manifested, cases of illness with pulmonary, intestinal, or cerebral symptoms being prevalent, and it became apparent that a special epidemic influence was at work. Reference is made to the views of M. Netter, to which we recently called attention (June 15th, p. 677), and to his observation that a like prevalence of similar cases had been noted following upon the pandemic influenza of 1889-90. Polioencephalitis occurred during the spring of 1918 in epidemic form in Germany and South Africa, and soon afterwards came the news of the severe influenza epidemic in Spain. In discussing the phenomena of the epidemic constitution of 1917-18, Dr. Hamer points out "that just as encephalitis, febrile cerebritis, influenza, and sweats prevailed in Europe 400 years ago and have periodically done so since that time, so, history repeating itself, they have again recently spread widely in the old and new worlds." The events of the past few months once more strikingly illustrate the unexpected manifestations and protean behaviour of "influenza"; and "incidentally the close connexion between polioencephalitis, poliomyelitis, cerebro-spinal meningitis, and influenza now seems to be established." Dr. Hamer goes on to express the hope that recent events may "place a limit upon the too exacting claims of causal organisms, and lead to some exercise of the recognized principle known as the law of parsimony in considering additions to the list of new diseases. The want of such recognition during the past four years has made the work of administration difficult, and during the past few months there has been quite an outbreak of ephemeral new diseases, which, on inquiry, have turned out to be the old foes, with faces new only to those not versed in the history of epidemics." The type of disease now manifested in various parts of London is held to be similar to that observed in the pandemic of 1889-90.

## TREATMENT OF TUBERCULOUS PERSONS.

A scheme for the treatment of tuberculous insured and uninsured persons in London, propounded by the London County Council after consultation with the Metropolitan Asylums Board, has recently been the subject of debate by the London Insurance Committee. The Council's scheme was for the provision of beds in hospitals and sanatoriums, a certain proportion of which would be available for insured persons recommended by the Insurance Committee. The Council also proposed to appoint a tuberculosis officer, by whose advice the committee should be guided, and to arrange for doubtful and difficult cases to be referred to a consumption hospital. The Council undertook to make up the financial deficiency subject to the condition that one-half should be repaid by the Local Government Board. It expected to secure at an early date about 200 additional beds and had inserted £20,000 for this purpose in the estimates for the current year. The Insurance Committee decided to refer the whole correspondence to the President of the Local Government Board and the Chairman of the Insurance Joint Committee, to frame a scheme which should secure a definite standard of accommodation for insured persons, expert medical advice, and the establishment of a joint advisory committee to decide the minimum number of beds to be made available for insured persons to ensure that they shall not have to resort to Poor Law institutions.

THE late Dr. William C. Goodell left £10,000 to the University of Pennsylvania to be applied to the endowment of a chair of gynaecology.

## Correspondence.

## THE FUTURE OF THE MEDICAL PROFESSION.

SIR,—Sir Bertrand Dawson, in his very able and comprehensive Cavendish Lecture, stated with great truth that the general practitioner "should concern himself with measures for the maintenance of health as well as the curing of disease; he must be brought into the position of a rightful leader and skilled adviser in all that appertains to the social service and welfare of his district. In matters of health he should be the father of his people." These words are full of wisdom and common sense, and I sincerely hope they will not fall on deaf ears. In my opinion, no better manner of bringing this most desirable state of things about can be found than by medical men going upon their own borough councils, and paying particular attention to the health needs of their own neighbourhoods.

I have been a member of this borough council for many years, and have had the honour of acting as chairman and deputy chairman of its Public Health Committee. At my suggestion the council most willingly appointed a Medical Subcommittee to consider and report upon all medical matters, such as the management and care of cases of tuberculosis, questions relating to milk supply, health visitors, housing problems, and so forth; and for some time past we have had an influential council and general committee, under the chairmanship of Lord Phillimore (deputy chairman, myself), to deal with the all-important problems of maternity and child welfare.

But, alas! in Kensington, a lady doctor (Dr. Ethel Bentham) and myself alone are found, my medical friends say, silly enough to waste time and energy on such a body as a borough council. I do not think we are silly or waste our time. Rather, we widen our knowledge of our fellow citizens, not to our moral and social disadvantage, and I know the council is greatly obliged to us for the help we have been able to afford it in pressing affairs concerning the health of the borough. Further, I hope we have been able to initiate a certain amount of preventive and other health work. Medical men are too apt to say they have not the time for such public duty. My experience is that not infrequently it is the really busy man who does take it up; and, in the long run, his own health also is the better maintained, on the principle of the old saying, "a change is as good as a rest." If only more medical men will interest themselves in municipal work, Sir Bertrand Dawson's fine ideals as regards the future of our profession will, at any rate in no inconsiderable degree, be solved.—I am, etc.,

A. J. RICE-OLEY, M.D., M.R.C.P., J.P.

London, W., July 1st, 1918.

SIR,—I trust Sir Bertrand Dawson's address will receive from members of the medical profession and from hospital boards, public health authorities, and, last but not least, politicians, the earnest attention which it deserves. That there is some hope of this is seen in the fact that already a leading article in the *Times* has been devoted to it. As Sir Bertrand Dawson truly says, owing to the advance of medical science and the increased need of special knowledge, the best work is only to be obtained by "co-ordinated effort installed in special institutions." I regard the latter qualification as important as the former, and my purpose in writing is to enlarge upon one part of his scheme, which as a surgeon I have long had at heart.

In surgery, if the best work alone is to be done, I think that we may lay it down as an axiom that no operation of any magnitude should be performed except in a properly equipped hospital theatre. The surgeon has there skilled assistance with knowledge of his methods and requirements. In my experience a given operation can be performed in the theatre in less than half the time required at a private house or even at a nursing home, and with a minimum of fatigue. Any unforeseen demand for special apparatus can be immediately satisfied. Rigid asepsis can be maintained with ease. This fact has been grasped in nearly every country except our own, notably in America. Yet, as things are here, paupers alone obtain this benefit. The well-to-do have to be content with work performed under great disadvantage in their own houses or in more



or less (certainly less as compared with hospitals) efficient nursing homes. The position of those of moderate means is even worse. They have to put up with the same unfavourable conditions, and in addition have to pay more than they can well afford—or as an alternative submit to free treatment in an ordinary hospital, with the result that a purely charitable institution is abused.

The remedy, I submit, lies in the provision of paying wards at hospitals. Sir Bertrand Dawson refers to this in his scheme. He says, "No doubt paying wards would grow up in proximity to the public-provided hospitals," and, again, "Without doubt private hospital wards should be established by co-operation or otherwise." The fees charged in these paying wards would be on a sliding scale according to the accommodation (open ward, cubicle, or private room), and would be arranged to meet the cases of all those with an income above a certain limit to be fixed. Thus, at one sweep, a large part of present hospital abuse would be removed, and provision would be made for all, rich and poor alike, to obtain operative treatment under the best auspices.

In conclusion, let me write down in tabular form how the various parties concerned would be affected by the proposal:

*The patient* would obtain operative treatment done as it should be with a minimum of risk to himself. (How many medical men would consent to have their own abdomens opened except in a proper theatre?)

*The hospitals* would make money on the higher priced beds. They would make money indirectly on the lower, for most of the patients who occupied them would under the present régime pay nothing at all.

*The surgeon* would be able to do himself justice, and would be saved an immensity of anxiety and fatigue. He would, moreover, obtain some remuneration for operation on certain patients who have hitherto been treated gratuitously.

—I am, etc.,

Reading, July 16th.

W. BERNARD SECRITAN.

SIR,—You publish in your issue of July 20th two letters couched in almost identical terms, appealing for consideration of the vested interests of the general practitioner. From their tone it is evident that the authors recognize the inevitability of further interference by the State in general practice; and with this in view, it is their hope that the British Medical Association will succeed in defending the practitioner from the manifold and great dangers which beset him. Dr. Matthews, however, betrays anxiety as to the effectiveness of the British Medical Association as a shield and buckler, and though he abominates the "methods" of the Panel Medico-Political Union, he thinks the former needs gingering up with some of the "fighting material" of the latter. Now, it is here that I desire to join issue with him. I also am a loyal member of the British Medical Association, and it is my earnest desire to see it continue to flourish as the chief scientific body, binding together all ranks and sections of the medical profession into one coherent whole. But I am also a member of the council of the Panel Medico-Political Union, and in that capacity I ask Dr. Matthews to explain how he reconciles his abomination of our methods with his admiration of our fighting material. It is not in fighting material that the Panel Medico-Political Union excels the British Medical Association as a medico-political organization. Let us be frank; it is simply and solely because the Panel Medico-Political Union is a medical trade union, whereas the British Medical Association is debarred by its own Articles of Association from either becoming a trade union or taking action like a trade union. So long as this disability exists (and not only does it appear extremely unlikely to be removed, but probably a majority of the members of the British Medical Association, of whom I should certainly be one, would stoutly resist any attempt to remove it), so long is the British Medical Association incapable of making use of the one weapon wherewith the medical profession can be adequately protected against shameless exploitation by other more efficiently organized interests in the State.—I am, etc.,

York, July 20th.

J. C. LYTCH.

SIR,—I returned a month ago from many years' practice abroad. Circumstances compelled me to seek a living at once. I found that the position for a man who has no practice but has good health and is under 56 is as follows: He

cannot enter private practice lest he be "called up" and lose his investment; if "called up," he is not offered a living wage; if he seeks a war job, a living wage is again denied him. If this position is the unavoidable result of the war, no more is to be said. Such men must send their children to the board school, tighten the family belt, and accept a fall in the social scale. But is it? Is it not the result of the division in our profession, which forced our leaders in spite of the rising cost of living, to pledge us all by contract at the value of the newly qualified unmarried and inexperienced?

I am told our divisions are hopeless, our leaders untrustworthy, our representatives in Government too self-interested. I do not believe a word of it. I believe only what I see—the apathy of the rank and file—and I appeal to them. The past month has satisfied me that we have strong men in high places, some of them so-called "discoveries" of the war; we have strong men at the head of our various organizations, all keenly zealous for our professional well-being. If we have grievances against any man or any organization (I hold a brief for none) let us get together, "the past forgot." It is our business to support, not to snarl; to stimulate.

Let us put forward this plain issue: Are the wages offered us by the public services reasonable in these days and adequate to our experience, expenses, and responsibilities? And if it is agreed that they are not, let us fight until they are—for it is now or never.—I am, etc.,

July 14th.

MEDICO.

#### MEDICAL CERTIFICATES AND TRIBUNALS.

SIR,—Medical certificates are, or ought to be, given with a single eye to the national interests, whilst safeguarding the humblest citizen against avoidable injustice. I think that, as a rule, we should refuse to examine strangers and give certificates when such a proceeding just anticipates, and is intended to influence, the work of men who are presumed to be both skilled and impartial.

In the case of old or recent patients I consider our duty to them and the State is best performed by giving without embroidery important facts, in regard to personal and family history, within our own knowledge. The more we assume the rôle of straightforward, impartial witnesses rather than advocates, the better.

Personally, I refuse fees, and I hand any certificate to the individual in a sealed envelope, addressed to the tribunal whose difficult task it is to adjudicate between him and the State.—I am, etc.,

London, N.W., July 17th.

J. SCOTT BATTANS.

#### STERILIZATION OF THE SKIN BY ANILINE DYES.

SIR,—With reference to the paper published in the BRITISH MEDICAL JOURNAL on May 18th, by Mr. Victor Bonney and Dr. Browning, it may be of interest to recall that we also have found certain aniline dyes to be of great value in the sterilization of skin.

Three years ago we published in the *Lancet* a paper upon the use of a compound of malachite green and mercury as an antiseptic (July 24th, 1915), while a further note was added by one of us (G. L. C.) in the *Medical Annual* of 1915. The compound has since been used exclusively for the sterilization of skin with uniform and complete success.

Similar results have also been obtained by several colleagues in the navy, where it is still constantly used, and in order to make it more generally available we arranged with Messrs. Burroughs, Wellcome and Co. a year ago to put it up as "tabloids." It is now available.—We are, etc.,

G. LENTHAL CHEATLE,  
Temporary Surgeon-General, R.N.

I. PHIPPS,  
Staff Surgeon, R.N.V.R.

London, W., July 19th.

#### THE SIGNIFICANCE OF CARDIAC MURMURS.

SIR,—The primary requisites for an estimate of the clinical significance of cardiac murmurs are a better knowledge than we yet possess of their varied modes of production, and more reliable differential tests for their varieties. Those essential aspects have not received much attention in the recent literature concerning the medical



examination of recruits. One of its striking features has been the absence of any reference to the exocardial murmurs, whether functional when due to pressure from the stethoscope or any other pressure, or organic when due to permanent pericardial changes.

But this brief note of inquiry is exclusively concerned with another blank—the absence of any mention of the pseudo-murmur due to first sound reduplication, which is probably the most common form of non-organic systolic murmur coming under official examination. Long before the war I had described it colloquially as “the examinee’s murmur,” because apt to be induced by the excitement of any examination, whether medical or scholastic; but that name is not a good one. The reduplication might have been there before; examination is only one of the circumstances which can intensify it into audibility as a pseudo-murmur. The mode of production of the latter must be familiar to many clinicians. The simple question I venture to ask is, whether it is so familiar to all that the frequency of its occurrence has been taken for granted and passed *sub silentio*. My doubts as to that interpretation arise from the difficulty I still experience in detecting in some of the less manifest instances the fallacy of the impression produced by the reduplication (more correctly described as an “overlapping asynchronism”) of the right and left physiological first sounds. In those doubtful cases my examination has to include a careful application of the respiratory tests, of the postural tests, of the exertional tests, and invariably, too, of naked ear auscultation. Stethoscopes—some more than others—rather tend to blend the sounds into a murmur (or sometimes to suppress the second element in the reduplication); the naked ear differentiates them. With that caution, if only we bear in mind the great frequency of occurrence of the pseudo-murmur, there will be little risk in the majority of cases of overlooking the asynchronism when present. This would relieve examiners of a good deal of perplexity, although not of the whole burden of their responsibility. After all, these are not normal hearts, and much less so are those with a genuine murmur, whether functional or organic.

The growing tendency not to overestimate the clinical significance of murmurs has given us, as so well pointed out in Dr. Claude Wilson’s instructive address,<sup>1</sup> the welcome conception of the curability of minor cardiac affections by a systematic régime of graduated exercises; but it has its risks. The graver risk with which we are now threatened is their underestimation for want of a complete knowledge of their causal mechanisms.—I am, etc.,

London, W., June 28th.

WILLIAM EWART.

## THE VALUE OF TUBERCULIN IN PULMONARY TUBERCULOSIS.

SIR,—I agree with Dr. Lindsay that it is desirable to adopt some uniform method of treatment with tuberculin. The variety of tuberculins used and the variety of opinions held by experts as to the best method of treatment have led to much confusion of thought on this subject, and have been instrumental in delaying the adoption of any uniform system of administration of what may be either a very injurious or a very beneficial agent. I entered a plea some years ago for a uniform method of treatment with tuberculin. After an experience of over fifteen years with tuberculin in both sanatorium and dispensary practice, I have come down to certain bedrock principles which have proved safe guides in treatment. These are:

1. Human tuberculosis should be treated with tuberculin of human origin.
2. Tuberculin should not be given when there is evidence of toxic output and auto-inoculation; one does not treat opium poisoning with injections of morphine.
3. Tolerance to exotoxin should in the first place be established by a course of treatment with T.O.A.
4. When such tolerance has been established a focal immunizing response should be aimed at by the use of tuberculin containing both exotoxin and endotoxin—for example, T.O.A. + B.E., equal parts.
5. Inoculations should be given once every seven days, the commencing dose usually 0.0001 c.c.m., the maximum dose not to exceed 0.1 c.c.m.
6. The dose should be steadily increased, but no marked general or focal reaction should be induced.

<sup>1</sup> BRITISH MEDICAL JOURNAL, June 22nd.

7. The maximum dose should be repeated at increasing intervals.

8. In reactive cases tuberculin will do positive harm; in certain cases of localized pulmonary tuberculosis of smouldering and quiescent type, in obstinate sinuses and in certain skin lesions, tuberculin will do positive good.

—I am, etc.,

Hertford, July 11th.

H. HAYLOP THOMSON.

## THE BEGGAR CRIPPLE.

SIR,—The public has too often confused the idea of a cripple with that of a beggar. The resulting reaction has done a great injury to the cause of the self-respecting disabled man in regarding him as a subject for charity, but not for trade-training and employment.

To be sure there is historical precedent for this attitude, for in past decades and centuries various peoples have condemned the cripple to the status of roadside beggar, or at best employed him as jester or Court fool. And in our experience there is justification in the view, because we have seen many cripples at street corners, making public exhibition of their deformity or amputation, and soliciting alms of the passers-by. The number of these beggars is small in comparison to the great body of physically handicapped men who are usefully employed, but the few have vigorously advertised, have made a considerable impression on the susceptibilities of the community, and have reaped a profitable harvest.

That the beggar cripple has been permitted to ply his trade is a great injustice to the disabled men of character and independence. The practice should have been stopped in the past; it is absolutely necessary that it be prohibited in the future. For with the expectation of our soldiers who will return disabled from the front, the public should have no excuse for associating their prospective career with that of the mendicant. On the contrary, every influence should be brought to bear upon the public to show that physical disability is an obstacle, but easily superable with character and ambition; and that the cripple may be made into a useful and productive citizen.

In several cities there have been inaugurated campaigns to drive the crippled beggar from the streets, and give him the alternative of productive employment or a stay in gaol. Such efforts should be imitated in every community and persevered in until the unfortunate conception of the cripple shall exist no more.

Such activity may well be undertaken as a first step in preparation for the return of our disabled soldiers and sailors.—I am, etc.,

DOUGLAS C. MCMURTRIE,

Director, Red Cross Institute for Crippled and Disabled Men.

New York City,  
June 25th.

## THE BURDEN OF COSTLY REMEDIES.

SIR,—The case of Dr. Fisher suggests several thoughts:

1. There is no man who knows more about the injustices and iniquities of the National Insurance Act than Dr. Bateman. Therefore let us all take his advice, refusing to sign any legal agreements and contracts of the true meaning and obligations of which we are ignorant. I suggest that before any new agreement be signed it be submitted to the Medical Defence Union for report upon any new terms or obligations sought to be imposed upon us, and that this report be discussed by every Division; by so doing a satisfactory decision could be arrived at.

2. Many medical men think that with a larger number of doctors in the House of Commons our interests would be safeguarded. We must be very careful whom we choose, or exactly the opposite result may be obtained. Mr. Smith Whitaker owes his present position entirely to the medical profession. When he joined the “red tape hierarchy” we were told that it would be an advantage to the profession, which he would deal with sympathetically. I have carefully sought for signs of sympathy, but I have found none, and in his comments on Dr. Fisher’s case he assumes the rôle of a pedagogue which certainly does not add dignity to his exalted position. The type of medical man to choose is the non-political doctor who has no axe to grind, and one thoroughly conversant with all types of practice, whose main object will be to safeguard the independence of both the patient and medical practitioner.—I am, etc.,

Bedford, July 7th.

S. J. ROSS.



SIR,—I venture to suggest that the strictly legitimate reply to this last monstrous imposition upon dispensing panel doctors is to give notice to their Insurance Committees that, if they do not repudiate the absurd contention of the Commission, the doctor will cease altogether to dispense. It will then become the duty of the Insurance Committees to provide chemists for nearly every large village, and of the chemists to supply every costly remedy out of the drug fund.—I am, etc.,

Chichester, July 21st.

G. C. GARRATT.

## A NOTE ON EPIDEMICS.

SIR,—It seems to me that the epidemic disease described by Dr. Burnford differs in some important respects from glandular fever. The few cases I have seen corresponded exactly with the description given by Dawson Williams (*Encyclopaedia Medica*, first edition, vol. iv, p. 156). The more important points of difference are briefly as follows: In glandular fever the first symptom is generally pain and stiffness of the neck, and in many cases there is pain in the abdomen. After two or three days an oval swelling (glandular) appears under the edge of the sterno-mastoid muscle, almost invariably on the left side, followed in a day or two by a similar swelling on the right side and a generalized adenitis. The symptoms generally last about a fortnight. In all my cases abdominal pain was marked, and in the first case caused some anxiety till the typical swelling appeared. The symptoms, of course, may be modified in adults.—I am, etc.,

Thornhill, July 21st.

M. BRYSON, M.B.

## Medico-Legal.

## THE COVENTRY CASE.

*Pratt and Others v. the British Medical Association and Others.*

IN the King's Bench Division on July 15th, before Mr. Justice McCardie, the hearing was begun of an action by Dr. Ernest Camden Pratt, Dr. David Holmes, Dr. Andrew St. Lawrence-Burke, and Dr. Charles Hodge Cairns, registered practitioners of Coventry, against the British Medical Association, and Drs. William H. Lowman, William J. Pickup, John Oton, and Thomas Webb Fowler, registered medical practitioners of Coventry, and members of the Coventry Division of the British Medical Association. The plaintiffs claimed damages for alleged conspiracy to injure them in their profession, and to libel and slander them, and for alleged libels and slanders. The allegations were denied. For the preliminary particulars here briefly given we are indebted to the *Times* Law Reports.

Mr. Schwabe, K.C., and Sir Hugh Fraser appeared for the plaintiffs; Mr. McCall, K.C., Mr. Hollis Walker, K.C., and Mr. A. Neilson, instructed by Messrs. Hempson, solicitors, appeared for the defendants. Counsel stated, in opening the case, that since the proceedings had been begun Dr. Cairns, one of the plaintiffs, had died. The libels alleged charged the plaintiffs with conduct detrimental to the honour and interests of the profession in carrying on a dispensary in Coventry. It was alleged that the dispensary was conducted on principles fundamentally opposed to those approved of by the Coventry Division of the British Medical Association in the following respects: (1) The absence of a maximum wage limit upon the patients treated; (2) the administration was under lay control; (3) the members accepted unnecessarily low rates of subscription; (4) a dispensary conducted under these conditions stood in the way of any betterment of local contract practice conditions. The defendants pleaded that the occasion was privileged.

The first two days of the hearing were given up to the opening address for the plaintiffs by Mr. Schwabe, which was concluded on July 17th, when Dr. St. Lawrence-Burke gave evidence and was cross-examined by Mr. McCall. On July 18th the evidence of Dr. Holmes and Dr. Pratt was taken, and several lay witnesses from Coventry were heard. On July 19th Mr. Farren, for many years honorary secretary and collector to the dispensary committee at Coventry, and Mr. Gray, for more than forty years a member of the committee, gave evidence.

The hearing was resumed on July 22nd, when Mr. McCall, in his opening address for the defence, submitted that (1) there was no illegal conspiracy, (2) there was no defamation, either in the way of libel or slander, and (3) if there were, all the publications, including the *BRITISH MEDICAL JOURNAL*, were privileged. Moreover, no express malice had been shown; and, finally, the suggested agency of each defendant for the others was unfounded. The charge against the British Medical Association failed, as it was against a corporation.

In the course of the legal argument, Mr. Justice McCardie said that the real question was as to the permissible limits of quasi-coercive action. It was, he said, a matter that touched

all professions and trades. Later he asked how the case differed from that where a labour leader says to an employer, "If you continue to employ that man, I will call out the union men." To this Mr. McCall replied: There is a great distinction between a trade-union leader, who has wide powers over the members of the trade union, when he says to an employer that he will use the power of the trade union to call out the men, whether they wish it or not, and a number of medical men who say to another medical man, "If you continue to be associated with this institution, which we object to, we shall refuse to meet you; this is a question of loyalty to professional interest and honour, and we invite all our members to agree with us in that policy." There was nothing illegal in that.

Dr. Alfred Cox, Medical Secretary of the British Medical Association, gave evidence on July 22nd and 23rd, describing the machinery of the Association and the circumstances that led to the action, and evidence was also given by Dr. James Neal, Deputy Medical Secretary.

The hearing of the action had not been concluded at the time of our going to press.

## Universities and Colleges.

## UNIVERSITY OF LONDON.

THE following candidates have been approved at the examination indicated:

M.D.—Branch I, *Medicine*: A. J. Eagleton, I. H. Pearce, W. N. Pickles, G. F. Rodrigues. Branch VI, *Tropical Medicine*: R. Y. Stones.

## LONDON HOSPITAL MEDICAL COLLEGE.

The following awards have been made: Medical Prize, £20, S. N. Sennett; Honorary Certificates, E. Miller, A. B. K. Watkins. Obstetric Prize, £20, J. C. Ryder Richardson; Honorary Certificate, J. Fanning. Andrew Clark Prize in Clinical Medicine and Pathology, £26, A. B. K. Watkins; Honorary Certificates, S. N. Sennett, E. Miller. Sutton Prize, £20, A. B. K. Watkins. Anderson Prizes in Elementary Clinical Medicine, £3, M. C. Hartley, R. A. Madgwick; Honorary Certificates, A. R. Crane, J. J. Coghlan. Prizes in Elementary Clinical Surgery, £5, E. L. Sergeant, M. Marcus, M. C. Hartley; and F. F. Langridge and C. W. Tomkinson equal (prize divided). Letheby Prize in Organic Chemistry, £10, S. Sandler.

## UNIVERSITY OF GLASGOW.

THE following degrees were conferred on July 20th:

M.B., Ch.B.—J. G. Harrower, \*W. R. D. Hamilton, †M. Hyman, †Margharita M. L. Couper, C. O. Anderson, Ellen D. Anderson, J. D. Arthur, W. Barras, D. C. Bowie, W. G. Burns, M. J. Caballanc H. A. Cochran, E. M. E. Cumming, J. F. Cunningham, A. M. Davidson, A. B. S. Drysdale, W. Edgar, D. Finlayson, Grace A. Fleming, G. Gordon, A. S. Goudie, Jane E. Hanson, Lillias B. Hardie, A. Henderson, J. Irving, R. P. Jack, J. C. Laurie, J. Lipsey, A. J. Macartney, D. MacColl, Isabella Q. McFadden, T. McGowan, J. W. Mackay, A. A. McLaughland, D. Maclean, W. M. Linden, F. K. Macmillan, J. M. Melvin, Florence F. M. Milne, W. Napier, B. F. Niblock, Elizabeth F. Y. Paterson, N. B. Peacock, R. J. Peters, J. B. Potter, Rahmat Ullah Qureshi, W. Scotland, Katherine Scott, Margaret M. C. Steedman, J. A. Walls, T. M. S. Wilson, G. M. Wishart.

\* With honours.

† With commendation.

The principal, Sir Donald MacAlister, who performed the capping ceremony, conveyed the congratulations of the Senate to the recipients of the degrees, and to the large majority of the men who had offered themselves for the service of the country in its need he wished God-speed and all honour.

## ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE following candidates having passed the requisite examinations have been admitted Fellows:

C. H. B. Avarne, F. B. Craig, W. R. Higgins, E. W. Kirk, D. Lees, L. N. Morris, F. L. Spalding, K. V. Trubshaw, A. S. Wilson.

## Obituary.

THE sudden death of Dr. JOHN JAMES COWAN, while on holiday at Tenby, on July 1st, has deprived Malvern of a well-known and greatly respected practitioner. He was the son of the late Inspector-General Michael W. Cowan, M.D. After graduating M.B., C.M. in 1890 at Edinburgh, he spent five years as assistant medical officer to the Roxburgh District Asylum, Melrose. During the past twenty-four years he practised in Malvern and the adjacent country, and for the last ten years was honorary surgeon to the Malvern General Hospital. In 1915 he founded the Malvern Royal Naval Convalescent Hospital for the sick and wounded of all Admiralty ratings. Dr. Cowan's skill as a surgeon, sound judgement, sterling character, and cheery disposition will long be remembered by many in the district.



**SURGEON-MAJOR WILLIAM JASPER RENDELL, R.A.M.C.** (retired), died at Wadebridge, Cornwall, on May 30th. He was born at Wadebridge, where his father practised for over forty years, on December 20th, 1831, took the M.R.C.S. and L.S.A. in 1853, and entered the army as staff assistant surgeon on May 26th, 1854. He became staff surgeon on February 6th, 1866, and surgeon major on March 1st, 1873, retiring on June 1st, 1874. He served in the 55th Foot from 1855 to 1866, in the 91st Foot in 1867-68, and in the 13th Foot (the Somerset Light Infantry), from 1868 to 1874. He served in the Crimea campaign in 1855, and was present at the siege and capture of Sebastopol (medal with clasp, and Turkish medal); in the Indian Mutiny in 1857-59, including the action at Sikandra (medal); and in the Bhutan campaign on the north-east frontier of India in 1865 (medal with clasp). He leaves a widow and one son.

**DR. ROBERT TRIMBLE** of Burgh-by-Sands, Carlisle, who died on June 11th, was a son of the late Dr. Trimble of Castle Bellingham, co. Louth. He took the diploma of L.R.C.S.I. in 1864, and the fellowship in 1874, and graduated M.D. Glasg. in 1865. After practising in Ireland in succession to his father, he removed to Preston, where he dwelt for twenty-seven years, subsequently moving to Burgh-by-Sands, where he held the post of district medical officer and public vaccinator. He was consulting surgeon to the Preston and County of Lancaster Royal Infirmary; and a member of the English Division of the Border Counties Branch of the British Medical Association.

**ALEXANDER HARBINSON, M.D., R.U.I., M.R.C.S.Eng., and L.M.** 1871, died on July 2nd at Millbank, Elgin. For twenty-three years he had been senior assistant medical officer of the Lancaster County Asylum. During that period his devotion to work and self-sacrifice won for him the confidence and esteem of all with whom he was associated, and general regret was expressed at his departure for Scotland in 1897. In his retirement he still interested himself in medical affairs, being a student to the last, and a keen supporter of the British Medical Association. He was J.P. for the County of Elgin and member of the Spynie School Board, and took a great interest in all public affairs.

**PERTSHIRE** has lost its oldest medical practitioner by the death of **DR. ROBERT ROBERTSON** of Errol in his eighty-seventh year. After completing his studies in Glasgow he started practice in his native village of Errol, and served that community faithfully and well for over fifty years. The occasion of his jubilee was marked by a handsome presentation from his many friends in the district. He was long a member of the British Medical Association and of the Perthshire Medical Society (now the Perthshire Branch) and of the Forfarshire Medical Society. Dr. Robertson took an active interest in all local affairs, and was well known as an antiquarian and a successful horticulturist. He was also a J.P.

**DR. JOHN CUNNINGHAM** of Sunderland died on July 10th, aged 69. He was a native of Dumfries and received his medical education at Anderson College, Glasgow, taking the diplomas of L.R.C.P., L.R.C.S. Edin. in 1874, and the M.D. Brux. degree with distinction in the following year. After practising in his native county for eleven years he removed to Sunderland, where he continued to practise until his death. He was a member of the Sunderland Division of the British Medical Association. He leaves a widow and two sons, one of whom is a member of the medical profession and is at present with the R.A.M.C. in Egypt.

**DR. RICHARD WEIL** of New York, who died recently, had been since 1906 an active member of the staff of the Huntington Fund for Cancer Research. He was one of the founders of the American Association for Cancer Research, and took a leading part in the foundation of the *Journal of Cancer Research*, of which he was editor-in-chief. On the reorganization of the New York Memorial Hospital he became assistant director of cancer research and attending physician. In 1915 he resigned those offices on his appointment to the chair of experimental medicine at Cornell, but he continued his work on cancer.

## Medical News.

**DR. A. J. RICE-OXLEY** has been appointed a justice of the peace for the County of London.

**DR. S. E. BAXTER** of Wollaston, honorary secretary and treasurer of the Northamptonshire Division of the British Medical Association, has been elected a member of the Northamptonshire County Council.

**DR. T. BRAILSFORD ROBERTSON**, formerly Professor of Biochemistry and Pharmacology in the University of California, has been appointed Professor of Biochemistry, and **DR. J. J. R. MACLEOD**, formerly Professor of Biochemistry and Physiology in the Western Reserve University, Professor of Physiology in the University of Toronto.

The Italian journal, *Tuberculosis*, which has for some time been in a state of suspended animation, is about to come to life again. It used to be published at Milan under the editorship of Professor Ronzoni; it will henceforth appear in Rome under the direction of Professors Ronzoni and Sforza. It will be the authorized mouthpiece of the Italian antituberculosis organizations.

The House and Library of the Royal Society of Medicine will be closed for cleaning from Thursday, August 1st, to Saturday, August 31st, inclusive. During that time, however, medical officers of the Naval, Military, and Air Services (including the Medical Corps of the Dominions and our Allies) will be admitted to the Library between 10.30 a.m. and 6.30 p.m.

At its meeting on July 23rd the London Panel Committee decided to invite London panel practitioners to send a new motor ambulance for expeditionary service to the British Red Cross Society to replace one subscribed for earlier in the war, but now worn out. The cost of an ambulance is now approximately £450, and to maintain the car on the road for twelve months a sum of £200 is required.

The series of congresses to be held at Monaco to promote the expansion of the thermal, mineral, and climatic stations and baths of the allied and friendly nations will deal with hydrology, hygiene, alpinism, thalassotherapy, and watering places. In connexion with the congresses there will be an exhibition. The whole is under the patronage of H.R.H. the Prince of Monaco. Professor Maragliano, Senator of Italy, has been elected general president.

No. 8 of the *Athenaeum Subject Index to Periodicals*, 1916 (Bream's Buildings, Chancery Lane), is devoted to education and child welfare. It consists of twenty pages. In addition to the subject index there is a list of authors, with entries following their names showing the headings under which their papers are registered. The *Index* is indispensable to serious workers, and the method of publication in groups of subjects allows each one to choose exactly what he requires.

The annual meeting of the Poor Law Medical Officers' Association was held at 34, Copthall Avenue, E.C.2, on June 27th, with Dr. A. A. Napper in the chair, the president, Surgeon-General Evatt, being unavoidably absent. The report of council was submitted by the honorary secretary, Dr. A. Withers Green, who afterwards opened a discussion on the future of the Poor Law in connexion with the proposals of the Local Government Committee on Reconstruction, in which Drs. Claude Taylor, Thackray Parsons, and Denning took part. We are asked to say that a full report of the meeting will appear in the *Medical Officer*.

The American Zionist medical unit has been organized because it is recognized that existing conditions make medical relief even more necessary now in Palestine than in normal times. The Turkish military authorities have closed hospitals, removed some of the best doctors and taken away appliances. War brought famine, and famine led to an epidemic of typhus. A sum of £50,000 has been provided from the Palestine Restoration Fund for the equipment of a medical unit. It consists of forty-four persons (doctors, dentists, nurses, pharmacists and mechanics), but it is hoped to add to this staff later. The unit is taking to Palestine a full equipment for a hospital of 100 beds and ambulances, and a quantity of clothing. The present intention is to set up a central hospital of 100 beds in Jerusalem, taking over for the purpose the building originally owned by a German society, but now known by the Hebrew title of L'maan Zion. Travelling hospitals, to be supplied from permanent dispensaries in the cities, will visit the country districts. The unit will give relief to Arab, Jew or Armenian, irrespective of race or sect. Though it is only a small



enterprise in comparison with the Red Cross work carried on in every belligerent country, it has a special interest as the beginning of a new effort to alter the health conditions of Palestine and educate the population in hygiene.

BRODIN and SAINT-GIRONS state that the number of leucocytes diminishes immediately after a meal, but then rises, presenting two maxima—the one two or three hours and the other four or six hours afterwards. The number of polynuclear cells follows a nearly parallel course.

OWING to the growth among boys of the habit of smoking to excess the police authorities in Berlin, on October 13th, 1917, forbade smoking by youths under 16. A boy under that age may now neither buy nor smoke tobacco in public, and those in authority over him are to be held responsible for enforcing this regulation, breaches of which are to be punished by fines up to 60 marks or imprisonment.

WE referred in our issues of November 24th and December 15th, 1917, pp. 709 and 816, to the proceedings taken by the police against Mr. Edward Yeates, F.R.C.S.I., on the charge of wearing military uniform without lawful authority. The defendant refused to give an undertaking not to continue to wear the uniform of medical officer of the New Zealand Expeditionary Force, holding that having engaged for the whole period of the war he was entitled to wear it; he denied the validity of the notice in the *New Zealand Gazette* stating that his appointment had been cancelled at his own request. The magistrate inflicted a fine of 25 guineas and 10 guineas costs. An appeal against the conviction was heard at the London Sessions on July 17th. The Chairman upheld the decision of the court below, but, in view of the appellant's undertaking not to wear the uniform in future, reduced the fine to 1s. The decision of the courts here, on the evidence admitted before them, appears to have rested on the notice in the *New Zealand Gazette*, the validity of which they felt bound to accept. The Chairman at the appeal stated that there was no reflection on the appellant's honour. This will be a satisfaction to Dr. Yeates, who was arrested in a most unceremonious manner, and treated in a way which could not fail to convey the impression that the authorities considered he had acted dishonourably in continuing to wear uniform. While all reflections upon his character as an officer and a gentleman are thus removed, we still think that Dr. Yeates has had less than justice. General G. S. Richardson, commanding the New Zealand Forces in the United Kingdom, stated at the hearing of the case in November that the matter arose out of a dispute with the New Zealand Defence Department. We are informed that Dr. Yeates served as a medical officer in the New Zealand Expeditionary Force, and we understand that this has been confirmed by the Premier of New Zealand. This is sufficient to prove that Dr. Yeates has good grounds for his contention.

## Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the *BRITISH MEDICAL JOURNAL* are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

THE postal address of the *BRITISH MEDICAL ASSOCIATION* and *BRITISH MEDICAL JOURNAL* is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the *BRITISH MEDICAL JOURNAL*, *Antiology*, Westrand, London; telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra*, Westrand, London; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

THE address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### LETTERS, NOTES, ETC.

#### EPSOM COLLEGE.

A LIME GOVERNOR writes: Each year the Council of Epsom College appeals in your columns for further funds, and shows that what they have leaves a large amount of need unmet, even in normal times. The war must have increased this need enormously. A committee is now appealing for "some thousands" for a war memorial, but it does not propose to use it to help the war widows and orphans, but to rebuild the nave of the chapel, "to the honour and glory of God." May one call to the remembrance of the committee the words of one who said "Inasmuch as ye have done it unto the least of these, ye have done it unto Me"?

### TYPHUS AND VERMIN IN THE EIGHTEENTH CENTURY.

DR. ALEX. KING (Castries, St. Lucia, B.W.I.) writes: In connexion with recent investigations as to the conveyance of typhus fever and the part played therein by parasites, the following quotation may be of interest. It is taken from the recollections of Grace Dalrymple Elliott, a lady who had a somewhat varied and exciting career in the end of the eighteenth century. She was, among other things, a mistress of George IV while he was still Prince of Wales, and a great friend of "Egalite" Orleans. She went through most of the Terror in or near Paris, and, on account of her well-known Royalist sympathies, made the acquaintance of the inside of several revolutionary prisons.

"Three weeks after this I was once more removed from this prison, to my great grief and consternation, and taken nine o'clock at night, just as I was going to bed, to the late Queen's stables, where many of the poor people of Nantes had just arrived on their way to Paris to be tried. They were in most miserable plight, having marched on foot from Nantes, many of them very ill, some dying on the road, it is supposed, of the gaol distemper. This, however, I doubt, as I slept on the same straw with them all night in the stables, and though they were full of vermin I got nothing dirty from them. This I impute to a sweet-scented sachet I always carried in my corset . . ."

Note the calm assumption of cause and effect—"vermin" and "gaol distemper"—stated as if it were a matter of common knowledge, which no one would cavil at. We have all heard of "gaol fever" and "ship fever"; many of us have known typhus fever in over-populated tenement houses in large towns in, for instance, the West of Scotland, and have always associated the condition with squalor, dirt, and overcrowding; but I do not recollect having, until very lately, heard the connecting link of "vermin" so positively mentioned. Yet this passage was written in the seventeen nineties, about 120 years ago.

### MEDICAL SICKNESS AND ACCIDENT SOCIETY.

OVER THIRTY YEARS A MEMBER writes: It is evident that widespread dissatisfaction exists among members of the Medical Sickness Society regarding the recent action of the committee, and the suggestion in the letter from "Another Old Member" in the issue of July 13th, p. 48, of a postal vote deserves support. What is now required is that some member, preferably not serving in the R.A.M.C., should come forward and offer to receive communications, etc., and so bring about concerted action.

YET ANOTHER OLD MEMBER writes: I also wish to protest against the discontinuance of the bonus to members on reaching the age of 65. It seemed to me that a distinct pledge was made that such a bonus should be paid in the place of other benefits we sacrificed for it.

### THE PREVENTION OF VENEREAL DISEASES.

DR. OTTO MAY writes: In my recently published book on the *Prevention of Venereal Diseases*, the City Corporation Clinic in conjunction with St. Bartholomew's Hospital was, by a regrettable oversight, omitted from the list of treatment centres established under the Local Government Board scheme. The centre in question was among the earliest to be opened.

### TUBAL TWIN PREGNANCY.

MAJOR GORDON TAYLOR, R.A.M.C., writes: I have read with interest Mr. McCann's kindly comment upon my paper on tubal twin pregnancy (*BRITISH MEDICAL JOURNAL*, July 6th, p. 10). My memory fails me on the question of the insertion of the umbilical cords in that case. I trust that the patient from whom the specimen in the Museum of the College of Surgeons was removed made a better recovery in his skillful hands than did the luckless Frenchwoman in mine.

### DIPHTHERIAL INFECTION OF WOUNDS.

WE gave on June 15th an abstract of the report of a committee of the Canadian Army Medical Corps on the occurrence of diphtherial and diphtheroid infection in wounds. A correspondent in this country informs us that he recently had to treat several cases of diphtheria among the nursing staff of a hospital. After ordinary causes had been excluded he found three soldiers with wounds infected with Klebs-Loeffler bacilli. The men were admitted from France.

### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	...	...	0 6 0
Each additional line	...	...	0 0 9
Whole single column	...	...	4 0 0
Whole page	...	...	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *posteo restante* letters addressed either in initials or numbers.



# THE SIGNIFICANCE OF FATS IN THE DIET.

BY

ERNEST H. STARLING, C.M.G., M.D., F.R.S.,

JODRELL PROFESSOR OF PHYSIOLOGY, UNIVERSITY COLLEGE,  
LONDON.

From the beginning of the science of dietetics it has been recognized that a diet must include representatives of the three classes of foodstuffs—proteins, carbohydrates, and fats. An enormous amount of work and controversy has been devoted to the questions of the minimum and optimum requirements of the average man for proteins, and the influence of the quality of proteins. Since, however, every mixed diet of sufficient energy value contains more than the minimum amount of proteins necessary for the maintenance of health, the question is more academic than practical, and does not, therefore, present itself in considering the requirements of the individual man or of a nation. With regard to carbohydrates, it has been established that a certain quantity is essential. Sugar is the form in which carbohydrates are put into currency in the system, and a certain amount of this substance appears to be necessary for the normal functioning of the cells of the body. In the absence of carbohydrates the proteins are attacked and carbohydrate is split off from the protein molecule, or synthesized from the oxy-fatty acids resulting from the primary decomposition of the amino acids. A diet in which fat takes the whole place of carbohydrates produces acidosis, the oxidation of the fats being defective in the absence of carbohydrates.

The question as to the requirements of the body for fats and the significance of these substances in ordinary metabolism has, however, been practically neglected, and it has needed the restriction of food supplies throughout Europe, which is the immediate consequence of the war, to bring into prominence the great practical importance of the fat supply. Indeed, after having provided the necessary calories for the maintenance of a population the only important question remaining is the provision of a proper amount of fat. Is it possible to arrive at a minimum figure for fat, or even a minimum desirable amount, which science can lay down for the guidance of those responsible for the feeding of the nation?

Scientific evidence for the indispensability of fat in the diet is indeed very scanty. We have been accustomed to believe that fat and carbohydrate are convertible isodynamically. We know that carbohydrate can be easily converted into fat in the body, and is the main source of fat in the raising of animals for food. But in the case of carbohydrates this isodynamism is limited. Some carbohydrate is necessary for the health of man unless he is to be reduced to partake of an abnormally large diet of protein for the sake of obtaining the necessary carbohydrate (as, for example, among the Esquimaux).

Is there any evidence of a similar limit in the case of fat? For the adult man we have a mass experiment in Germany, where the population has suffered for the last two years or more from a marked shortage of fat, which has been reduced in the towns to about 20 grams a head a day. In this case certain diseases have occurred which have been ascribed to the deficiency in fat and have been cured by increasing the fat in the diet. These morbid conditions are marked by a generalized dropsy. It has long been known that a sudden change from a mainly fat to a mainly carbohydrate diet causes an immediate increase in weight, due not to the putting on of fat but to the retention of water in the body, and the dropsical condition occurring in Germany would seem to be due to the same factor in an exaggerated form. Similar cases occurred in some asylums in this country during the mild fat shortage from which we suffered during the early part of this year. The pathological effects of fat shortage are especially marked when there is a reduction of the total food supply, so that there is general deprivation of food as well as the special deprivation of fat. According to Hindhede, it is possible to maintain health, in the almost entire absence of fat, on a full diet in which potatoes and green foods are predominant features. But a deficiency of fat in the diet will almost always be associated with and due to a shortage of food supplies generally.

In babies rickets is associated by some with deficiency of fat in the diet. In this case a more important factor seems, however, to be an absence of some food hormone or vitamine associated with butter, cod liver oil, and many other kinds of fat, and, according to Mellanby, it cannot be cured except by giving a fat containing the substances in question.

The absolute physiological need of the cells of the body for fat supplied as such seems, therefore, to be unproven in view of the capacity of the body for manufacturing fat out of carbohydrates given in excess of the physiological requirements for energy. This conclusion, however, does not mean that fat is unnecessary in a normal diet; several other points have to be taken into consideration.

In the first place, fat is highly assimilable and is almost entirely absorbed from the alimentary canal. But it is digested and absorbed more slowly than carbohydrate. Whereas the greater part of the latter is absorbed three hours after food has been taken, the most intense absorption of fat occurs between five and six hours after a meal. On this account a meal lacking in fat is deficient in staying power. Man is unaccustomed to working with the alimentary canal entirely at rest. When digestion of the last meal is finished hunger recurs and affects the efficiency of work. Thus Major Ewing relates how on a railway job in Canada the Italian workmen were found to become inefficient at about 11 o'clock in the morning. These workmen were only spending 7 to 8 dollars for food at the canteen as against 15 dollars expended by the Canadian workmen. The chief difference in the diet conditioned by this economy was in the meat. The company then insisted on the Italians spending 15 dollars a month. With the extra money they bought fat beef, and it was then found that their work was entirely satisfactory. It may be objected that in this case it was the lean of meat, that is, the extra protein rather than the fat, which was responsible for the difference; but examination of the dietaries of very heavy workers—for example, lumbermen in Sweden and in Canada, who were consuming food with a calorie value of 4,000 to 8,000 calories a day—shows that this great increase in food related not to the protein but to the fat. The Canadian lumbermen live largely on fat pork and beans. In this country, too, there have been complaints from the Welsh miners during the first half of this year that the food had not enabled them to work their normal shifts. They are used to taking with them to their work pies made of fat pastry with a little meat, and it was impossible to make the pastry in consequence of the absence of fat. Premature hunger was also a universal experience in this country during the first five months of this year.

In the second place, the bulk of food must be of considerable importance, especially when the total food required by the energy needs of the body is very large. Weight for weight fat has more than double the calorie value of starch and sugar. But the difference in bulk is still greater, since fat is taken without admixture in a pure form, whereas the other foods are all mixed with a considerable proportion of water. The proteins in meat only form 15 to 20 per cent. of the total bulk. Starch cannot be taken except mixed with large quantities of saliva. When ordinarily cooked it is swollen up with probably five to ten times its amount of water. Even after absorption the same necessity for increasing the bulk of carbohydrates with water persists. Even glycogen does not occur to a larger amount in the liver than 12 per cent., a figure which may be largely surpassed by fat, and in adipose tissue there may be as much as 80 per cent. of fat. When carbohydrate goes into the circulation it is changed into sugar, and as sugar it needs twenty times its weight of water to carry it. It acts, therefore, to some extent in the same way as common salt. Just as an extensive diet of salt may produce dropsy, so a diet of carbohydrate increases in the first place the water content of the body, and this factor, when associated with inaction and fat shortage, may itself produce actual dropsy.

The question of bulk is probably one of the most important factors in determining the need for fat. The human alimentary canal has been developed so as to cope with a diet in which 20 to 25 per cent. of the energy is presented in the form of fat. In order to get the same energy from carbohydrates the alimentary canal



would have to be much larger. Theoretically, then, the absence of fat can be made up by an increased supply of carbohydrates. But this can only be carried out in a certain number of individuals and under certain conditions. The ordinary individual deprived of fat diminishes his total intake of food and exists on a lower metabolic level. It is a notable fact that during the recent shortage of fat in this country there was no appreciable increase in the consumption of cereals. It was easier to live on the stored-up fat of the body than to adopt a stuffing process with carbohydrates.

In the third place, it seems that carbohydrates are more subject to fermentative changes in the intestines than fats. Overloading the intestines with carbohydrates in many individuals leads to abnormal fermentation, the production of gases, and general discomfort. We may conclude, then, that fat is an essential ingredient of the diet of man, and that there must be some relation between the quantity of fat necessary and the total energy requirements of the individual. So great are the powers of adaptation in the animal body and so retarded are the effects of a fat shortage that ordinary laboratory experiments of short duration do not seem suitable for deciding the question as to the relation of the fat ration to the energy requirements of the body. We shall arrive at more reliable results by the statistical method, that is, by studying the proportion of fat to the whole diet taken by a number of individuals of different energy requirements, living under conditions in which they can choose the quality of their diet.

It is necessary, however, to recognize the limitations of this method. It tells us how much fat a man eats ordinarily and how much he can take under certain conditions. It gives us no information as to the minimum fat requirements, nor can we assert that the proportions which are habitual are necessarily the optimum proportions. It will, however, give us some clue in arriving at what we may call the *minimum desirable ration* of fat, and from the practical standpoint—that is, as guidance for those concerned in controlling the food supplies of the country—it is this minimum desirable ration which is of chief importance.

#### Food Requirements of the Child.

In the breast-nourished infant the proportion of food energy represented by the fat of the diet is given by the composition of human milk. Thus, in some estimates by E. Feer, quoted by Bunge, a boy 30 weeks old took 951 grams of milk daily. This contained:

Proteins	...	...	15.2 grams = 62.3 calories
Fat	...	...	32.3 " = 330.4 "
Sugar	...	...	58.0 " = 237.8 "
Ash	...	...	1.9 " —
Total calories	...	...	600.5

The suckling thus takes 50 per cent. of its nourishment in the form of fat. At weaning we should expect the proportion of fat to diminish considerably, since the food of the young child is composed chiefly by adding foods rich in carbohydrates to milk. It is not easy, however, to find any definite and ideal proportion between the fat and the total diet in young children up to 6 or 8 years of age. The following figures are given by Camerer as the average diet of children from 2 to 14 years of age, in relation to body weight:

TABLE I.—Food of Children per Body Weight.

Age.	Fat.	Fat Calories.	Total Calories.	Percentage of Total Calories.
2-4 ...	3.1	28.8	75.3	38
5-7 (boys) ...	1.9	17.9	69.0	25
7-10 (boys) ...	1.3	12.1	59.2	20
11-14 (boys) ...	1.4	13.0	51.4	25

If we may regard these diets as adequate we may perhaps conclude that, after weaning, the proportion of energy yielded by fat drops to about 35 per cent. during the first five years of life, and then drops further to about 25 per cent. during the rest of childhood. It would be

interesting to see how far these conclusions are borne out by other dietetic studies on children. A series of diets for young children by Steffen, quoted by Pfaundler and Schlossmann, give from 41 per cent. to 50 per cent. of fat, but in this case each child receives a litre of milk a day, besides one egg and some meat. In view of the universal distaste of children for fat and the difficulty which has been found in persuading them to take all the milk which is available for them in well-to-do families, I am inclined to think that this figure is too high, and that the figures deduced above from Camerer's results represent more nearly the usual diet compatible with the maintenance of health and growth. It seems very probable that the great value of milk in the child's dietary is due in the first place to the presence of the growth hormones in the fat of milk, and to the high biological value of the milk protein. Given a sufficiency of milk, there seems no reason why the child's natural taste for carbohydrates should not be indulged in preference to forcing upon it an excess of fats.

#### Fat Requirements of the Adult.

Some light is thrown upon the proportion of fat in the adult diet by the tables given by Tigerstedt in Nagel's *Handbuch*, which represent the results of the analysis of diets in a number of individuals of different occupations and requirements.

TABLE II.

Continental.					American.				
	Total Calories.	Total Fat. Grams.	Calories in Fat.	Percentage Fat Calories of Total Calories.		Total Calories.	Total Fat. Grams.	Calories in Fat.	Percentage Fat Calories of Total Calories.
1	2229	44	409.2	18.4	1	2135	81	753.3	35.3
2	2889	60	558.0	19.3	2	2779	108	1006.4	36.2
3	3222	85	790.5	24.5	3	3262	125	1162.5	35.6
4	3702	93	864.9	23.4	4	3738	137	1274.1	34.0
5	4252	135	1255.5	29.5	5	4180	158	1469.4	35.2
6	4752	106	985.8	20.7	6	4692	195	1813.5	33.7
7	6037	155	1450.8	24.0	7	5511	215	2185.5	39.7

The first half of Table II is taken from analyses of European observers. The individuals are sorted into seven classes according to the average number of total calories taken per day. In these individuals the proportion of the total energy represented by fat varied from 18.4 per cent. to 29 per cent. The percentage shows a tendency to increase with increase in the total calories.

In the second half of Table II is given a similar series of observations by American observers. It will be noted that in this series the proportion of energy furnished by the fat is throughout much larger than in the European series, varying from 34 per cent. to 39.4 per cent. Since the individuals who were subjected to observation could be regarded as normal in both sets of observations, the difference between the two series must be ascribed to the greater abundance of food of animal origin in the American continent, and is evidence at any rate that, given a sufficient supply of fats, a man with free choice of diets will increase his consumption of this foodstuff until it will give over one-third of the total energy of his food. But in searching for the desirable minimum ration we are justified in using the first series, and we shall probably not be far wrong in assuming that in a normal diet the fat should account for 20 per cent. to 25 per cent. of the energy of the whole diet.

The Inter-Allied Scientific Food Commission laid down 75 grams of fat a day as the minimum desirable ration for the average man working eight hours a day and utilizing 3,000 calories, or, allowing for waste, taking 3,300 calories in food as purchased. This figure is midway between 20 per cent. and 25 per cent.—20 per cent. would give a daily ration of 70 grams of fat, 25 per cent. a ration of 88 grams of fat. For purposes of comparison we may give here (Table III) the fat content of various standard



TABLE III.					
	Protein.	Fat.	Carbo- hydrate.	Total Calories.	Fat Cals. percent of Total Cals.
VOIT:					
Medium work ...	Grm. 118	Grm. 56*	Grm. 500	3,055	17.0
Hard work ...	145	100	500	3,574	26.0
REUBNER:					
Light work ...	123	46	377	2,415	17.5
Medium work ...	127	52	509	2,858	17.0
Hard work ...	165	70	565	3,362	19.4
ROYAL SOCIETY.					
Food War Committee	100	100	500	3,400	27.4

\* The fat in this diet is regarded by Voit as minimal.

TABLE IV.—Food Consumption per Head per Day in European Cities, based on Municipal Statistics of Gross Consumption. (Ratner, quoted by Lusk.)

City.	Protein.	Fat.	Carbo- hydrate.	Total Calories.	Fat Cals. percent of Total Cals.
	Grm.	Grm.	Grm.		
Königsberg ...	84	31	414	2,394	12.0
Munich ...	96	65	492	3,014	20.4
Paris ...	98	64	465	2,903	20.5
London ...	98	60	416	2,655	21.0

This ratio of fat energy to total energy, 20 per cent. to 25 per cent., should only be applied to the diet of the ordinary individual—that is, the sedentary man, the woman, and the ordinary labourer. When the energy requirements of the individual become excessive—for example, 4,000 calories and more per day—we find that in almost all cases the proportion borne by the fat energy to the total energy is considerably larger than 25 per cent.

Table V gives the diet of woodcutters in the winter in northern Sweden. The total calories varies from 4,600 to 8,500 a day. The fat calories in each case form thus over

TABLE V.—Winter Diet of Woodcutters in Northern Sweden, and of American Lumbermen.

	Total Calories.	Total Fat.	Calories in Fat	Percentage Cals. of Total Cals.
		Grm.		
Swedish woodcutters:				
5 and 6 ...	4,606	210	1953.0	42.4
7a ...	5,500	251	2334.3	42.4
7b ...	6,502	256	2752.8	42.5
7c ...	7,487	349	3245.7	43.4
7d ...	8,506	390	3627.0	42.6
American lumbermen	8,083	388	3608.0	45.0

42 per cent. of the total calories. In American lumbermen, with a total intake of over 8,000 calories a day, the fat energy amounted to 45 per cent. of the total energy. This is, however, what one would expect. If a man is called upon for an extreme expenditure of energy, either in performance of work or in order to maintain his body temperature in excessive cold, he must take more food; and since his alimentary tract does not constantly increase in extent in proportion to the augmented demand upon it, it is necessary that the large increase in the food be taken in the most concentrated form—namely, as fat. The preponderatingly fat diet of the arctic and antarctic regions is, therefore, dictated not only by the nature of the food available in these regions, but also by the size of the human alimentary canal in relation to the energy demands of the body as a whole.

CONCLUSIONS.

So far as the evidence goes, and bearing in mind the limitations of the methods employed, we are, I think, justified in formulating the following conclusions:

1. Strictly speaking, there is no evidence for an absolute physiological minimum of fat in the diet, provided that the calorie value of the whole diet is sufficient to meet the total energy needs of the body, and to provide a surplus for fat formation in the body.

2. Practically a certain amount of fat is necessary in the diet, the alimentary canal of man having been developed to deal with a diet in which a considerable proportion of the energy is presented in the shape of fat.

3. In the diet of the infant at the breast fat gives over 50 per cent. of the total energy.

4. After weaning and for the next few years of life, up to 6 years of age, the main source of fat in the diet should be milk and butter. This fat should probably represent about 35 per cent. of the total energy of the diet.

5. From 6 years onwards the fat of the diet should represent from 20 per cent. to 25 per cent. of the total energy, provided that there are no excessive demands on the energy output of the body. This proportion can be increased considerably—for example, up to 35 per cent.—without any deleterious effects. The proportion of 20 per cent. may be regarded as a minimum. Any increase upon this would be determined by the supplies available, it being borne in mind that fat is not only the most concentrated but also an expensive form of energy to the body. Animal fat is probably at least three times as expensive a source of energy as carbohydrates derived from vegetable sources.

6. As soon as the demands of the body become excessive—for example, 3,600 calories to 5,000 calories or more—it is unprofitable to attempt to meet the increased demands by means of carbohydrates alone, the limiting factor being probably the size and digestive powers of the alimentary tract. The proportion of fat in the diet in these circumstances should, therefore, be increased up to 30 or 40 per cent. It is a question requiring further consideration whether the energy requirements of a rapidly growing, active lad should be met in the same way by an increased proportion of fat in the diet.

These conclusions may be interpreted in terms of grams of fat for the different classes of the community in accordance with their energy requirements as follows, it being borne in mind (1) that the fat figures represent what I have called the minimum desirable ration, (2) that, given an otherwise adequate diet, these figures can be diminished without serious detriment to the health of the individual, though probably not without inconvenience and diminution of efficiency, and (3) that they can be considerably augmented without interfering with efficiency or with health.

In the following table the total calories are those proposed by Lusk and adopted by the Inter-Allied Scientific Food Commission. The gross figures refer to calorie value of food as purchased, and allow for a total wastage of 10 per cent.

TABLE VI.

Age in Years.	Total Calories per Day.		Fat in Grams.	Fat Calories per Cent. of Total.
	Gross.	Net.		
0-5 ...	1,650	1,500	62	35
6-10 ...	2,310	2,100	62	25
10-13 ...	2,750	2,500	74	25
13-20—				
Males ...	3,300	3,000	88	25
Females ...	2,750	2,500	74	25
Adult average bodily workers:				
Males ...	3,300	3,000	70-88	20-25
Females ...	2,750	2,500	60-74	20-25
Adult sedentary workers				
Males ...	2,750	2,500	60-74	20-25
Females ...	2,200	2,000	47-60	20-25
Adult very heavy bodily workers*	3,900 to 5,000		12-160	30

\* For example, lumbermen, paddlers, etc.



## TREATMENT IN THE TOXAEMIAS OF PREGNANCY.

BY

GILBERT I. STRACHAN, M.D., M.R.C.P.

LATE RESIDENT OBSTETRICIAN, THE ROYAL GLASGOW MATERNITY AND WOMEN'S HOSPITAL; LATE RESIDENT GYNAECOLOGIST, THE WESTERN INFIRMARY, GLASGOW.

THE exact pathology of the various toxæmias of pregnancy, although so searchingly investigated of recent years, is still obscure, and for this reason alone treatment can hardly be expected to be perfect in the present state of knowledge; yet it is essential that these conditions should be thoroughly met, as none in all obstetrics are more serious, either immediately or remotely. In this paper I wish to refer to the treatment of only the fully developed conditions—hyperemesis, albuminuria, eclampsia, and the like—but it must constantly be kept in mind that this is only second best, no matter how successful the result may be. Best of all is prevention. This view is becoming daily more generally accepted by the profession, and even by the lay public, and it is reasonable to expect a lesser incidence of these conditions in the future.

For various reasons, however, these cases are often not presented for treatment until the toxæmia is fully developed, and then the most active measures are required to successfully combat the disease. Treatment must always rest on the basis that the woman is pregnant, and that therefore, if the pregnancy be ended, the origin of the toxæmia will be removed. If the pregnancy is to be terminated, this must be done sufficiently early, and not put off until the patient be in danger of losing her life.

Another point arising out of the previous considerations is that the treatment of these various toxæmias may, and indeed must, run on similar lines, the variations being minor and according to special circumstances. This is especially true because at present it is quite uncertain how far these various conditions are separate entities or merely manifestations, different in degree or character, of the one disease.

If we classify methods of treatment as on the one hand palliative and on the other radical and operative it will be seen that the individual variations of treatment will occur mainly in the palliative classes, the radical or operative measures practically resolving themselves into the emptying of the uterus.

In eclampsia sedatives are urgently indicated on account of the fits. On this all are agreed, but not on the individual sedative or dosage. Morphine, the most potent of these drugs, is probably the best if properly used, although Baumm and Jardine are averse to it; but Williams, Tweedy, Galabin, Eden, and especially Stroganoff, strongly recommend it. Galabin gave no more than 2 grains in twenty-four hours, while Tweedy administered it until the respirations came down to seven per minute. A satisfactory and safe routine in my experience is to give  $\frac{1}{4}$  gr. or  $\frac{1}{2}$  gr. at first, to repeat, if necessary, the smaller dose in two hours, and, again if necessary, after another two hours, but not to give more than three doses unless some special indication be present. Usually a most satisfactory result will be obtained in this way; if not, more active measures, probably operative, will be called for. The reasons put forward for its use are that it decreases metabolism and so puts the metabolic sources out of action; that it decreases cerebral irritability and so lessens the fits and the tendency to them; and that it lowers blood pressure while not depressing the heart. Its impairment of excretion and its damaging effect on kidney tissue are held by some to be contraindications to its use, but if it be used with care as above described, and only for a limited period, I have never seen any harmful results accrue from its administration.

Chloroform is used by many, and in its proper place is certainly of much value. Tweedy and Ward<sup>1</sup> are rather averse to it; they find a similarity between hepatic lesions in eclampsia and those after prolonged administration of chloroform, and the latter likens its administration to the indiscriminate giving of antipyretics in a case of pyrexia without looking to the cause. Its continued use over a lengthened period is much to be deprecated. I have no doubt as to its deleterious effects on the kidneys under these circumstances; but as an adjuvant to operative treatment it still remains unequalled.

Chloral hydrate and potassium bromide are of more use

for the restlessness between fits than for actual convulsions. Stroganoff gives them alternately with morphine, and with this method a death-rate of only 6 per cent. is recorded. Personally I have never seen from these drugs alone any real sedative effect in eclampsia.

Very different is paraldehyde, which almost always I have found of much sedative value and absolutely safe. Two drachms given by the rectum, with repetition of half that dose every two hours when necessary, is usually equal to the largest dose of morphine in this respect, and without any of its contraindications. In my opinion the valuable sedative and safe properties of this drug are not sufficiently appreciated.

But apart altogether from drugs, much attention must be given to the general surroundings of the patient. A single and complete examination should be made at first, and then the patient should be left alone as much as possible, as it is obvious that so strong a peripheral stimulus as a bimanual pelvic examination may very easily set up fresh fits.

In general terms, then, this side of treatment will resolve itself into the exclusion of every agent that can act unduly on the tactile, aural, visual, or other receptor systems, and this will include good nursing, a suitably warmed and darkened room, with constant and experienced attention. These conditions are obtained to best advantage in an upper class private house; they obviously cannot be obtained in the slums, while in hospital the bustle of a labour ward is not conducive to rest and peace.

In recent years sedative treatment has been perfected by Stroganoff of Petrograd. The patient is put to bed, the head of the bed being elevated, in a quiet and darkened room; chloroform is given lightly and only actually during fits; morphine and chloral and bromide are given alternatively as sedatives. The patient lies on one side for one hour and is then turned for another hour on to the other side so as to avoid pulmonary congestion, while the head is hung over the end of the bed so as to allow free escape of all mucus from the chest. The stomach and bowel are washed out under chloroform and the patient then left alone as much as possible.

With such treatment Stroganoff reports the remarkably low death-rate of 5 per cent. E. Roth, of Dresden, treated fifty cases in this way and reported 8 per cent. of deaths, as compared with 19 per cent. by other methods of treatment. The fetal mortality was 18.6 per cent., as against 5.5 per cent. by other methods. These figures would appear to speak strongly in favour of sedative expectancy.

On account of the frequent hæmorrhages and the heightened blood pressure found in this condition circulatory sedatives are much used by some authorities. Zinke<sup>2</sup> advocates veratrum viride; he gives 2 minims of the tincture subcutaneously and repeats it hourly until the pulse falls to 60. The injection is repeated on any rise of the pulse-rate above that. He reports a maternal death-rate of 15.38 per cent. and a fetal death-rate of 53.38 per cent. In a series of cases not so treated he quotes death-rates of 34 and 45 per cent. respectively; judging from this alone the treatment would seem to improve the mother's chances and to prejudice those of the fetus.

The drug is dangerous, however, and is better omitted; if it be used at all frequent small doses should be employed so that its action shall be controlled as much as possible.

The action of the nitrites is too evanescent to be of much value in this connexion. Amyl hydrate is much vaunted as a vaso-dilator by Harle, Marash, Naab, Kobelt and some others, all of whom report improved results after its exhibition. Personally I have never used vaso-dilators; the only possible part they can play in really efficient treatment is so small as to be of no practical value.

But in the other type of toxæmia, manifested especially by such a condition as hyperemesis gravidarum, attention must be directed primarily to the gastro-intestinal tract, since it is here that the causative toxin acts most strongly and evidently. In these cases, first of all, and in spite of the sickness, the stomach should be washed out; some recommend that one drachm of magnesium sulphate in solution should be left in the stomach after the last washing, but this will usually be found to set up fresh vomiting; it should be omitted as a routine, and used only in the rare cases in which the stomach will tolerate anything. The bowel must next be thoroughly washed out, and, as far as possible, kept clear, as this channel may have to be used for feeding purposes.



As regards diet, it may be necessary to withhold nourishment of any sort for a day or two, but usually rectal alimentation will be borne quite satisfactorily. The mere peptonizing of milk can hardly now be considered a sufficient procedure. Short and Bywaters<sup>3</sup> have pointed out, as the result of experiment, that proteins must be broken up, not merely to the peptone stage, but must be completely hydrolyzed to the amino-acid state before they can be absorbed by the bowel mucous membrane. Prolonged action of the enzyme powder is therefore necessary. The same observers find glucose well absorbed by the rectum and colon, but not so other food radicles.

These considerations are important when we remember how essential is nourishment to such patients, and how quickly they emaciate; they may, indeed, in a very short time sink so low as to be beyond any treatment.

In this condition we must always from the very first, and no matter how the case may be, keep induction of labour in mind; the tendency is too often to leave it until every palliative drug and method has been found wanting, by which time the patient is often fatally ill, and the death is regarded as the result of the operation, whereas it is due really to the failure to operate at the proper time.

Of drugs, the gastric sedatives—bismuth carbonate, tincture of opium, dilute hydrocyanic acid—have a most variable action; in some cases they are apparently without effect, while in others their action is quite magical; often, however, they appear merely to excite further vomiting. We cannot look to drugs for any real help in this disease. In my experience the gastric sedative most likely to prove effective is dilute hydrocyanic acid in 5 minim doses three times a day.

In all toxæmias elimination of fluids so as to remove the circulating toxins is safe and rational treatment.

I have referred to the washing out of stomach and bowel which should be done in every case of toxæmia in pregnancy: of purgatives (when they can be retained in hyperemesis) the hydragogues—magnesium sulphate 60 grains daily, or compound jalap powder 90 grains as required—are good, but for the reasons stated above we must rely mainly on enemata. In an unconscious eclamptic patient croton oil would suggest itself. I have tried it several times, but have found it unsatisfactory and useless. Jardine reports a case in which oedema glottidis followed its exhibition, and he is much opposed to its use.

Diaphoresis I have found of distinct benefit, and I have never seen the extreme collapse described by Tweedy. The hot pack, or, when it can be obtained, the hot air bath, are both quite safe if the pulse be carefully watched. Pilocarpine I have never dared to use, on account of its lowering and reducing action.

As the toxins are circulating in the blood, it is reasonable to suppose that by blood-letting a certain amount of toxin will be removed, and that if in addition fluid (for example, saline) be introduced in place of the abstracted blood, the remaining toxins will be diluted, while the kidneys will be washed clean of accumulated metabolic debris and stimulated to normal excretion.

All these hopes have been realized in practice, and this line of treatment has been of much value. Jardine, the foremost in this country in this direction, at first used sodium acetate, 40 grains to the pint of water, the solution being at a temperature of 104° F. He selected this salt on account of its diuretic action, but he and others now use normal saline, and with equally good results.

Where venesection has been performed (15 to 20 fl. oz. may safely be removed in a case of average severity) saline, 2 to 3 pints, may be introduced into the vein at the same operation, and it will be found that the distended veins in eclampsia facilitate this procedure; very different is the case with the collapsed veins which accompany the severe prostration of hyperemesis.

In the less urgent cases the saline may be administered by the rectum, and with admirable results; saline may thus be administered continuously. Generalized oedema is usually held to be a contraindication to transfusion, but in practice I have not found it so; however, if oedema of the lungs be present, as evidenced by the presence of dullness and râles at the bases, it is better to withhold saline, as this oedema may become aggravated and the patient be literally drowned in her own mucus.

The sudden and very temporary elevation of temperature sometimes seen after transfusion is usually of no

moment practically; it has been attributed to the fluid used being at too high a temperature, but this explanation is quite insufficient to account for the great majority of cases.

Renal decapsulation, introduced by Edebohlis and recommended also by De Bovis, Stoeckel, Sippel of Frankfurt, Lichtenstein of Leipzig, and others, I do not propose to consider at any length. It is a serious remedy; I have never found the need to employ it, and I can hardly see any justification for such a procedure. The death-rate is bound always to be high, and the operation has, quite properly, never become popular.

It is founded on an entirely theoretical basis—to relieve congestion of the organ—and I can see no object in such a severe manipulation when the induction of labour is almost certain to have an infinitely more beneficial effect. Any value attaching to Sedgwick's operation of amputation of the breasts—the supposed source of the causative toxin according to this observer—depends probably on the accompanying loss of blood, and cannot seriously be regarded as rational treatment.

The methods considered are all at least unsatisfactory. Mostly they are inefficient to cure. Emptying of the uterus, on the contrary, forms the bedrock of operative procedures in these toxæmias.

In general terms, then, the safe and logical obstetrical rule is to treat toxæmic cases of slight and moderate severity by these described palliative measures at first, but if no improvement shows within twenty-four hours, and much more if the condition become worse in spite of treatment, we must empty the uterus. When this line of treatment has been decided on the sooner the operation is proceeded with the better for the patient. We must entirely disregard the period of gestation and the question of fetal viability and consider only the interests of the mother. In severe cases the uterus should be emptied at once.

In pernicious vomiting Williams<sup>5</sup> lays stress on the ammonia coefficient of the urine, and urges that cases with a low coefficient are almost always hysterical, and should be treated as such, and induction of labour not performed. This is true as a generalization, but it must not be forgotten that such cases by prolonged starvation may develop a high ammonia coefficient. Again, cases of purely hysterical vomiting may die of inanition, and in such cases, everything else failing, induction of labour will be called for purely as treatment for the neurosis. These exceptions to the above rule must always be kept in mind.

As regards eclampsia, Bumm<sup>6</sup> quotes Seitz, who reports a death-rate of 6.5 per cent. with early delivery, 17.2 per cent. after later delivery, and 28.6 per cent. with purely expectant treatment. Bumm himself found a death-rate of 30 per cent. with expectant treatment, but since 1901 he has in every case delivered as soon as possible after the first fit, and now reports a mortality of 2 per cent.—truly an altered figure.

These views are supported by Zweifel, Horn, Jardine, Cameron, Munro Kerr, and Williams. Hermann, Ballantyne, and especially Stroganoff of Petrograd, still advocate expectant treatment and quote figures to support their beliefs. From a recent observation of almost forty cases of eclampsia I have no hesitation in recommending the emptying of the uterus after the first fit.

The method used will be governed by several factors, especially the urgency of the case and whether or no parturition is proceeding. In hyperemesis, which usually occurs long before term and not at parturition, the insertion of a bougie between membranes and uterine wall will usually be sufficient, the process being then completed normally and usually quite rapidly. If the cervix be tight or the process slow, moderate and intermittent cervical dilatation will usually answer.

In eclampsia at term parturition usually has set in and may be left to be completed, or if thought fit forceps may be applied to speed the process. But if forceps are used no undue force must be employed or unnecessary speed obtained, as a very severe perineal tear may result, which, as the patient is so likely to be a primipara, will very unfavourably influence her later obstetrical and gynaecological history. But if dilatation be slow (perhaps owing to a tight cervix) and the eclamptic condition is becoming worse, operative cervical dilatation is called for. It is wise to be very chary of sudden dilatation either by hand or by Harris's dilators; I have never failed to observe marked post-operative shock after these methods, and once I saw instant death during the procedure.



In my opinion, the best method is to make two or three incisions into the cervix, as Dubrussen advises. This immediately produces full dilatation, and also allows a loss of blood, which is itself of benefit. The incisions should always be stitched up when the intrauterine manipulation is completed. Any necessary intrauterine manipulation may be at once proceeded with. When the cervix is fully dilated, if any operative interference be required version or forceps will usually answer the purpose; the former is especially indicated when speed is necessary—for example, when a fetal heart is heard.

Such methods I have never known to fail to produce satisfactory emptying of the uterus and cure of the toxæmic condition. One operation remains to be discussed—namely, Caesarean section. Möller, Paterson, and Humbert of Strassburg advocate the vaginal route, but the number of cases recorded by each is small—Möller reports only seven. McCann<sup>7</sup> described a successful case, and reported a mortality of 50 per cent. from the literature. The indications he gives for performing the operation in toxæmic conditions are (1) frequent fits, (2) labour not yet commenced, (3) contracted cervix, (4) a moribund mother and a live fetus (a rare combination), (5) pelvic contraction. In 1897 Kettlitz collected 28 cases showing a mortality of 50 per cent.; in 1899 Hillmann collected 40 cases with a mortality of 51 per cent., and in 1903 Streicherein reported 26 cases with a mortality of 31 per cent. From these figures it will be seen that the case mortality is really huge; in any case the operation aims at saving the child, if necessary at the expense of the mother, and I strongly hold that the reverse should always be our aim. I have never seen Caesarean section performed for eclampsia, and can see no prospect of ever performing it in this connexion except for mechanical reasons.

I present these opinions regarding the treatment of toxæmias complicating pregnancy in no dogmatic spirit, but merely as the considered results of recent clinical observations.

## REFERENCES.

<sup>1</sup> Ward: *Amer. Journ. of Obstet.*, March, 1910. <sup>2</sup> Zinke: *Loc. cit.*, 1911. <sup>3</sup> Short and Bywaters: *BRITISH MEDICAL JOURNAL*, 1913, vol. 1. <sup>4</sup> Sellheim: *Zent. f. Gynäk.*, 1911, No. 2, p. 54. <sup>5</sup> Williams: *Johns Hopkins Hospital Bulletin*, 1916; *Glas. Med. Journ.*, December, 1912. <sup>6</sup> Bunnin: *Wien. med. Klin.*, October, 1909. <sup>7</sup> McCann: *Lancet*, 1910, vol. II, p. 787.

## MALARIA AND DISEASES OF THE EYE.

BY

J. KIRK, M.D. EDIN.,

OCULIST TO EDINBURGH NATIONAL SERVICE BOARDS; FORMERLY  
VISITING OPHTHALMIC SURGEON, GOVERNMENT HOSPITALS,  
PENANG, STRAITS SETTLEMENTS.

My excuse for writing this brief note is to attempt to clear up in the light of my own experience the exact position of malaria as an etiological factor in the production of eye disease. The question is of great practical importance at all times, but more so in these days when we have large military forces operating in malarious regions. My attention was specially drawn to this subject during the eight months (1916-17) when I acted as ophthalmic specialist to the troops in Malta. There I was brought into contact with a very large number of soldiers from the Salonica front infected with malaria. A great many of these presented eye symptoms. Interference with vision and night blindness were common complaints, and were generally regarded not only by the men, but also by their medical officers, as being directly due to repeated attacks of malaria. On examination, however, it was found that the symptoms in a very large proportion of the cases were explained by latent errors of refraction which previously had not given trouble, but now, under the strain of the unaccustomed conditions of sun glare, dust, and exposure, enhanced by the debilitating influences of the malarial poison, had become manifest. The night blindness was invariably associated with and accounted for by anaemia. I have found, however, that in tropical countries the hypermetrope seems to be specially liable to this complaint, and a good many of my cases in Malta were associated with this condition. Retinal haemorrhages were seen occasionally. In the examination of the fundus in many hundreds of cases in malarious countries I never found this symptom at all common. A true malarial retinal haemorrhage does occur in subtertian cases, either

as the result of capillary thrombosis following parasitic emboli or as a sequel to definite blood changes of a pernicious nature, coincident with great anaemia, but the haemorrhage in the majority of the cases at Malta was certainly not due to such causes. I have a suspicion that some cases were due to overdosage with quinine in susceptible individuals.

Some American ophthalmologists regard malaria as the cause of much eye trouble, especially in the Southern States, and the statement has been made on the authority of Poncet, who published his results as long ago as 1878, that eye complications occur in 10 per cent. of malarial cases. My experience, as the result of twenty years' practice in a country where a vast amount of malaria was seen, does not coincide with these authorities. Eye complications in malaria appeared to be rare, yet the disease is credited with causing conjunctivitis, keratitis, corneal ulceration, iritis, retino-choroiditis, optic neuritis, opacities of vitreous and lens, nerve paralysis, retinal haemorrhages, etc. It is easy to make such wide and inclusive statements and difficult to disprove them. I would like to point out, however, that all these symptoms occur as frequently in districts in the tropics where malarial infection is not common as in parts where malaria is rife. They appear to be caused by the intense sun glare, dust and heat, the presence of such complicating conditions as trachoma, gonorrhoea and syphilis, debility, bad hygiene, and such intercurrent diseases as dysentery—especially the bacillary variety—a common cause of corneal troubles and iritis. In hospital practice in Penang, where the bulk of the patients were either Tamils or Chinese, though both nationalities were equally exposed to and frequently the subject of severe malaria, it was among the former race that the largest amount of such climatic eye troubles was seen. For instance, the Kling is very subject to all the forms of keratitis and corneal ulceration, night blindness, xerosis-conjunctivitis, optic atrophy of a primary chronic nature, non-specific, and probably due to malnutrition and chronic anaemia. All this is understandable, for the Kling is often an individual of poor physique and low resisting power and will not feed himself properly. The Chinaman, on the other hand, is a person of much vitality and good physique, though he takes all the malaria that is going. The cause of eye trouble in the Kling is, in the great majority of cases, malnutrition, degenerations, and ensuing secondary infections.

What we have to regard as almost certainly due to the direct action of the malarial poison are the following:

1. What is commonly called keratitis dendritica is simply a sequel to a herpes of the cornea, and due to a direct action of the malarial poison on the ganglion trophic cells of the fifth nerve. An exactly similar condition occurs quite frequently in influenza, and is due probably to a similar cause. I saw several cases of this in Malta among soldiers infected with malaria. A practical point is that quinine will not help in this condition unless the cause is diagnosed at the very beginning of the attack and energetic quinine treatment started immediately. Once the disease has a firm hold on the cornea and degenerative changes have occurred, general treatment does not appear to help, yet it will most certainly do so in the beginning.

2. A similar poisoning of nerve elements by the direct action of malaria results in external muscle paralysis. The third, fourth, and sixth nerves may be affected, more commonly, in my experience, the sixth.

3. A malarial neuralgia affecting the branches of the ophthalmic division of the fifth is common and may produce reflex conjunctival inflammation, but a pure malarial conjunctivitis would be difficult to diagnose.

As regards the deeper structures, I have never diagnosed malarial iritis or cyclitis or choroiditis. Neuro-retinitis may arise as a complication in malignant and subtertian cases and may be succeeded by nerve atrophy and blindness; and I have also seen a retrobulbar neuritis which appeared to be of malarial origin. Haemorrhage from the retinal vessels occurs under the conditions I have already mentioned.

Probably the truth of the matter as to the action of the malarial fevers in producing eye disease is that the parasites or their products have no direct power of producing inflammatory results in the eye structures (and this is in accordance with what happens elsewhere in other organs), but they have the power of affecting the



nervous supply of the eye, probably by direct degenerative action on the central nerve elements, and as a result the following may ensue: First, atrophic changes in the cornea producing a typical keratitis. Secondly, degenerative changes in the tissues of the optic nerve producing a true malarial neuro-retinitis. Thirdly, paresis of the extrinsic muscles of the eye. Fourthly, affections of the sensory nerves of supply.

This, I think, represents a fairly accurate and reasonable view of what really occurs. All the other many affections of the eye structures which have been described as being malarial are not truly so, but are probably simply intercurrent affections or complications.

A practical conclusion is that in military operations in tropical countries in all cases of chronic eye trouble latent errors of refraction should be looked for. Their correction will in many cases cure or alleviate greatly the condition even though the error may be a small one.

## AN OPERATION FOR RECONSTRUCTION OF THE URETHRA IN CASES OF SEVERE OR IMPERMEABLE STRICTURE.

BY

JOHN GUTHRIE, M.B., CH.B. GLASG.,

CAPTAIN N.Z.M.C.

THE following cases illustrate a method of procedure for reconstruction of the urethra in severe or impermeable stricture which will prove, in my opinion, more reliable and easier to perform than any other yet commonly practised.

A patient, aged 45, admitted to Christchurch Hospital in March, 1917, under my care had complete retention of urine, and the doctor who sent him had failed to pass any instrument. It was found that no instrument could be passed owing to a tough stricture in the bulbous portion of the urethra. The site of this stricture corresponded with a scar in the perineum, where an abscess had been opened some years previously. He stated that he had frequently to pass a catheter himself, that numerous doctors had dilated his strictures at intervals during the past eight years, and that the process had been more frequent and difficult of late. He had a high temperature and rapid pulse on admission, and looked pale and ill. Rigors also occurred.

Paracentesis suprapubically failed to relieve him except for a trickle. It was judged that the failure was due to the bladder being full of blood clot. Suprapubic cystotomy was performed without loss of time, and a very large quantity of foul-smelling blood clot and urine escaped. The bladder was washed out and drained. He recovered rapidly, and in a few weeks had put on flesh, but no instrument could be passed through the urethra. I decided to attempt some method of restoration of the urethra.

In Murphy's *Clinics* (December, 1916, vol. v, No. 6, p. 1189) Dr. Hochrein of Chicago described an original operation, performed for the first time in October, 1914, for the cure of an impassable stricture of the penile portion of the urethra by the use of a pedicled attached flap of dartos. I decided to adopt this method with necessary modifications.

### Operation.

With the patient in the lithotomy position, a Wheelhouse's sound was passed as far as the stricture and an incision of ample length made in the middle line of the perineum down to and through the urethra on to the end of the instrument. With some difficulty a fine probe was passed through the stricture into the bladder. This was left in whilst the dense fibrous tissue was divided, laying open the "floor" or ventral wall of the urethra. I continued this incision until I was able easily to pass my finger into the bladder alongside the probe. I now dissected away all scar tissue, being careful only to preserve a strip of the "roof" of the urethra, representing, perhaps, one-third of the circumference. This appeared quite normal and was essential for the further steps of the operation. A broad flap of dartos was now cut in such a way as to leave the base attached in the vicinity of the point of the urethra which was first opened—that is, the most distal portion of the stricture. This flap would be  $2\frac{1}{2}$  in. long and  $1\frac{1}{2}$  in. broad, its rounded free end pointing towards the meatus. When dissected back, it reached easily to the limit of the dissection, which had been carried towards the bladder, as previously described. A rectal tube, the size of the middle finger, was now passed

through the meatus and brought out in the wound. This was re-entered and passed easily along the proximal urethra into the bladder. The flap was brought back over this, and, by slightly displacing the rubber tube, the left side of the flap was secured by numerous plain catgut interrupted stitches to the corresponding edge of the strip of urethral roof which had been left as described. This was repeated on the other side, and the end of the flap was finally stitched accurately to the divided circumferential edge of the proximal urethra. The gap in the dartos was closed with a few catgut stitches and the incision closed. The tube was secured to the retracted foreskin by a stitch behind the corona. It was my intention to leave the tube in for three weeks, but the patient sneezed it out at the end of a week. It was cleaned and sterilized, and I was somewhat surprised to find that it went in again with ease. Three weeks after the operation it was removed, and the patient has passed urine with perfect ease since (eleven months ago). I was able to pass a 14 to 17 Lister's bougie with ease six months after the operation. About seven months after the operation the patient had a typical attack of renal colic, and about a week later he informed me he had passed a round smooth brownish stone as large as a pea.

I have since performed similar operations in two other cases.

In the first of these I had the misfortune, in shaping the flap, to divide the superficial perineal artery on the right side. As a natural result the flap sloughed on that side. I managed to close the resulting fistula at a second operation, and when last heard of the wound was quite healed, and he was passing urine normally. In the second of these cases there was a perineal fistula just proximal to a stricture. The patient had for a considerable time been passing all his urine through the fistula, and his life was a misery to him. In this case I took the flap from the left side and turned it across. This seemed easier at the time, and involved much less time in stitching. The operation in this second case was performed under spinal anaesthesia, owing to the patient's age and debilitated condition. All the patients up to the time of writing are quite healed, and passing urine normally.

I have been induced to put these cases on record because I believe the flap operation is easier to perform and a great deal more satisfactory than the grafting operation. There is no doubt in my mind that the urethral epithelium rapidly grows from the strip left in the roof of the urethra, and covers the entire surface of the dartos flap.

## THE INFLUENZA EPIDEMIC IN A CAMP.

BY

BREVET COLONEL C. AVERILL, R.A.M.C.(T.),

MAJOR G. YOUNG, and CAPTAIN J. GRIFFITHS,  
R.A.M.C.(T.), R.A.M.C.(T.).

THE widely prevalent influenza epidemic visited this camp recently, 1,439 cases being admitted to hospital between June 21st and July 10th. The admissions on the first day of this period numbered 27, and gradually increased to their maximum on July 1st, on which day 154 cases were admitted. Thereafter the number of admissions gradually decreased.

Most of the cases were of characteristic type—admitted with temperature ranging from  $101^{\circ}$  to  $104^{\circ}$ , complaining of headache, backache (lumbar), general aching, and sore throat. The majority stated that they had been suddenly taken ill, with a feeling of great weakness. They looked ill; but apart from the fever, some congestion of the pharynx, and in a few cases slight bronchial catarrh, presented no other symptoms.

The illness ran a short course, the average duration of stay in hospital being five days. Within twenty-four to forty-eight hours of admission the temperature dropped by crisis to normal, or hovered between  $99^{\circ}$  and  $100^{\circ}$  for a few days. During the period of elevation of temperature the patients slept most of the time, and did not care to be disturbed, even for food. As soon as the temperature dropped they sat up in bed looking and feeling well, and began taking their food well.

Complications were few. Several patients had obstinate constipation; one or two had mild diarrhoea. Cough in a few cases was troublesome. Sixteen of the 1,439 cases



developed more or less typical lobar pneumonia; of these seven died. So that, although the incidence of pneumonia was low, the case death rate for pneumonia was high.

#### *Preventive Measures.*

As soon as the epidemic declared itself measures to prevent its spread were adopted.

All cases, when they reported sick with a temperature of 99° or over, were immediately sent to hospital. The whole of the contacts of three units were passed through the Levick spraying chamber. No reduction occurred in the number of admissions from these units, there being a greater incidence after than before the use of this method. In other units gargling with permanganate solution (1 in 5,000) was tried, but no effect was noticed.

In one unit spraying the nose and throat with acroflavine solution (1 in 1,000) seemed to have a distinct preventive effect. In many huts where it was used after the occurrence of two or three cases no further cases developed. The results here would seem to warrant further trial of this method.

#### *Bacteriology.*

The bacteriological investigations comprised the examination of: (1) Smears and growth from nasopharynx, (2) smears and growth from sputum, (3) blood cultures, and (4) growth from cerebro-spinal fluid.

Forty-three cases were chosen at random and examined on different dates, with the following results. Out of the 43 cases only in 16 was the nasopharynx swabbed.

1. *Nasopharynx*.—(a) *Smears*. Amongst other organisms present there was a predominance of a Gram-positive diplococcus. Pfeiffer's bacillus was absent in all cases.

(b) *Culture*. The same organism—namely, a Gram-positive diplococcus—was obtained, Pfeiffer's bacillus being absent in all.

2. *Sputum*.—(a) *Smears*. Forty-one sputa were examined, in 32 of which Gram-negative bacilli were found, often in clumps, as well as Gram-positive diplococci. In the remaining 9 cases there was an abundance of Gram-positive diplococci.

(b) *Culture*. The media used were agar, trypsin blood agar with rabbit's blood enrichment, and trypsin agar with human blood. The same sputa were used.

(1) *Agar*.—Minute transparent circular colonies about the size of a pin's head were obtained at the end of forty-eight hours. The colony was slightly granular towards its centre. On staining the culture by Gram's method the organisms were seen to be Gram-positive diplococci.

(2) *Trypsin Agar with Rabbit's Blood Enrichment*. After forty-eight hours two distinctly different colonies were visible. The one was a thin semi-transparent colony about the size of a pin's head, and presented a somewhat granular appearance. On staining by Gram's method the organisms were identical with the Gram-positive diplococci found in smear of sputa and of growth obtained in agar.

The other colony was a minute discrete transparent colony with a smooth rounded edge, with no evidence of stippings on the surface. These organisms did not take up the stain readily by Gram's method, so a modification of Gram's (as regards time) was adopted. The length of time for counter-staining with 1 in 20 carbol fuchsin was increased to three, five, and ten minutes respectively; the period of ten minutes was found to be the most satisfactory. The organism was a small coccobacillus with rounded ends, slightly larger than that found in smears of sputum, feebly stained towards the centre, and was Gram-negative.

(3) *Trypsin Agar with Human Blood*. Growth was more luxuriant on this medium than on "trypsin agar with rabbit's blood enrichment," but presented the same cultural appearance. This organism, Gram-negative bacillus, was only feebly stained by basic aniline dyes, and had no action on the sugars. Plates gave the following results:

32 plates showed a mixed culture of Gram-negative bacilli with Gram-positive diplococci.

9 plates showed Gram-positive diplococci and no Gram-negative bacilli.

3. *Blood*. Nine cases with marked symptoms were chosen for blood cultures. Of these all were sterile.

The two organisms found in the sputum were in every respect identical with the Pfeiffer's bacillus and the pneumococcus.

THE National Medical Institute of Mexico, which was founded in 1890 for research on the flora, fauna, climatology, and geography of Mexico, and for the exploitation of these resources, has by a recent decree been transformed into the Institute of General and Medical Biology. The institute has been engaged in the study and classification and action of native plants.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### LARGE DOSES OF SALICIN IN INFLUENZA.

In 1891 I published the results of the treatment of 250 cases of the then so-called "Russian" influenza with large doses of salicin. During the continuance of that particular epidemic, and during those which followed in the next five or six years, I treated upwards of 2,000 more cases in exactly the same way—namely, by 20 grains of salicin given every hour—with exactly the same result—namely, that of rapid recovery obtained in an average of one day and a half without any complications, sequelae, or with the loss of a single life. At the commencement of this epidemic of "Spanish" influenza which is now coming to a close, I started treating the cases I had to attend in the same manner, with the result that in every case recovery has taken place within twenty-four hours. The first two or three doses removed all pain and discomfort, while the temperature was materially reduced. Also, as happened in the 1891 and other epidemics of about that date, the result of saturating the system with salicin was to do away with the infectivity of the patient. Twenty-seven years ago I rarely had more than one case at a time in a household, with perhaps the attendant who looked after the patient, who took it before he or she was thoroughly under the influence of the drug, and during this present epidemic I have been looking after 120 young ladies who, being in Government and other employment, live in a large hostel. Among all of these only nine cases have occurred, and each one of these could be traced to infection outside the hostel, in the office in which the sufferer had been working. Not one single case caused it to spread among the other inmates of the house, salicin in every case being administered and pressed at once. It seems to me that by administering these large doses of the drug fearlessly we have a method both of curing the disease rapidly and preventing the spread thereof. It is needless to say that in no single case have I come across the slightest ill effects from the large doses of the drug given.

London, W.

E. B. TURNER, F.R.C.S.

#### REDUCTION OF DISLOCATION OF HEAD OF HUMERUS.

Kocher's method of reduction causes pain, and in my experience frequently fails. Traction on the arm with the foot in the axilla gives excruciating agony. Reduction under anaesthesia necessitates two surgeons, and, in my opinion, chloroform is not without extra danger.

The following manipulation is probably not original, but I find no account recorded in the ordinary textbooks.

The surgeon requires the assistance of two men. The patient sits in a chair with the sound arm over the back. One assistant sits in a chair on the injured side, both his hands are placed on the axillary border of the scapula (fingers towards the vertebrae), and he is told to press the shoulder blade towards the spine. The other assistant stands on a chair behind the patient, takes hold of the wrist and forearm, and is told to pull the arm up, the tips of the fingers of the injured limb pointing towards the ceiling, the elbow extended, the palm of the hand looking forwards, the biceps parallel with the ear of the patient. The surgeon supports the head of the bone by gentle pressure with his thenar eminence. This procedure is continued until the muscles are felt to relax, usually less than five minutes. The arm is gradually lowered, and, if everything has been done slowly—no sudden movement—the humerus will be found in position when the arm is brought to the side.

I claim for this method the immediate cessation of pain from the moment the manipulation commences. The vertical position corrects the shortening of the muscles by taking away pressure from the nerves of the brachial plexus, the fixation of the scapula rendering such extension complete.

I have had no difficulty by this method in reducing various kinds of dislocation, but the subspinosus variety has not come under my observation.

W. H. COSENS.

Major R.A.M.C., Medical Officer in Charge  
Dorchester Auxiliary Hospitals and  
Prisoners of War Hospital, Dorchester.



# MEDICAL EDUCATION IN ENGLAND.

A NOTE ON SIR GEORGE NEWMAN'S MEMORANDUM TO  
THE PRESIDENT OF THE BOARD OF EDUCATION.

BY

SIR T. CLIFFORD ALLBUTT, K.C.B., M.D., F.R.S.,

REGIUS PROFESSOR OF PHYSIC IN THE UNIVERSITY OF CAMBRIDGE;  
PRESIDENT OF THE BRITISH MEDICAL ASSOCIATION.

MEDICINE, as a function of civil society, has come late into the field. The Church, on its secular side, and the Law gained power and influence while room and gear were yet ample. Late comers at a feast have a cool reception; the seats are occupied, and the best victual has been served. Medicine, depending as it does upon the attainment of large and exact knowledge, could not make itself felt in the State until not only were the physicians thus equipped but the laity also sufficiently educated to hear its message and to recognize its powers. The physician and the public must be ready together to realize the meaning of Medicine in civil society, to claim its services both for municipal and private interests, and to call for physicians armed with trained intelligence and exact knowledge to respond to these needs. As regards the immediate present, let us compare for a moment the health of the armies now campaigning in East and West, I will not say with the condition of those of Marlborough, but even with those but lately stricken by disease in the fields of South Africa. A Pharmacopoeia of our great grandfathers rather resembled the collections which children gather on the seashore; here and there something curious or useful, for the rest scraps of seaweed, dead star-fish, pebbles, and empty shells.

Again, the late arrival of Medicine as an organ of society was due in large part also to the custom of regarding it as no more than a traffic between individuals. The sick man went to the doctor to buy a remedy, an antidote, natural or magical. The notion was of life as a spirit shut up in a tabernacle, and of disease as an intrusive "morbid entity"—a phrase not unheard to-day—to be driven out of the tabernacle. The broad relations of man to his circumstances, that life is no independent activity but a reaction between two surfaces, inner and outer, body and milieu, and a function of the two, was not conceived. Hippocrates, as we see in his treatise on *Airs, Waters, and Places*, knew better, but the idea was shortlived. Even yet we have to learn that Medicine is as much a condition of a stable society as Law, and deserves no less an homage. There is, it is true, a private medicine, as there is a private law, but in both cases subsumed under far larger issues.

Medicine is awaking to these great issues, vindicating its authority, and claiming its place in the great councils of the realm; not without the jealousies of old placemen, old customs, old ideas. And the public is rubbing its eyes to see this new champion, to hear the new herald, to be aware of a new birth—for it is no less. The rude physiological adaptations of man and his circumstances, with their hideous material waste and spiritual agonies, have to give way to rational combinations and harmonies.

We cannot hesitate to say that to-day is the most critical moment of all past time in the history of medicine. Are we ready for it? Schools are roused, hospitals are awakening to larger views, science is finding in medicine some of its most intricate and interesting problems, as, for example, the interpretation, and by it the illumination, of such problems as those of physical chemistry; theories of vitality and other mysterious forces are being deserted for the chemistry of colloids, the properties of surface tension, of osmosis, of ionic streams, and other functions of molecular modes of energy, which can be tracked out and measured. When we contemplate what is before us, tasks which we cannot evade by calling them academic and going our way, when it is perceived, even by thoughtful laymen, that we must master these problems for which the advances of science has given us the keys, or be run down, we must ask, Are we ready? Are we to be cowed by the war, or roused by it to the larger ideas and directer lines of work which, I repeat, science is now marking out for us? Shall we take the tide?

THE MEMORANDUM ON MEDICAL EDUCATION IN  
ENGLAND.

This is the question which is set plainly before us in the epoch-making report—I say epoch-making if the epoch

make it so—on medical education which is just published to the world; not in a corner, nor to doctors only, but as a memorandum to the President of the Board of Education by Sir George Newman.

For this report or address—it is modestly called "Notes"—teachers have been in some measure prepared by that of Professor Flexner; this appeal however is concerned with us in England; it is no general exhortation, but a homethrust.

Its contents are briefly as follows: After the introduction are considered—first, the function of the medical practitioner; secondly, university education in medicine—a point made crucial by the author; then follow five chapters on the preliminary sciences; and then the clinical subjects and their teaching, preventive medicine, the place of research, graduate studies, are discussed. There is a concluding chapter of great importance, reinforcing the lessons to be pondered and digested.

To attempt even a survey of this large and rich contribution to the new birth of medical education is out of the question; all we can do is to consider a few leading features of it. In a chief place I would welcome the emphasis laid upon the general practitioner as the foundation of medicine in this country—a principle I have often tried myself to reinforce. Almost unawares a contrary process, that of gradually eviscerating the general practitioner (I wish he had a better name, such as the good old name of physician, still preserved to us in the United States), has been, and is, at work; tuberculosis has been taken from him, the infectious fevers, venereal diseases, child-birth and child-care, and so on; so that general practice may become but a gleaming after the reapers. Sir George tells us truly that this tendency is a grievous mistake. Let us hope that these and like cuttings are but removed for the moment, in order to strike them anew with the intention of restoring them as vigorous saplings to the old gardener with his varied experience and intimate touch. But Sir George hastens to add that the old gardener, now well aware of his highest need, is calling for a larger and deeper education—that for him a university education may be made accessible and efficient. Such a purpose, as we shall see, is not to pull down the high standards of our universities; on the contrary, their methods are to be enlarged and enkindled, but at the same time to educate the physician in a new climate; to add depth to the breadth of general practice. In a phrase, we have to begin in earnest to dig for new foundations.

And the family physician needs something more than technical education; he needs a larger and less wasteful life. Sir Robert Morant begs him to make himself more felt in public affairs, especially in those in which his testimony is invaluable; but, as things are, how is a man in practice as it is to-day, even if not a very busy man, to avoid those incessant interruptions and petty cares which so break up his days and hours that he has no time even to think, still less to enrich his mind by reading and debate? Not only so, but he is now almost compulsorily unprogressive; even his weekly journals too often lie in unopened piles, medical societies are a rare enjoyment, and those advantages of advanced and special study, which, as Sir George says, are essential to his professional life, are out of his reach—nay, out of his sight. Can we wonder if in these circumstances he may be something of a bat when compelled to stand in the glare of a public platform? We may be proud that when called upon he acquits himself so well; not rarely remarkably well.

## Graduation Study.

On graduation study much is said in the address which is imperative. If the family physician is to do more than mark time, he must have opportunities of entering, for not inconsiderable vacations, on instruction in new methods and introduction to new principles; also for converseance in his daily work with the scientific methods and equipment of district laboratories. These are demands which not only ought to be met, but which must be met, if medicine is to hold its own. No trades union methods, no Ministries, no severity of examinations—some of which may indeed be degrading—can in any way make

*Some Notes on Medical Education in England.* A memorandum addressed to the President of the Board by Sir George Newman, K.C.B., M.D., F.R.C.P., Chief Medical Officer, and a Principal Assistant Secretary of the Board of Education, and Medical Assessor of the Universities Branch of the Board. H.M. Stationery Office 1918. 8vo, pp. 123. To be obtained through any bookseller. Price 9d.)



up for or prevent intellectual stagnation. How such a revolution is to be made possible is shown in part in the Memorandum; and by chance in another address recently given by Sir Bertrand Dawson, in which like warnings and like encouragements are set forth. In both the documents means for compassing something of these ends are foreshadowed; and we must learn, so far as may be, to help ourselves, but private enterprise is unequal to the reform.

#### *The Preliminary Sciences.*

From these general but fundamental considerations we must go on to more specific counsels. Upon each of the preliminary sciences Sir George has much to say, and not a little to teach, even to our teachers. He points out that without a solid ground of anatomy, physiology, chemistry, and pathology, no useful practice of medicine can be built. The current methods of teaching these sciences are fully brought out, and much credit given to the progressive systems now pursued in all university laboratories.

#### *Pathology in a Balloon.*

Of minor and easily remediable defects I may dwell on the circumscription of each science in too exclusive a department; the want of free currents between each and all. This defect I may illustrate by the divorce a *thoro* of pathology and clinical practice, and the want of penetration of pathology by physics; nay, the want of full penetration of biochemistry by physics. In these words, of course, I am not speaking of individual professors, which would be unjust indeed, but of the general conceptions which even the advanced student brings away with him. And the pathologist, not by any means of his own fault, is compelled by his divorce from the clinical wards to work in a balloon. He is not familiar with the instances of the very *pathos* which it is his business to interpret. In private practice likewise the pathologist is made to live on scraps which fall from the doctor's table, instead of being called in to co-operate on equal terms. His contributions are "riders," not a central part of the problem. Sir George puts the interesting question whether the student could have an advanced course of physics, connected, let us say, with his biochemistry, at a later period of his curriculum. Let me give an instance of such need: in the current teaching we are told in respect of renal dropsy to administer diuretics, purges, sweats, and other eliminants—to get rid of the fluid. Now, whatsoever aid may be found in these auxiliaries, it seems certain that such treatment is superficial; it is not in accordance with the principles of the malady, which lie in some perverse relation between the fluids and the tissues, or their constituent elements, so that the scientific treatment must be by physical or biochemical methods, and consist in such modifications of diet as may alter these relations favourably. Drugs play a secondary part. All such considerations impress upon us the warnings of the Memorandum—that our departments are too watertight. In Cambridge we are building bridges between physics, biochemistry and clinical medicine, which we believe will open out new routes. May I venture to say here how great is the advantage of a degree in medicine to a teacher of the ancillary sciences; time after time one is struck with the facility thus given to him in approaching these borderland problems.

#### *The Medicine of Prevention.*

Another cardinal feature in the Memorandum is the insistence on the medicine of prevention; and here again we are held up by opaque walls between the various lines of research. Preventive medicine also by this disadvantage is in peril of sterility. All medicine should be "preventive"; we are concerned with prevention, not only of the initiations of disease but also of every phase of it; too often we are summoned to appear only in the fifth act. Sir James Mackenzie has strongly urged the instant duty of attending to the beginnings of disease, and thinks that little in this sphere is being done. I suggest, and I think Sir George Newman will agree with me, that the fault is not so much that little has been done, as that the really large researches which have been made on preventive medicine—as by bacteriologists on the laws of immunity, of antitoxins and serums, by the physiological interpretation of symptoms, and so on, and again by the biochemists and physiologists on animal physics, relations of proteins, sugars, and fats, and the like—are lost in the almost total

lack of co-ordination of their results with clinical methods, and in the relegation of many of these researches to municipal and departmental laboratories. But how great are the issues which lie hid yet from us, while such spectres as Cancer and Insanity stalk unbound in our midst.

I must not pass on from pathology without insisting on the urgent duty of providing for comparative pathology by the establishment of the laboratories and staff required. That as yet we are in the Ptolemaic stage of pathology, almost wholly anthropocentric, is a text from which I have, I fear, only too often preached; most welcome then is this same counsel from Sir George Newman.

#### *The Study and Teaching of Clinical Medicine.*

But it is impossible to touch on many even of the important proposals and criticisms in this part of the Memorandum; I must hasten on to the section on Clinical Medicine. Here there is room for some controversy; personally I agree with the suggestions of the author. There is much anticipation of gathering to the English schools of the foreign students, graduate and undergraduate, who before the war betook themselves to German and Austrian schools. These hopes, in my opinion, are as yet too sanguine. Why have foreign students passed over our shores to frequent Continental schools? Because in them there are for the most part, even in the smaller cities, organized systems of clinical science and research; in the English schools we have nothing of the sort. It is, however, one of the many merits of the report that its criticisms are broad and impartial. While deciding that on the present lines clinical teaching and research cannot get forward, the peculiar merits of the English system—such as it is—are notwithstanding forcibly presented. The Briton is a practical not a logical person. He feels that organizations must be elastic and adaptive, and can only be so if they grow. If imposed by drill they choke spontaneity and stop initiative. The logical man drives a main principle through the host of contingencies reckless of the frictions, and no little devastation by the way.

The Briton has a profound sense of contingency as against nude principles and is an artist in providing for it as he goes on. Hence his amazing success as a politician. But he has the defects of his qualities. We suffer from a lack of organization, an imperfect inspiration of the clinical work with scientific principles; a lack of continuous research in diagnosis and therapeutics. The earlier phases of disorders, as seen in the out-patient room, are not linked up with the later phases in the wards, and so on. Yet with all this, wherein no individual is to blame, the author finds that, so far as it goes, the English method carries out old and sure principles of English medicine. The student observes Nature for himself; he is counselled and supervised, but is himself the workman. Things are taught which cannot be taught by lecture or demonstration—the sense of touch, the handling of instruments, the relation between student and patient. But there is a considerable account to the contrary. Medicine is taught almost wholly as an art rather than as a science; a larger measure of the scientific or research spirit is needed. If clinical medicine is to progress, professors of medicine, surgery, and obstetrics must be endowed who will devote the greater part of their time, at any rate, to teaching and investigation; and the professors must be provided with adequate staffs and laboratories. Promotion should be not by seniority, but by merit and natural aptitudes. I have often spoken of Harley Street as the grave of the great clinical teachers of the London hospitals. A teacher of personal ascendancy, a master of the sciences of medicine, a man to organize team work in research, may almost from the beginning be obliged for his livelihood to provide for his entry into consulting practice; and at his time of maturity, even if he does not retire from teaching altogether, that career has to be his first consideration.

How the several branches of clinical medicine are to be developed and co-ordinated must be left for the reading of the report itself. Under the head of Graduate Study, also, these divisions and reintegrations receive a full exposition.

#### *Finance.*

But let it be clearly understood that all these betterments of medical education will cost money, and let us not hesitate to say so. The matter is, indeed, quite plainly stated in the Memorandum. The first of the remedies



there suggested is the need of further financial assistance, for it is recognized that it is impossible to-day to teach medicine, as it ought to be taught, out of students' fees or uncertain endowment. As on the Continent, so in England there must be more substantial aid from the State if the undertaking is to be placed upon a satisfactory national basis, and it is a matter in which the nation is greatly concerned. The Board of Education has, indeed, made a beginning by means of grants in aid now amounting to upwards of £40,000 a year, but it is certain that these grants must in future be on a much more liberal scale. It is true that the acceptance of such financial assistance by the medical schools involves the acceptance also of the supervision and advice of the Board of Education, functions which the Memorandum assures us are to be exercised with due regard to the freedom of the university or medical school and in co-operation with their medical faculties. One of the objects which the Board assures us it has in view is the maintenance of the university standard, character, and freedom of teaching; an attitude which ought to allay any apprehensions that may be felt lest the State should desire unduly to interfere with the freedom of education.

#### The Curriculum.

The reader will ask, What of the loading of the curriculum? The author of the Memorandum is well aware of this difficulty, and hopes to lighten the burden, but he hardly answers the inquiry. It is suggested that by unloading much of the memory work, by reformation of the examination system, and by infusion of the spirit of study instead of much of the drudgery of it, a good deal can be done to lighten the ship. Of the evils of the present examination system we are all of us only too well aware; moreover, I find that teachers, being unused to undertake the responsibility of judging of the attainments of their pupils, shrink from the exercise of it, although much time and stress, some of it actually unwholesome, might be saved by class conferences and certificates. At later stages the Cambridge system of theses for degrees is most valuable; the man who has been thus obliged to undertake a subject of research and submit himself to discussion of it, is from that time a different man.

#### CONCLUSION.

Painfully aware as I am of the imperfect indications [I have been able to give of this broad, wise, farseeing, and judicious Report on Medical Education, I have said enough, I hope, to send my brethren to its perusal. I trust that in it we may rely upon finding in the Board a spirit not of the bureau: that the Board of Education, so long at any rate as it is inspired by its present staff, will encourage and develop that training of the young physician on liberal lines, and make for those progressive methods, which must arm us all for that greater future which—in the Ministry of Health and in the growing needs of the public—will in the near future throw upon our profession a far wider sphere of usefulness, and draw into our ranks men capable of carrying medicine to that higher destiny which we believe the future has in store for us.

## Reviews.

### GAS GANGRENE.

A MONOGRAPH from the Pasteur Institute is always received with respect, and that on gas gangrene, its bacteriology, experimental reproduction, and serotherapy<sup>1</sup> is so apposite that it will certainly obtain immediate attention. The authors, MM. WEINBERG and SÉGUIN, have already published many articles upon special aspects of the subject, but this volume is something more than a mere war manual; it is a conspectus of the bacteriology of the subject.

The first part of the book is devoted to a review of the whole subject of gas infection, with an attempt to disentangle the nomenclature of the organisms discovered and described in France, Germany, America, and else-

where, and to identify similar strains masquerading under different names applied on mixed principles. Their historical work is so detailed and so well tabulated that the authors have probably settled the matter once for all. The upshot is that before the war but two varieties were recognized as associated with gas infection—*B. perfringens* *B. dysenteriae* type 1, and the *B. coli* *B. dysenteriae* type 2 (*B. edwardsii* *B. dysenteriae* type 2); each was supposed to act alone. The war had not proceeded far when it was realized that gas gangrene of typical clinical form is not always produced by the same organism, is often caused by several associated, and is often a complex result of the combined action of the principal agents with numerous other organisms playing an accessory or indeterminate part. The authors, moreover, are moved to deplore the futility of all clinical classification, since symptoms and signs have no constant relation with bacterial findings. It must be admitted that their own line of approach leads but little further on this road. They conclude that gas gangrene is not a morbid entity of specific pathogeny; it is a syndrome, in the forefront of the causation of which are the *B. perfringens*, *B. edwardsii*, and the *B. coli* *B. dysenteriae* type 2, but with which very many others, aerobic and anaerobic, are associated. Latent or atypical forms occur, and own the same bacteriological initiative. Part II, filling some 170 pages, is devoted to a minute and complete description of all the many important organisms concerned in the infection, and will be an indispensable work of reference for every laboratory.

Part III is devoted to a study of the gas infections in their origin and evolution, and sets forth the preponderant influence of the anaerobic organisms which frequently co-operate, though it is rare to find more than two associated in the presence of organisms of suppuration. A study of the toxicity of the principal anaerobic organisms leads the authors to conclude, as clinical evidence suggests, that death results from intoxication. In the form definitely "toxic" the organisms are rarely to be isolated from the blood, and not generally is there a true septicaemia. The authors consider those cases "classical" in which emphysema predominates over oedema; those cases "toxic" in which the converse holds, and admit a third or "mixed" group, whilst noting that all these forms may have a subsidiary "putrid" character, due most often to association with *B. sporogenes*.

There follows a detailed study of a number of cases chosen from their material, and a description of the experimental reproduction of the clinical forms in animals. The short section on etiology adds nothing to the fuller accounts in recent clinical manuals.

Part IV deals with serotherapy, and gives an extremely interesting account of most patient and painstaking work, but does not, so far, carry conviction to the clinical mind. The authors are convinced that the promise of real service will be fulfilled; they admit that the curative power of serums is limited by the rapidity with which the toxins are fixed in the nerve centres. They do not despair either of a preventive serum, and, indeed, have some evidence to show already. The difficulty seems to lie in this, that by their own showing the serums are absolutely specific, and the organisms incriminated are multiple. This review by no means does full justice to a volume which is a mass of facts, records, and observations. We can only repeat that every bacteriological laboratory will find it indispensable. It should be added that the plates are very fine—worthy of the publishers—and that there is a full bibliography.

### NOTES ON BOOKS.

DR. F. PEDRAZZINI'S little book on cerebro-spinal commotion<sup>2</sup> contains a painstaking analysis of much of the literature of this frequently discussed subject, together with a few new observations made by the author himself. The first forty pages are concerned with the physics and mechanics of these forms of commotion and the author's experimental production thereof in animals. We do not find any striking novelty in the book, which, none the less, gives a clearly written and adequate account of the whole subject. The author holds that the treatment of cerebro-spinal commotion should be medical and that to open the skull or dural sac is unjustifiable.

<sup>1</sup>La gangrène gazeuse: Bactériologie, reproduction expérimentale, sérothérapie. By M. Weinberg et P. Séguin. Monographies de l'Institut Pasteur. Paris: Masson et Cie. 1913. (Roy 8vo, pp 444; 45 figures, 16 plates. Fr.20.)

<sup>2</sup>Commozioni Cerebro-spinali. By Dr. F. Pedrazzini. Milano: Urico Hoepli. 1913. (Fcap 8vo, pp. xv + 170; 15 figures. L.3.50.)



# British Medical Journal.

SATURDAY, AUGUST 3RD, 1918.

## THE ANNUAL MEETING, 1918.

THE eighty-sixth annual meeting of the British Medical Association, which was held in London at the close of last week, resembled its three immediate predecessors in being given up to the transaction of necessary business and the discussion of medico-political affairs by the Representative Body. The war came just after the Aberdeen gathering had broken up, and the Association has now met four times running in London without any of the scientific and social features that made the annual meetings what they were in happier times.

At the Aberdeen meeting Sir Clifford Allbutt was elected President of the Association, and it had been arranged that the annual meeting of 1915 should be held in Cambridge. The Association has been fortunate in having as its President in these troublous times a man of so much distinction, who, in spite of numerous calls upon him by the many other public offices he holds, has found time to take an active part in the work of the Council and its committees, and on many occasions to lend his great authority to representations made to the Government by the Association. The chief duty he had to perform as President this year afforded an illustration of this readiness to help. The Stewart Prize, founded by the late Dr. Patrick Stewart, physician to the Middlesex Hospital, for the recognition of important work already done or researches instituted and promising good results regarding the origin, spread, and prevention of epidemic diseases with a view to encouraging the continuation of such researches, was awarded to Lieut.-Colonel Robert McCarrison, I.M.S., for his researches into the physiology and pathology of the thyroid gland and the parathyroid gland and the light he has thrown on the epidemiology of goitre. Colonel McCarrison is on duty in India, and the prize was received for him by Sir Havelock Charles, Medical Adviser to the Secretary of State for India, who took occasion to refer to the deputation from the Association headed by Sir Clifford Allbutt, which waited recently on the Secretary of State for India; he thanked the Association for the energy and perseverance it had shown in championing the cause of the Indian Medical Service, and brought a message from the Secretary of State which proved that Mr. Montagu, as he told the deputation, is personally anxious not only to restore to the Indian Medical Service the attractions it formerly possessed, but also still further to increase them. It is a great satisfaction to the Association and to the profession it represents to know that there is a statesman at the head of affairs for India who has the knowledge to appreciate as well as the will to further scientific medicine, and that he has already given a foretaste of his goodwill and a promise of further attainment.

Several very interesting debates took place on July 25th and 26th in the Representative Body upon matters of great importance to the medical profession and the public, as will be seen from the full report of the proceedings, of which the first part appears in the SUPPLEMENT this week. We propose here to touch on a few topics reported this week which seem to call for special notice.

In the first place the Treasurer's short statement of the financial position of the Association should be studied by all members, for although money is not everything, it counts for very much in the work of a great organization, and the whole fabric can only stand secure as long as it rests on a basis of sound financial policy. The task of the Treasurer and Finance Committee grows no simpler with each new year of war, and the death of Mr. Guy Elliston, the able head of this department, has added to their difficulties, and their anxieties for the future, during a period of increasing stress. Considering the great rise in prices, and especially in the price of paper which now costs more than five times what it did before the war, the general disturbance of trade, and the loss of revenue that must follow a drastic reduction of advertisement pages, the position of affairs to-day is much stronger and more stable than it could have been under less prudent management, and very great credit is due to Dr. Haslip for his unremitting work towards this end.

In presenting the report of the year's work of the Central Medical War Committee, Dr. Verrall gave an outline of the relations of this body, first, with the War Office, and for the past nine months with the Ministry of National Service, and of its appointment to be a statutory medical tribunal under the new Military Service Act. He referred generally to the way in which the problem of medical man power had been handled by his committee and its subcommittees. To hold a just balance between the insistent claims of the three fighting forces on the one hand and the needs of the civil population and the interests of individual practitioners on the other, has proved a task of increasing delicacy and complexity. With regard to the extended age limit of military service for medical men and the vocational conscription of the profession as apart from other callings—matters which were properly raised in the course of the debate—Dr. Macdonald, Chairman of Council, reminded the Representative Body that this principle was accepted by it a year ago, although the manner in which it had been put into practice by the Government might well be open to criticism. Very diverse points of view found expression, but a general desire was shown to abide by the consequences of last year's decision, and to give a renewed expression of confidence to the statutory professional committees. Several members put into words once again the widespread feeling that the services of medical men in the army were not being put to full use, and although one speaker suggested that things were already improving in the direction of better organization and economy, it was thought right to pass a resolution urging that the Central Medical War Committee and the Scottish Medical Service Emergency Committee should be given access to the unpublished report of the Committee of Inquiry which went to France in September last to investigate the distribution of medical personnel and the administration of the medical services in that theatre of war.

Dr. Verrall was not called upon to describe the administrative and financial machinery of substitution medical practice which is now being set up in order to secure the release of fit men for medical commissions in the forces. While this matter is regarded by the Central Medical War Committee as one of its most pressing duties—and possibly the most difficult problem it has yet been called upon to solve—the time is scarcely ripe for the public discussion of details. It is important, however, that the Committee should take the profession into its confidence at the earliest



possible opportunity, and we have no doubt that this will be done.

Recommendations on two subjects of importance to the medical profession and the public were brought forward by Dr. Garstang, chairman of the Medico-Political Committee, and led to animated debates. The first dealt with proposals for a State-aided midwifery service and the position which the general practitioner should hold in relation to normal midwifery, antenatal care, and the clinical supervision of the practice of midwives. The second invited the Representative Body to consider the desirability of raising a voluntary fund to secure medical representation in Parliament by assisting approved candidates; the general idea being approved, it was left to the Council to take steps towards this end. More interest will have to be aroused in this project throughout the profession, and much active work is necessary if anything useful is to come of it. In the meanwhile, as Dr. Rice-Oxley maintained in a letter we printed last week, medical men and women might do a great deal more for their profession and for the community by coming forward as candidates for seats on county and borough councils, and thus taking a larger and more active part in public affairs.

### THE FAT PROBLEM.

THE Inter-Allied Scientific Food Commission, as noted in the JOURNAL of June 15th, considered it desirable to fix a minimum ration of fat and decided that it should be 75 grams—about 2½ oz.—per average man a day. This decision involved the recommendation that it might be necessary to maintain a certain stock of animals to make good the deficit of fat likely to exist after fats of vegetable origin had been used to the fullest extent. Theoretically it may have seemed a little difficult to justify this recommendation, for it might be argued that an increase of carbohydrates in the food should meet the need of the economy. The profession is therefore much indebted to Professor Starling for the discussion of the subject contained in the paper published this week (p. 105) on the significance of fats in the diet.

He points out that laboratory experiments of short duration are inadequate to determine the part played by fats in ordinary life; thus the experimental evidence is conclusive that, when the basal need for protein is satisfied, the balance of energy required can be replenished indifferently with isodynamic quantities of carbohydrate or fat. But when applying this result in practice regard must be had to two considerations. The first is that fat is a much more concentrated source of energy than carbohydrate, and the second that the absorption of fat takes longer. Hence man, with his relatively uncapacious alimentary canal, and, in particular, civilized man, with his dislike of working upon an "empty stomach," cannot view with indifference the replacement of fat by something which, considered from the point of view of its energy value, is just as good. For these reasons it is very desirable to know what proportion of fats in the dietary is the most satisfactory.

Ordinary laboratory experiments being, *ex hypothesi*, unsuitable, it is necessary to fall back upon the statistical method, although this method has, as Professor Starling observes, obvious limitations, a particularly relevant one being that the high price of fatty food has always restricted its use among the less wealthy classes. So far as adults are concerned, Professor Starling concludes from his statistics that 20 to 25 per cent. of the needed calories ought to be furnished by fats. To the data cited, we might add

those of Dunluce and Greenwood. These investigators found that in the working class budgets collected by the Board of Trade the proportion of total calories furnished by fats varied from 17.6 per cent. in the worst paid to 23.2 per cent. in the best paid working class samples, whilst among munition workers, during the "eat less bread" campaign, the proportion rose to 37.9 per cent.<sup>1</sup> The lowest proportion yet observed was rather less than 8 per cent., in the historic dietary of the Millbank prisoners, where, according to Greenwood and Thompson's analysis of the figures, a diet yielding 3,498 calories contained only 29.75 grams of fat, which contrasts with the 148.5 grams of fat allowed to seamen and marines (total calories of diet 4,083) during the same period. It is of interest to remark that, although the Millbank diet was not associated with any signs of weakness or ill health, the medical officer considered that the prisoners showed evidence of plethora—an observation which was the exciting cause of curtailment of diet followed by disastrous consequences.<sup>2</sup>

Professor Starling also considers the case of children and adolescents, but, as he remarks, it is difficult to decide, upon the evidence before us, what the ideal proportion of fat in the diet at these ages is. There is room for much further research upon the dietetic physiology of late childhood and adolescence. Not a little of the physiological literature respecting growth reminds us of Professor James's gibe at the Hegelians who, he says, when discussing the "ego," "spell its name in capitals and pronounce it with adoration, act in short as if they were going up in a balloon, whenever the notion of it crossed their mind." This remark is apposite to much "*Wachstumslehre*."

The work of du Bois proves that the basal rate of metabolism for each unit of surface is a good deal higher during childhood than after adolescence. At the age of 6 it is not far short of 60 calories an hour for each square metre of surface, and does not reach the adult level of 40 before the end of the 18th year. In the more prosperous classes, prepubescent growth begins earlier than among the poor, although, according to Key, poor and rich alike end their growth at about the same time. The effects of different kinds of food upon growth are, as Stanley Hall observes,<sup>3</sup> difficult of interpretation, and indeed the evidence cited in his carefully documented work is of no physiological value. Yet the question is one of extreme importance, particularly in times like these when so much depends upon the adolescent generation. Professor Starling has done well to initiate a discussion by commenting upon the gaps in our knowledge; we hope that the matter will not be allowed to rest where it is.

### MEDICAL EDUCATION IN ENGLAND.

THE volume entitled *Notes on Medical Education in England*, addressed in the form of a memorandum to the President of the Board of Education by Sir George Newman, is published this week as a parliamentary paper.<sup>4</sup> It is an important document, and we may adopt without hesitation the opinion expressed by Sir Clifford Allbutt in the article which we have the honour of publishing this week (p. 113), that it marks an epoch. His masterly review of the general situation and of the scope and purpose of the memorandum will be an inspiration to readers,

<sup>1</sup> Medical Research Committee, Report No. 13.

<sup>2</sup> *Proc. Epist. Soc. Roy. Soc. Med.*, April, 1918.

<sup>3</sup> *Adolescence*, by G. Stanley Hall, London, 1908, vol. i, p. 32.

<sup>4</sup> *Some Notes on Medical Education in England*. A memorandum addressed to the President of the Board by Sir George Newman, K.C.B., M.D., F.R.C.P., Chief Medical Officer, and a Principal Assistant Secretary of the Board of Education, and Medical Assessor of the University Branch of the Board. H.M. Stationery Office, 1918 (8vo, pp. 129). To be obtained through any bookseller. Price 9d.



and we shall not attempt to cover the ground his far-seeing vision has embraced, but we may say a few words about the genesis of the memorandum. This is explained in the introduction, where it is pointed out that the Board of Education comes into the matter primarily because it is concerned with medical education as being the Government department charged by Parliament with "the superintendence of matters relating to education in England and Wales." In the performance of this duty the Board acquires a wide knowledge and experience of other forms and branches of education which are of value in considering the special problems of medical education; it is interested in the qualifying examination in respect of its suitability as a test of the education and training of a student and of the prejudicial influence which unsuitable tests may exert upon the character of the education afforded. Further, the Board has the power of giving grants in aid of medical education in England. This power was first exercised in 1908, when a grant was made to St. Mary's Hospital Medical School, London; since then the number of medical schools receiving grants has gradually increased, so that in the financial year 1913-14 grants were made to ten medical schools in London, to the medical departments of the universities of Durham, Leeds, Liverpool, Manchester, Birmingham, Sheffield, and Cambridge, and also to the London School of Tropical Medicine. The total sum thus disbursed was over £40,000. One of the principles by which the Board is guided in making grants for the clinical studies is that a satisfactory measure of responsibility for the conduct of those studies shall be secured to the university. This is a most important principle, for with it the future of medical education, not only in England but in the United Kingdom, is bound up. Recognizing that it is necessary that the Board of Education should possess first-hand knowledge of the character and scope of the work being done in different institutions, and also as to the views of the universities with regard to questions of common concern, a special standing committee was appointed in 1911 to advise the Board on the various problems of university education in England and Wales, and this committee has, during the last few years, visited the medical schools in London and the provinces on behalf of the Board. The purpose of the memorandum is to make plain both the merits and the demerits of the English system, especially the system of instruction in clinical medicine, and it is natural that more should be said of its demerits than of its merits. But its strong and good points are recognized, and there does not seem at present to be any suggestion that it should be replaced by some copy of a foreign system; the wise policy—and this seems to be the intention of the memorandum—would be to select what of good in other systems is assimilable, so that medical education in England may grow along its natural line of development. In a review so comprehensive as that contained in the memorandum there must be a number of details, in statement or criticism, to which exception may be taken, but the essential point is recognised, that medical teaching should be of university standard.

#### THE NUMBER OF MEDICAL STUDENTS.

THE President of the General Medical Council has issued a statement showing the number of students who in May, 1918, were in actual attendance on courses of instruction in preparation for medical degrees or diplomas in the medical schools of the United Kingdom. The total number at that date was 7,630; of these 2,250 were women. Of the 5,380 men 671 were under 18 years of age, and of these 61 were attending medical schools in Ireland; 553 came from places outside the United Kingdom. The number of students in the first year (due to qualify in 1923) was 2,043, of whom 665 were women. The number in the second year\* (due to qualify in 1922) was 1,868, of whom 619 were women. The number in the third year (due to qualify in 1921) was 1,534, of

whom 484 were women. The number in the fourth year (due to qualify in 1920) was 1,034, of whom 275 were women; and the number in the fifth year (due to qualify in 1919) was 1,151, of whom 207 were women. The total number of students in the London district was 1,855, in England and Wales (including London) 3,259, in Scotland 2,485, and in Ireland 1,886. The total number of students in May, 1918, was greater than in January, 1917, when it was 6,682, and still greater than in May, 1916, when it was 6,103; the number of women students in these two years was 1,735 and 1,379 respectively. It will be seen, therefore, that while the number of male students has increased by 433 as compared with January, 1917, the number of women students has increased by 515 in the same period.

#### MAGNESIUM AND CANCER.

CERTAIN statements have recently been made by French physicians tending to suggest that salts of magnesium may be of value in the treatment, and perhaps in the prevention, of cancer. Dr. Dubard of Dijon, in a paper read before the Académie de Médecine, stated that he was in the habit of giving magnesium carbonate in doses of 8 to 12 grains (120 to 180 grains) a day to patients who had undergone an operation for cancer. He was led to adopt this treatment by various considerations, which may be summarized in the statement that a fall in the amount of magnesia in the tissues favoured the onset and the development of cancer. He gave certain statistics. Of 550 cases of cancer dating from earlier than 1913, 360 were carefully followed, and 125, or 34 per cent., were still alive in the fifth year; 190 had died early or been lost sight of, but it was ascertained that 11 of them had survived from six to seven years. In contrast to this he quoted the statistics of Carl Otto of Copenhagen, who found that of 196 patients only 14 survived from one to four years after the first appearance of symptoms. Dubard would explain the increasing frequency of cancer in the later periods of life by the fact that in advancing age magnesia in the tissues is replaced by lime. The treatment must be continued for months, and Dubard admits that very probably the administration of magnesium carbonate by the mouth may not be the best way of introducing it into the system, and suggests that an organic preparation of the metal would be better. Dr. Regnault, of Toulon, reported to the same academy that he was led, by observing the good effect of magnesium salts on warts, to prescribe for papilloma and superficial epithelioma a powder consisting of a mixture of magnesium hydroxide and magnesium silicate, of each four grains. The results were satisfactory; and even in inoperable cases he witnessed a great diminution of pain, an improvement of the general condition and apparent arrest of the disease. He recommends that magnesia should be given to all patients who have been operated upon for cancer, in the hope of preventing recurrence. How magnesia produces the effects recorded is not clear, but Regnault notes that in 1913 Professor Robin called attention to the fact that magnesia is present in the defensive zone around new growths. In September, 1915, Delbet and Karajanopoulou reported observations which appeared to prove that solutions of magnesium chloride increased enormously the number and activity of the phagocytes. An experiment was made on a dog weighing 16 kilograms by injecting 150 c.cm. of a solution of anhydrous magnesium chloride (12.1 in 1,000). Blood was drawn before and after the injection and mixed with cultures of various microbes. In one experiment 500 polynuclear cells in the blood drawn before the injection had included 245 microbes; 500 polynuclear cells in the blood taken after the injection had, under identical conditions, included 681. Further experiments showed that similar action took place in the circulating blood. The injections were not toxic. According to Pinard, anhydrous magnesium chloride is not easy to obtain, and he states that an equally efficacious solution



can be prepared by dissolving 18 parts of crystallized magnesium chloride, which is ordinarily kept by the pharmacist, in 1,000 parts of sterilized water.

#### GENERAL PRACTITIONERS AND VENEREAL DISEASE.

WE who, in the phraseology of a hundred years ago, have been "bred to the study of physic," are only too well aware of the ravages of venereal disease among the community, and there are not wanting signs that the public also is beginning to appreciate the nature and extent of this great evil. The National Council for Combating Venereal Diseases, with whose aims the British Medical Association is in full sympathy, has already done much good work in the campaign of social enlightenment. Recognizing that the co-operation of the medical profession at large is essential for the attainment of its objects, this body has lately appealed to the Association for active help. The Association thereupon sent a circular letter to Divisions and Branches inviting their support and pointing out various directions in which practical aid can be given by general practitioners throughout the country. It needs little imagination for doctors to realize the danger to national health that must follow the return to civil life when war is over of soldiers and sailors suffering from venereal disease, possibly in large numbers. There may be doubt as to this, but the only safe course is to prepare for the worst. The main line of defence must be prompt diagnosis and adequate treatment by private practitioners, reinforced, but not by any means replaced, by the public clinics which are being set up in growing numbers everywhere by local health authorities at the instigation of the Local Government Board. This is a point upon which we desire to lay stress. It was put with much force to the Representative Body on July 26th by its chairman, Mr. E. B. Turner, who has worked hard and long for the cause, and represents the British Medical Association upon the National Council. For some reason or other, but certainly not from any lack of goodwill, the general practitioner—the backbone of all medico-social progress—is not, it would seem, quite rising to the occasion, more particularly in insurance practice. Doctors, we are told, are inclined to hand over at once their venereal cases to the nearest municipal clinic rather than undertake the treatment themselves. We agree with Mr. Turner that the treatment, no less than the prevention, of venereal diseases is the proper province of the general practitioner, both in his own interest and in that of his patients. He should take the fullest advantage of the facilities afforded by the public venereal centres, both in diagnosis, in treatment in the case of individual patients, and for gaining experience himself in the administration of the newer remedies; but on no account should he let this branch of practice slip out of his hands, as though it were one more specialty with which he has little or no concern once a preliminary diagnosis has been made. The whole trouble can be traced back, as we have often remarked, to the inadequate training of medical students in the practice of this part of medicine, and to the lack of post-graduate courses of instruction in these subjects for general practitioners.

#### CEREBRAL CHANGES IN PERNICIOUS ANAEMIA.

FROM a minute study of the brain in seven cases of pernicious anaemia, Woltman<sup>1</sup> found that degenerated areas, such as are characteristically present in the lateral and posterior columns of the spinal cord, occur in the brain with about the same frequency as in the spinal cord. Focal degeneration is seen in the white matter, and also in the grey matter, beginning around the pyramidal cells of the marginal grey layer, and from destruction of these cells a secondary and very diffuse degeneration of the medullated fibres in the white matter results. The

degeneration in the fibres of the internal capsule and in the long tracts passing through the pons was less intense than that in the brain or in the cord. In three out of the seven brains the focal degeneration could readily be seen with the naked eye; in two it was moderately intense and visible under the microscope, and in the remaining two it was very slight indeed. The position of the plaques, not only around the blood vessels but also around some of the larger pyramidal cells, is in favour of the view that the degeneration is brought about presumably through toxic action, possibly assisted by stasis, by a substance accumulating in the perivascular spaces. Well-marked psychoses occasionally associated with pernicious anaemia probably have little or nothing to do with these degenerative plaques, which, however, may help in the production of milder mental manifestations, such as drowsiness, apathy, and terminal delirium, though the principal factor underlying these phenomena is probably the toxin.

#### HOME OF RECOVERY FOR NEURASTHENICS.

THE Home of Recovery, near Leicester, for neurasthenic and other functional nervous disorders occurring in men discharged from the forces was formally opened on July 25th by the Right Hon. John Hodge, M.P., Minister of Pensions. This home, which is, we believe, the second of its kind to be established in England, is beautifully situated about two miles from Leicester, in large grounds, so that outdoor games and gardening are available for the patients. It has been receiving a limited number of patients since February last. A new wing has been added to the large country mansion in which it is established, in order to provide more single rooms for patients as well as additional sanitary and bathing accommodation. The whole can now house about seventy patients and the necessary staff, and the large outbuildings have been adapted to provide engineering and carpentry curative workshops as well as a gymnasium. Dr. Astley V. Clarke, Senior Physician to the Leicester Royal Infirmary, is medical director, and there is a resident medical officer. The home, the new wing, and the whole of the equipment have been provided by the Leicester Disabled Warriors' Fund, initiated by the Mayor, Alderman J. North, about two years ago. It is hoped to raise £100,000 for the extra benefit of local discharged disabled members of the forces; the cost of upkeep of the home, which is managed by a local committee, is defrayed by the Ministry of Pensions. The opening ceremony was marred by rain, but the spacious tents provided the necessary shelter for the large company, which included the Mayor of Leicester, chairman of the home, the Duke of Rutland, General Sir John Maxwell, G.O.C.-in-C. Northern Command, and the Bishop of Leicester. The Medical Director, in summarizing the work already achieved in the home, said that twenty-eight patients had been discharged on completion of their "cure," and that of these twenty-five returned at once to employment, and good accounts of them had been received. Three patients were discharged improved; eighteen, who for various reasons had not completed the cure, had left the home; six were discharged for misconduct, and nine discharged themselves; two were unsuitable cases, and one was a malingerer. Discipline in these homes is a problem which requires careful handling. The patients by their very ailments are more suspicious and unreasonable than ordinary patients, and as they are discharged men they cannot be retained against their will. They wear no distinctive dress, as do military hospital patients, and therefore when on "pass out" they are not known. Further, they have often been in and out of hospital for many months, their functional troubles have become "fixed," and they have had no occupation. It is not surprising, therefore, that they frequently look with suspicion on curative workshops, etc., but it is essential that some interest in life should be given them to divert them from introspection. Many more of these homes will be required,

<sup>1</sup> H. W. Woltman, *Arch. Int. Med.* (Chicago), 1918 xxi, 791-845.



and some are in process of being formed. Judging by the results so far obtained they fully justify their existence.

#### CALL FOR EMERGENCY SUBSTITUTES.

APPEALS are made to the Central Medical War Committee from time to time for temporary assistance in practices in which, owing to illness or death, the incumbent is not only unable to do the work, but, owing to the depletion of the local profession, is unable to secure adequate assistance from his colleagues, and it is found impossible to secure a locumtenent through the ordinary channels. Offers of assistance for two, three, or four weeks from practitioners, either men or women, who could be free at short notice would be greatly valued, and should be sent at once to the Secretaries of the Central Medical War Committee, 429, Strand, W.C.2.

WE regret to record the death, on July 28th, of Dr. Frederick T. Roberts in his 79th year. Dr. Roberts was connected with University College, London, throughout the whole of his active career, and retired with the rank of Emeritus Professor of Medicine and Clinical Medicine. We hope to publish some account of his life in a later issue.

IN answer to a request made by a county medical officer of health to the medical officer of the Local Government Board, the Registrar General has arranged that he will supply to every medical officer of health for the year 1918 and in subsequent years a statement of the number of deaths under one year of age in each sanitary area, classified by legitimacy as well as sex. This is in addition to the valuable statistical information already supplied to medical officers of health by the Registrar General, and it is hoped that it will assist further investigation into legitimacy of birth in relation to infant mortality.

## Medical Notes in Parliament.

**Criminal Law Amendment Bill.**—The nominations made for the Joint Committee on the Criminal Law Amendment Bill are as follows:

**House of Lords.** Earl Desart, Earl Beauchamp, Earl Sandwich, Earl Stafford, and Lord Mun Mackenzie.

**House of Commons.** Sir William Collins, Sir Wilfrid Webb, Sir William Dickinson, Mr. Godfrey Locker-Lampson, Mr. Neville, Mr. John O'Connor, and Mr. Tyson Wilson.

**Bombing of Hospitals.**—Colonel Faber asked, on July 25th, whether the Secretary for War would consider the advisability of having the hospitals at the front some distance away from the fighting units, so that no mistake could possibly arise in enemy bombing operations; whether to assist this object light railways could be laid down by which to remove patients on to the main lines; and whether the Minister would insist on the Red Cross being plainly painted on our marquees. Mr. Macpherson replied that the measures suggested had already been put in hand so far as labour was available. Hospital establishments were clearly marked.

**The State and Food Supplies.** In the House of Lords, on July 29th, the Earl of Crawford said that the total amount paid by the Royal Commission on Wheat Supplies was approximately £270,000,000 f.o.b. for supplies of wheat and flour. Of the quantity so purchased a considerable amount was allocated to our Allies, and the balance available for British consumption represented approximately a f.o.b. value of £160,814,000, or, including freight, insurance, etc., about £226,000,000. Down to September, 1917, the cost of distribution had been wholly met by the margin between the purchase price and the price of sale. Since that date, owing to the introduction of the 9d. loaf, there had been no available margin. The disbursements of the Royal Commission on Sugar Supplies on account of sugar, freight, and other charges, had been £147,000,000 since the establishment of that Commission. These figures excluded sums paid on account of the Allies and not yet refunded. The whole of the cost of distribution had been met by the margin between the purchase and selling prices. The problems of supply and distribution were inextricably linked. The total amount paid by the Ministry of Food in respect of purchases was £195,000,000 odd. Of this sum £60,000,000 odd was for the purchase of food at home, and £135,000,000 odd was for imported food. It was not possible to state exactly how far the cost of administration in this case had been met by the margin between the purchase and sale prices, but it was hoped that it would be covered by that means.

## THE WAR.

### THE ETIOLOGY OF TRENCH FEVER.

THE Medical Investigation Committee on Trench Fever has presented its fourth report to the D.G.M.S., France, as follows:

A Commission under Major Richard P. Strong, M.R.C., was appointed by the American Red Cross Research Committee, and Major Strong and Major Homer F. Swift, M.R.C., became members of the Committee on Trench Fever in December, 1917.

On March 9th, 1918, as a result of the experiments of the American Commission, we reported to the D.G.M.S. in France that trench fever was transmitted by the louse living under natural conditions. We have now to report in brief the further results obtained by this Commission.

1. The disease is caused by a filterable virus.
2. It can be conveyed by the bites of the louse alone, as well as by other means.
3. Infection appears to be conveyed by such bites for at least twelve days after the louse has ceased to feed on a patient with trench fever.
4. The virus is present in the urine, and the disease can be transmitted experimentally by inoculation with urinary sediment on a scarified area of the skin.
5. Similar results have been obtained with the sputum and saliva.

A full account of the experiments on which these conclusions are based will shortly be published by the American Red Cross Research Committee.

### CASUALTIES IN THE MEDICAL SERVICES.

#### ROYAL NAVY.

##### *Killed in Action.*

Surgeon Probationer J. J. A. Lord Flood, R.N.V.R., was reported as killed in action, in the casualty list published on July 25th.

#### ARMY.

##### *Wounded.*

Captain G. A. Russell, Canadian A.M.C.

Captain A. T. Spuy Vanger, South African Medical Corps.

Lieutenant F. S. Adams, R.A.M.C. (temporary).

Lieutenant S. Riddiough, R.A.M.C. (temporary).

##### *Wounded and Prisoner of War.*

Captain E. H. Griffin, D.S.O., R.A.M.C.

##### *Prisoners of War.*

Lieut.-Colonel H. B. Kelly, D.S.O., R.A.M.C.

Major F. G. Lescher, M.C., R.A.M.C.

Captain W. F. Dunlop, R.A.M.C.

Captain W. G. Harnett, R.A.M.C.

Lieutenant G. V. W. Anderson, R.A.M.C. (temporary).

#### DEATHS OF SONS OF MEDICAL MEN.

Edwards, Robert A., Lieutenant West Yorkshire Regiment, youngest son of Lieutenant E. H. Edwards, R.A.M.C., died on July 14th, in a field ambulance in France, of wounds received the same day.

Graham, George Wilson, Lieutenant Royal Air Force, youngest son of Dr. J. Gibson Graham of Glasgow, killed in action, July 13th. He was formerly in the Glasgow University O.T.C., and in the Royal Naval Air Service.

Fridham, Hugh Trevor, Gunner Royal Field Artillery, son of the late J. W. Fridham, M.R.C.S., of Broadway, Dorset, died in hospital abroad, July 5th, aged 20.

Wallis, Walter Kelvin, Lieutenant, attached East Lancashire Regiment, eldest son of the late Mr. J. A. Wallis, died abroad, July 17th.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]



## HONOURS.

A SPECIAL Supplement to the *London Gazette*, dated July 26th, contains long lists of awards in recognition of "gallantry and devotion to duty in the field." The list includes the following medical officers who receive the honours indicated:

## Bar to D.S.O.

Captain (acting Lieut.-Colonel) Francis Casement, D.S.O., R.A.M.C.

He evacuated all the wounded and saved a large quantity of surgical material, blankets, and stretchers during a long retirement. His courage, coolness, and resource were most marked during the whole of this trying period. (D.S.O. gazetted Jan. 4th, 1917.)

Major (temporary Lieut.-Colonel) Hugh Allan Davidson, D.S.O., R.A.M.C.

When in command of his unit he maintained the advanced dressing station in spite of heavy shelling by the enemy, and with drawing when ordered to do so. He visited the regimental aid posts under heavy shelling, and by his example and energy many casualties were evacuated which might otherwise have been lost. (D.S.O. gazetted January 1st, 1917.)

Captain (acting Lieut.-Colonel) Thomas Swan Eves, D.S.O., R.A.M.C.

He was in charge of an advanced dressing station which was being heavily shelled by the enemy, and he personally and thoroughly carried out a complete change of organization. Later, he was superintending the loading of ambulance cars near a railway bridge which was a special target for the enemy's guns, and though twice thrown over and bruised by bursting shells he stuck to his post till all the wounded had been dressed and evacuated. His fine performance under continuous shell fire till the enemy were close upon him was a splendid example to all. (D.S.O. gazetted January 1st, 1918.)

Lieut.-Colonel FitzGerald Gabbett FitzGerald, D.S.O., R.A.M.C.

When his casualty clearing station was heavily shelled he not only evacuated his patients to places of safety, but saved practically all the stores of his unit. This action was performed twice over, and on both occasions his courage and ability were pre-eminent. (D.S.O. gazetted January 1st, 1917.)

Major (temporary Lieut.-Colonel) Harry Beatty Kelly, D.S.O., R.A.M.C.

When the camp, in which over forty stretcher cases were collected, was heavily shelled, he collected the bearers and removed the wounded to a position of safety. Again, when the infantry were being withdrawn, he collected casualties with the bearers and carried them through a heavy barrage to the ambulance cars, thus saving several lives and setting a fine example to his men. (D.S.O. gazetted January 1st, 1917.)

Lieut.-Colonel John Powell, D.S.O., R.A.M.C.

During a long period of active operations and owing to the great number of extemporized formations from the divisions, which increased continually from day to day, the task of providing adequate medical facilities was one of extreme difficulty. By his indefatigable energy and powers of organization he successfully met all demands, and completed the evacuation of all wounded with splendid efficiency. On one occasion bearing some wounded had been left behind, he went himself, under heavy and continual shell and machine-gun fire, with three ambulances, and brought them in. Throughout, his conduct was beyond all praise. (D.S.O. gazetted June 3rd, 1918.)

Temporary Captain (acting Lieut.-Colonel) Lawrence Drew Shaw, D.S.O., R.A.M.C.

He was placed in charge of the forward division of the combined field ambulances. Although constantly exposed to heavy shell and machine-gun fire, he organized the system of evacuation and extended it to neighbouring divisional units. By his inspiring example and disregard of danger he ensured a complete and successful evacuation of the wounded. (D.S.O. gazetted June 4th, 1917.)

Captain (acting Lieut.-Colonel) William Tyrrell, D.S.O., M.C., R.A.M.C.(S.R.).

When in charge of a line of evacuation he worked continuously for six days, and it was due to his gallantry, organization, and energy that touch was maintained so efficiently with the brigades and so many casualties evacuated. He displayed great courage and coolness throughout, and inspired those under him by his fine example. (D.S.O. gazetted January 1st, 1918.)

(To be continued.)

## EAST AFRICAN OPERATIONS.

The following awards and promotions are announced for services rendered in connexion with military operations in East Africa:

To be C.M.G.: Colonel Gerard William Tate, D.S.O., A.M.S., Lieut.-Colonel Reginald G. Turner, D.S.O., I.M.S.

To be *Brevet Lieut.-Colonel*: Major (temporary Lieut.-Colonel) W. Benson, D.S.O., R.A.M.C.

D.S.O.: Lieut.-Colonels Arthur C. Adderley, R.A.M.C., and Temple Smyth, S.A.M.C.; Temporary Major (acting Lieut.-Colonel) Thomas M. R. Leonard, Special List, West African Medical Service, W.A.F.F.; Captain (acting Major) A. McW. Green, S.A.M.C.

*Military Cross*: Captains Frank M. Barnes, R.A.M.C.(S.R.), Henry D. Brown, R.A.M.C.(S.R.), Harold A. Crouch, R.A.M.C.(S.R.), James B. Lapsley, I.M.S., attached C.F.A., George S. Lawrence, R.A.M.C.(S.R.), Ralph R. Scott, R.A.M.C.(S.R.), Alexander F. Wallace, Northern Rhodesia Medical Service. Temporary Captains Mark C. Gardner, R.A.M.C., Thomas H. Massey, East African Medical Service, attached King's African Rifles; Henry R. Morehead, Special List, West African Medical Service, attached Nigeria Regiment, W.A.F.F.; Thomas R. Sandeman, Special List, West African Medical Service, attached Nigeria Regiment, W.A.F.F.; Wm. H. Watson, S.A.M.C.,

Christopher J. Wilson, East Africa Medical Service, attached King's African Rifles; Lieutenant Norman S. Bruce, R.A.M.C.(S.R.); Temporary Lieutenant Gilbert Burnet, R.A.M.C.

The King of the Belgians has conferred the decoration of Chevalier of the Ordre de la Couronne upon temporary Captain Adrian Stokes, D.S.O., R.A.M.C., for distinguished services rendered during the course of the campaign.

The President of the French Republic has conferred the Croix de Guerre upon Colonel Stephen Frazer Clark, A.M.S.

## Scotland.

## THE MEDICO-PSYCHOLOGICAL ASSOCIATION.

THE seventy seventh annual meeting of the Medico-Psychological Association of Great Britain and Ireland was held at Edinburgh on July 23rd and 24th, 1918, under the Presidency of Lieut.-Colonel John Keay, R.A.M.C. After the transaction of the usual business the President delivered his inaugural address. This was followed by papers on the prevention and treatment of neurasthenia and other functional nervous breakdowns by Dr. Claud F. Fothergill, and on the infective factors in some types of neurasthenia by Dr. W. Ford Robertson. On the second day the members and their friends were hospitably entertained by Lieut. Colonel and Mrs. Keay, at the Edinburgh War Hospital, Bangour. The wards of this excellently equipped hospital were visited and demonstrations were given by Lieut.-Colonel Cathcart, R.A.M.C.(T), and Major Rankine on the construction and fitting of provisional artificial limbs; by Lieut.-Colonel Sir Harold J. Stiles, R.A.M.C., on cases from the orthopaedic department; and by Captain Edwin Bramwell, R.A.M.C., on cases illustrating functional neuroses. Major D. G. Marshall, I.M.S., and Dr. L. K. Davies showed microscopic preparations illustrating malaria and dysentery. By the kindness of the chairman and managers, and Dr. G. M. Robertson, an "at home" was held at the Royal Edinburgh Mental Hospital, Morningside. Owing to the war the annual dinner was not held, but the well-known hospitality of the Edinburgh members contributed in no small measure to the success of a very enjoyable and instructive meeting.

## CENTRAL MIDWIVES BOARD FOR SCOTLAND.

The report of the Central Midwives Board for Scotland for the year ending March 30th, 1918, shows that the number of midwives enrolled was 3,310, made up as follows: 1,351 by certificate, 1,695 in bona fide practice, and 264 after passing the examination of the Board. The returns of the local supervising authorities show that 1,408 midwives had notified their intention of practising. The examinations of the Board are held four times a year, in Edinburgh, Glasgow, Dundee, and Aberdeen, according to the number of candidates entered at each centre. The total number of candidates was 303, of whom 39 only were rejected. The average marks of successful candidates were high, and as a large number of them had previously been enrolled as in bona fide practice, this is considered to be good evidence of the average standard of proficiency of the enrolled midwife.

## Ireland.

## REMUNERATION OF POOR LAW MEDICAL OFFICERS.

At the last meeting of the Limerick guardians a letter was read from the Local Government Board stating that it had had under consideration the further resolution of the Limerick board of guardians of June 5th, asking again for sanction to their proposal to grant an increase of pay of £50 a year to each medical officer of a dispensary district in the union. The Board received a deputation on June 25th from the Poor Law medical officers and heard a statement of their claims, and had since very carefully reviewed all the leading aspects of the salaries question, the size and proportion of dispensary districts, the volume of duties, the extent of the available private practice, and the demand for doctors and their remuneration in other kindred spheres. Taking into account all the circumstances the Board was of opinion that this additional £50 a year might be added permanently to the maximum salary of £200 under the scale—the new maximum of £250 to be attainable after a service of twenty years as under, the present scale starting



from the existing initial salary of £150 a year and advancing by annual increments of £5, and accordingly sanction the following increases of salary: Dr. Ryan, £250; Dr. M. Graham, £220; Dr. Mulcahy, £250; Dr. P. F. Graham, £250; and Dr. Moloney, £250. Dr. Corboy, £205; Dr. Humphreys, £195; Dr. Lane, £185; Dr. Euright £165 a year each.

A short report of the proceedings of the deputation, to which reference is made in the Local Government Board's letter, appeared in the JOURNAL of July 6th. The deputation was accompanied by the Right Hon. M. F. Cox, M.D., and Dr. Hennessy, Irish Medical Secretary. A strong resolution passed at the annual meeting of the Leinster Branch of the British Medical Association, urging the Local Government Board to sanction graded scales of salaries, which had been adopted by the Limerick, Duns-  
haughlin, Devlin, and other unions, was read by the deputation in support of the claims of the doctors of these unions that the salaries passed were not excessive, as stated by the Local Government Board, and that this Board should reconsider its refusal to sanction such salaries. The deputation, which, in addition to Dr. Cox and Dr. Hennessy, consisted of Dr. Denis Walshe, Dr. J. C. King, Dr. McCaul, and Dr. P. B. Moloney, is to be congratulated upon the success of the case it made for the Poor Law medical officers concerned. It was unanswerable. Dr. Hennessy, on behalf of the deputation, returned its warmest thanks to Dr. M. F. Cox for accompanying it to the Local Government Board and for his warm advocacy of the claims of the Poor Law medical officers.

#### ELECTION OF MEMBERS OF CENTRAL MIDWIVES BOARD.

At the recent election held pursuant to the provisions of the Midwives (Ireland) Act, 1918, the following four registered medical practitioners were elected by the registered medical practitioners resident in Ireland to act on the Central Midwives Board for Ireland (Section 3 (1) (b)): Sir Andrew J. Horne and Sir William J. Smyly, of Dublin; Sir John William Byers of Belfast, and Professor Henry Corby of Cork. The other seven members will be appointed by the Local Government Board for Ireland in due course.

## Correspondence.

### VANGHETTI'S OPERATION.

SIR,—In your issue of July 27th, p. 86, is a memorandum on Vanghetti's operation, by Mr. E. Pearce Gould, in which is related a case of a man who had received a gunshot wound of the left elbow twelve months previously, the articular ends of the humerus and ulna, together with a portion of the ulnar nerve, having been lost. Operation to obtain a stable joint having failed, amputation was decided upon as better than either a flail or a fixed joint, and a "clava" or peg type of motor was formed.

As we have quite recently had the honour of being asked by the Consultants' Council of the War Office to draw up a memorandum on amputation stumps, we beg to state, as our emphatic opinion, that no artificial hand can possibly replace the function of any portion of the natural hand, no matter how incomplete or restricted its movements may be. We are further of opinion that the movements of nearly every excised elbow-joint can, by appropriate and patient orthopaedic measures, be controlled and reconstituted. The bones can be made to approximate, and the movements of the joint can be controlled and be slowly re-established. Any elbow-joint, even if flail, can be fixed by appliances, and thus the natural function of the hand and fingers can be made to render infinitely greater service than that given by any artificial hand at present known to us.

We feel that cases of this type should not be submitted to amputation, whether "cinelastical" or other. We consider that no late amputation of the upper extremity should be performed save after consultation. The organization of the Army provides consulting surgeons in each Command.—We are, etc.,

T. H. OPENSHAW, C.B., C.M.G.,  
J. LYNN THOMAS, C.B., C.M.G.

July 31st, 1918.

### THE FUTURE OF THE MEDICAL PROFESSION.

SIR,—From letters written in the JOURNAL it is quite clear that the profession is aware that we are approaching a great crisis. The Government is forming what it thinks best for a Ministry of Health, and, as usual, places what already exists at a discount. From the trend of views expressed it is all for specialism and whole time service, with full equipment supplied at the public expense.

In the past the medical profession has worked its hardest, finding its own equipment, with every obstacle put in its way by the powers that be, fees cut to their lowest, and endless certificates, etc., expected to be supplied for nothing. The profession must assert itself, and demand fair play to carry out the improved treatment of the public.

Who should know better what is required than the profession itself, and who has more right to expound its principles? Nine-tenths of the profession now in general practice have all the necessary knowledge and only want the equipment to be supplied to fulfil its duties. If clinics are to be formed, they do not require a whole-time service to attend to them, and every practitioner is capable of diverting a portion of his time to such service when proper remuneration is forthcoming.

Some assurance is wanted that those in practice will have a fair opportunity of offering their services in the different branches proposed to be started. Of course, some are purely specialist offices, but the main part of the work is only the routine work of a general practitioner brought under one roof. If this assurance is not forthcoming it is time that the profession as a whole make a stand for its rights. No other profession would tolerate its foundations being so undermined. In the scheme for a Ministry of Health put forward by the Council in the annual report, under the heading "medical staff," the general practitioner only appears to figure under Class D, occasionally finding a place in the clinics, etc., and he is only offered a remuneration for work done, whilst the whole-time man has an assured salary regardless of how much or little he is expected to do. One sees visions of copious reports and statistics, to the detriment of practical work and also of the interests of the patients.

This is my opinion, formed from a study of the annual report before me. I hope I am wrong. At the annual meeting of the Croydon Division of the British Medical Association the opinion was expressed by all present that the attention of the general practitioner should be directed to the importance of qualifying himself in special sections of medical and surgical work, which are certain to form the basis of the treatment of the centres about to be established under the aegis of the Ministry of Health.—I am, etc.,

Wallington, July 22nd.

A. Z. C. CRESSY, M.R.C.S.

SIR,—Dr. Lyth's letter is by no means difficult to answer. I do not recognize the inevitability of State interference in medical practice. I wish to be prepared for it. I do not wish our Association to be merely a scientific body regardless of the material interests of the profession.

The fighting material of the raw recruit I admire, but his methods are too crude. The same remarks apply to the Medico-Political Union. I read the pamphlet of abuse of the British Medical Association issued broadcast by the Union. Such methods of weakness I abominate.

With regard to Dr. Lyth's own position, may I refer him to a Biblical quotation: "No man can serve two masters, for either he will hate the one and love the other, or else he will hold to the one and despise the other." This is still true in the present day.

I have no doubt that the Labour party, with whom the Medico-Political Union is now coquetting, will make it very plain that no man can belong to a trade union society and remain a member of a kindred non-trade union society. I cannot reconcile the case of a medical man being a member of the trade union Medico-Political Union and the non-trade union British Medical Association.

After all, these are side issues. I wrote to impress on the individual members of the medical profession the necessity of safeguarding their financial interests. Let us get on with the work.—I am, etc.,

Crawley, July 28th.

SIDNEY MATTHEWS, J.P., C.C.



SIR,—I have read with pleasure the excellent articles by Sir Bertrand Dawson. He has three most useful attributes—position in the profession, platform, and the courage of his convictions—and it is to be hoped he will use them to the full in advocating these very necessary reforms.

I should like to ask whether Sir B. Dawson is prepared to uphold his contentions against a state service by evidence from the existing state services. Hitherto I have not met with any definite evidence against a state service, only with the sentimental objection which I fully share, but in spite of which I am prepared to advocate the change because I believe it is necessary to the nation.

In passing I note the *Observer* has a column each week giving Sir B. Dawson's addresses, and I am glad to see the articles made public; it is the only way in which our views can be given to the laity, the only way we can educate them.—I am, etc.,

Mumbles, July 21st.

F. DE COVERLY VEALE.

#### MEDICAL CERTIFICATES AND TRIBUNALS.

SIR,—Is not the method of giving certificates described by Dr. J. Scott Battams (p. 100) a violation of our professional secrecy, and should not all certificates first be given to the patient, whether paid for or not? It is at the patient's discretion whether he uses the certificate or not.—I am, etc.,

Bradford, July 27th.

W. M. MACILRAITH.

#### RANK IN THE R.A.M.C.

SIR,—The enclosed resolution was carried unanimously at a meeting of the Torquay Division Local Medical War Committee on July 26th, and I am instructed to forward it to you for publication:

That the Committee moves, in the matter of rank given to men of fifteen years' or more experience of civil practice on joining the R.A.M.C., that these men should be given at least the rank of captain on joining the service.

Our Committee feels that men who have been in practice many years and who have to join the R.A.M.C. under the conditions of the new Military Service Act will hold a most invidious and humiliating position if they have to go out as lieutenant and be under the orders of a young and inexperienced captain, for instance, who has merely gained that rank, perhaps, by a year's service of seniority. Our Committee has requested the Central Medical War Committee to take immediate action and also ascertain the opinion of the Local Medical War Committees throughout the kingdom, as the matter does not admit of delay. We are of opinion that, if the profession is unanimous and determined on this question, the War Office and the military authorities will see the wisdom of granting this rightful request.—I am, etc.,

G. YOUNG EALES,

Honorary Secretary, Torquay Division and Local Medical War Committee.

Torquay, July 25th.

#### THE TREATMENT OF FUNCTIONAL NERVOUS DISORDERS IN THE ARMY.

SIR,—In your issue of July 20th you publish a request that medical men who are now being called up to serve with the R.A.M.C. should send in their names to the Director-General if they are desirous of undergoing a special course of training, and of undertaking therapeutic work, in functional nervous disorders. The enormous strides which have been made during the war in the treatment of these disorders, and the increasing recognition that the mental factors of strain and anxiety are primarily responsible for so many of the minor ailments met with in general practice should surely attract an adequate number of applicants. The need for a special course of training, by means of systematic lectures and clinical demonstrations and instruction, is emphasized by the fact that different cases of functional disorder require different methods of treatment, and that electricity, manipulation, isolation, and the more purely psychological methods of analysis, suggestion and hypnosis, each have their value in appropriate cases, if their limitations, their uses and abuses are clearly recognized. The most successful medical officer is he who has learnt to select the particular treatment best fitted for each case and who realizes that he must familiarize himself with different therapeutic methods. These can be learnt only by

instruction in the hospitals which have been so successfully established throughout the kingdom for the treatment of functional nervous disorders.—I am, etc.,

July 27th.

M.

#### Medico-Legal.

##### THE COVENTRY CASE.

*Pratt and Others v. The British Medical Association and Others.*

IN the King's Bench Division, on July 15th, before Mr. Justice McCardie, the hearing was begun of an action by Dr. Ernest Camden Pratt, Dr. David Holmes, Dr. Andrew St. Lawrence-Burke, and Dr. Charles Hodge Cairns, registered practitioners of Coventry, against the British Medical Association, and Drs. William H. Lowman, William J. Pickup, John Orton, and Thomas Webb Fowler, registered medical practitioners of Coventry, and members of the Coventry Division of the British Medical Association. The plaintiffs claimed damages for alleged conspiracy to injure them in their profession, and to libel and slander them, and for alleged libels and slanders. The allegations were denied.

Mr. Schwabe, K.C., and Sir Hugh Fraser appeared for the plaintiffs; Mr. McCall, K.C., Mr. Hollis Walker, K.C., and Mr. A. Neilson for the defendants.

A brief notice of the case appeared in the JOURNAL for July 27th, 1918.

The plaintiffs were at all material times members of the Coventry Provident Dispensary. It was alleged that on various occasions during the years 1906 to 1914 inclusive the defendants had unlawfully and maliciously conspired to publish libels and slanders of the plaintiffs in their offices as medical officers of the dispensary. In particular, it was alleged that the British Medical Association had published of and concerning all the plaintiffs the following notice in the BRITISH MEDICAL JOURNAL:

*Appointments—Warning Notices.*

Medical practitioners are requested not to apply for any appointment referred to in the following table with out having first communicated with the Honorary Secretary of the Division or Branch of the Association named in the second column or the Medical Secretary of the British Medical Association, 429, Strand, London, W.C. . . .

Coventry as regards Dispensary appointments.

It was also alleged that Dr. Orton, one of the defendants, had in January, 1909, written to Dr. C. W. Suckling saying that the conduct of the medical officers at the dispensary was considered to be against the honour and interests of the medical profession, and requesting him to refrain from meeting Dr. Burke or any of them in consultation, and that in consequence of this Dr. Suckling had so refrained. A similar letter written to Dr. Beckwith Whitehouse in May, 1909, was also complained of.

In May or June, 1912, the defendant Association sent a copy of a resolution to all the medical practitioners in Coventry and Birmingham to the effect that any practitioner holding an appointment at the dispensary was guilty of conduct detrimental to the honour and interests of the profession, and that in accepting such an appointment the plaintiff, Dr. Holmes, had acted contrary to the honour and interests of the profession. This was complained of as a libel.

On May 31st, 1912, a letter was sent to, *inter alios*, the plaintiff Pratt, pointing out that the Coventry Dispensary had been banned for the last five years for the reason, *inter alia*, that it was carried on in a manner injurious and detrimental to the honour and dignity of the medical profession, and that the boycott had been successfully maintained. He was also told that he would meet with the same treatment on taking up the appointment, and that action was taken with regard to the other officers, meaning the other plaintiffs. This was also complained of as libellous. The plaintiffs also complained of as libellous, the following (amongst other things): (1) A resolution passed at a meeting of the Coventry Division on December 10th, 1912; (2) a resolution (by the same Division) concerning Drs. O'Brien and David Holmes on March 4th, 1913; (3) a letter to Dr. Pratt dated March 7th, 1913; (4) a recommendation of the Executive Committee of the Coventry Division dated March 18th, 1913; (5) a resolution of the Coventry Division dated April 8th, 1913; (6) a resolution dated June 9th, 1913, expelling Dr. Pratt from the British Medical Association; (7) a letter written by Dr. Davidson to Dr. Cox dated June 12th, 1913; (8) a resolution of the Coventry Division dated November 6th, 1913, in which it was declared that in its opinion the conduct of Dr. Pratt in continuing to hold an appointment at the dispensary was detrimental to the honour and interests of the medical profession.

The plaintiffs also complained of an article in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL in which there was an account of the action taken by the Association in relation to medical aid institutions. It contained this passage:

The medical officers who are secured for these posts may be divided into four classes:

1. The failures of the profession (which was alleged in the statement of claim to include the plaintiffs and each of them).
2. Practitioners who, though competent and steady, have not sufficient initiative to make a success of private practice and



prefer the fixed salary offered by such appointments with all its drawbacks.

III. Reputable members of the profession who through financial loss or through too early marriage and the responsibilities consequent thereon find it imperative to secure a salary larger than they could get as assistants.

IV. Junior members of the profession who take these appointments unwittingly.

A communication by telephone to Dr. Webb Fowler, made on April 13th, 1913, to the effect that he must not meet Dr. Burke in consultation because he was on the medical staff at the dispensary was alleged to be slanderous. A statement by Dr. Kenderdine, who was alleged to have acted as agent on behalf of the defendants to Dr. Pratt, to the effect that if he did not give up his appointment at the dispensary he would be boycotted, and that his life and that of his wife and family would be made miserable, was also alleged to be slanderous.

The defendants by their defence denied the charge of conspiracy and (with some exceptions) the publication of the various alleged libels and slanders of or concerning the plaintiffs.

They contended that the defendant Association was formed for (*inter alia*) the maintenance and honour and interests of the medical profession, and said that all the individual defendants were members of the Association, and held various offices therein. It was also said that in and since the year 1906 and at all material times the defendant Association and the Coventry Provident Dispensary had been conducted, on the grounds that the principles and rules under which the said dispensary was governed were fundamentally opposed to the principles and rules approved by the said Division and by the defendant Association for the proper government of such provident dispensaries in the best interests as well of the patients attending the said dispensary as of the medical practitioners being officers of the said dispensary. The grounds upon which the said objections were based were mainly—

1. The absence of a maximum wage limit upon those patients to obtain medical benefits from the dispensary.
2. The fact that the administration was entirely under lay control.
3. The acceptance of members upon necessarily low rates of subscription.
4. The fact that the existence of the dispensary upon the above conditions stood in the way of any betterment of local contract practice conditions.

They also pleaded privilege.

Counsel for the plaintiffs having opened the case,

Dr. Andrew St. Lawrence Burke, one of the plaintiffs, in the course of his evidence said that he was qualified in 1895. He came to Coventry in 1907. Before that he had held various hospital posts in Dublin, and had been district medical officer and public vaccinator at Wolverhampton for six years. On May 16th, 1907, he was appointed surgeon to the Coventry Provident Dispensary. He had intended to go to Coventry before that. He began work at the dispensary on June 25th, 1907. On May 26th he received the letter of that date from Dr. Faulder White. He also received a letter from Dr. Orton on July 20th, 1907, pointing out that having entered the area of the Division he had automatically become a member of the Division, and reminding him of the previous letter. In his reply he pointed out that he had no fault to find with the provident dispensary, and considered that if some of the new institutions were conducted as well there would have been no necessity for complaints to have been made. He saw no objection to being connected with the dispensary, but in consequence of the difficulties raised he resigned his membership of the British Medical Association which he had joined in 1903. When (by request) he attended a meeting of the Executive Committee of the Coventry Division on August 21st, 1907, he said he was perfectly satisfied with his position. It had been held for many years by responsible and reputable men in Coventry—Drs. McVeagh, Hird, Davidson, and Orton. He did not think that the Executive Committee were suitable people to deal with his position.

On September 3rd, 1907, having seen a notice in the JOURNAL, he attended a meeting of the Coventry Division, when Dr. Milner Moore, the acting chairman, told him he was not a member, and he was expelled. On the following day he wrote to apologize for having intruded. He was told by Dr. Milner Moore that he had no right to be at the meeting. Subsequently he went to see the Secretary of the British Medical Association. He saw Dr. Smith Whitaker, and told him that he and Dr. Ellis, who were members of the staff of the Coventry Provident Dispensary, had come for the purpose of coming to some terms as to the method of carrying on the institute and to remove the boycott. They were favourably impressed with the way they were received, but the central executive eventually found it impossible to bring about the reforms. As regards the boycott, this prevented his having a consultant, and in consequence he had had in several cases to give up paying patients—patients who had nothing to do with the dispensary. It interfered very much with his practice, and this difficulty continued until the ban was removed in April, 1917. The boycott also gave rise to difficulties in connexion with hospitals. In particular he was refused permission in 1910 or 1911 to see a patient at the Coventry Hospital, with which Dr. Hawley, who was then chairman of the Coventry Division, was connected. He was also unable to get dentists to work with him. He had offered his services to the Coventry War Medical Committee, but they were not utilized. Dr. Snell, a member of the British Medical

Association, was a member. He was in the habit of buying the BRITISH MEDICAL JOURNAL at the local bookstall, and he bought a copy of that dated April 4th, 1914, which divided the officers who secured posts at these institutes into four classes. The effect of the removal of the ban in April, 1917, pending these proceedings, was that he was able to get consultants; that he was able to send cases to dentists; and that, socially, he had been recognized by the Coventry doctors. If the British Medical Association, as the Government stated, were issuing a request to local practitioners in general practice, he did not receive any such request from the Association.

In cross examination by Mr. McCall, witness said that he knew of the "warning notice" before he went to Coventry in 1907. Before he accepted the post at the dispensary he knew that five members of the staff had resigned because they disapproved its constitution and policy. After 1912—the year of the National Insurance Act—he thought the ban might be removed. He agreed that the medical men of Coventry and Birmingham were of good standing. As regards them and the men on the Central Council and Central Ethical Committee, he did not suggest (although it seemed like it) that they were guilty of personal spite or ill will towards him. When he took up the position at Coventry he was aware of the objections of the Coventry Division. He also knew that medical men were in a minority on the governing committee, and that a third of the revenue went in management and expenses. The collector was paid a salary in 1907. He could not say when the payment was altered to payment by salary. Under the rules persons were only admitted to the dispensary whose apparent income was under £104 a year, but old members were allowed to stay on, and remain entitled to treatment at 1d. a week. Witness regarded that as being fair, in the interests of his profession, but he recognized that reputable members of the profession might think that to belong to an institution so managed was derogatory for any medical man of repute. He would not agree that the dispensary sweated medical men. His income from the dispensary from 1907 to to-day was from £500 to £600 per annum. He was also allowed private practice, and was still at the dispensary and doing private practice. The medical staff were paid according to the number of patients seen each quarter. The 6 per cent. commission to the collector was mentioned in the dispensary rules of 1908.

Mr. McCall: Do not you think giving a collector 6 per cent. upon his collection sets an undesirable premium upon canvassing?—I do not think we were ever charged with canvassing.

Do not you think it does tend to set a most undesirable premium upon canvassing?—It might do so.

Is that practice which sets a premium upon the collector canvassing a practice that you approve of?—No, I do not approve of it.

Continuing, witness said he believed that was one of the objections of the Coventry Division to this dispensary. If one member of the medical profession in Coventry was guilty of what his brethren considered unethical and unprofessional conduct they were entitled to show it.

Mr. Justice McCardie: He means they are entitled to indicate it.

Mr. McCall: I used the word "show" advisedly.

Witness admitted they were entitled to show it by refusing to meet him professionally or socially.

Mr. McCall: If they did what you have admitted they have a right to do, do you suggest that they were guilty of either conspiracy or malice?

Mr. Justice McCardie: No lay witness can answer that. Dr. Burke cannot possibly know the limits of legal conduct which are permissible.

Continuing, witness repeated that medical men of repute and standing might well take the view that it was derogatory to the profession for him or any medical man to be connected with the dispensary, and that such a man would be entitled to refuse to meet him professionally and socially.

After some discussion as to whether the witness could properly say whether he charged the defendants with "malice" or "conspiracy," witness said that when he wanted a second opinion he sometimes in trivial matters applied to one of his colleagues on the dispensary. As to the alleged libel in the JOURNAL of April 4th, 1914, he did suggest that any one in Coventry knowing him and reading it would put him in the first class as being associated with the dispensary.

The learned Judge pointed out that the words related to persons who applied to secure the posts, not to those who had got them.

In re-examination, witness said that the cost of drugs at the dispensary was included in costs of management, and the whole balance of the income after payment of expenses, except £29, which went to reserve, went to the medical staff. All members of the dispensary paid a subscription. All club doctors at Coventry were paid by salary. So far as he knew, the £2 a week rule was always enforced. Several dispensary patients had paid him privately, but had kept up their dispensary contributions.

By the Court: He did not think there was anything against the honour and interests of the medical profession in continuing to be associated with the dispensary, nor did he think there was anything objectionable in his being associated with the institution.

Dr. Cornelius William Suckling, Honorary Consulting Physician to the Queen's Hospital at Birmingham, said that in February, 1914, being then a member of the British Medical Association, he saw a patient of Dr. Burke's who was dangerously



11. Having done so, he was asked to explain his conduct by the General Division of the Birmingham Branch, and a letter was a dying case, and he followed the rule of the Association. He got a letter from Dr. Davidson, the Secretary of the Coventry Division, which was practically a censure.

Mr. McCall objected to the letter being referred to as it was not produced, and as he was told there was no such letter.

Witness said he destroyed it. As to its contents, the writer said he was told to see the case if the case although done, mind you—is transferred to another doctor. He subsequently received Rule 26.

In cross-examination he said he wrote to Dr. Burke on April 24th, 1914, saying that he considered he had to deal with canting humbugs; that he had done with the Coventry Division of the British Medical Association. Rule 26 contained this exception: "In circumstances of great urgency, affecting the life of the patient, a member may accord such professional recognition to a practitioner whom he otherwise would not meet, as the necessities of the case require." He had acted on that. He could not say whether the words "even in a dying case, mind you" were in the letter referred to in his evidence in chief, or were an interjection of his own.

Dr. David Holmes, M.B.Ed., L.R.C.S.Ed., who was examined by Mr. Schwabe, said that from 1889 to 1885 he was on the staff of the Birmingham General Dispensary, and then practised at Aston, Birmingham, for twenty years. For reasons of health he sold his practice and went to Lowestoft. In 1907 he became medical officer of a medical institute at Radstock near Bath, and in 1912 he accepted a position on the staff of the Coventry Provident Dispensary. He left Radstock because he was boycotted. He was not and never would be a member of the British Medical Association. Before taking up the post at Coventry he received a warning letter from Dr. Vaughan Pendred, in which it was stated that the boycott had been consistently and successfully enforced. He, however, found nothing derogatory in the conditions at the dispensary except that there was a notice outside the door bearing the names of the medical staff. That was removed by the dispensary authorities after the General Medical Council had been consulted.

By the Court: The dispensary had never, so far as he knew, been otherwise brought to the notice of the General Medical Council. As to lay control at the dispensary, he saw nothing wrong in that, because the medical matters were regulated by the medical committee. As to the boycott, the main thing was the difficulty of getting a consultant; it was like a solicitor not being able to consult a barrister. He also found it difficult to obtain a locum tenent, and was refused attendance at the Coventry and Warwickshire Hospital. Except for the boycott, he knew no reason for the refusal. He had also found it difficult to get patients admitted to the hospital. When the ban was removed pending this action, at the suggestion of the Lord Chief Justice, the difference was enormous. The boycott began about ten years ago. He saw the article in the BRITISH MEDICAL JOURNAL of April 4th, 1914, and took it to refer to the officers of the Coventry Dispensary. He had never been summoned by the Coventry Division to explain his conduct, nor to the Central Ethical Committee.

By the Court: Neither the Coventry doctors nor any Branch of the British Medical Association had ever announced in a concise form their reasons for the boycott so that the public might understand it.

Cross-examined, witness said he left Radstock because of a boycott. He had known of the dispute at Coventry since 1907. He agreed that a dispensary failed of its purpose if it gave medical attendance and care to those who were able to pay the ordinary cost of medical attendance in any considerable numbers. He thought it ridiculous to make it a fundamental principle for a dispensary that every medical practitioner in the district who wished so to act should be a medical officer of the dispensary, provided he conformed to the rules thereof. He saw no objection to the medical staff being in a minority on the committee. There were four out of twenty-eight in this case. A competent and qualified medical man might properly entertain the opinion that there should be a wage limit. The question of eliminating members earning more than £2 a week was never discussed in committee.

By the Court: The question upon the wage limit did not touch professional conduct in the ordinary sense, but the question of remuneration of one or more medical men. Here there was only a small number with more than £2 a week. Some of his dispensary patients used to pay him 2s. 6d. a visit, and there was no rule of the dispensary to prevent his accepting it. He believed the five medical officers had resigned from the dispensary owing to the coercion of the British Medical Association. He did not think he came within any of the four classes mentioned in the alleged libel, but he thought the defendants were referring to him when they spoke of the failures of the profession. In his opinion all the Coventry men except Dr. Harman Brown were animated by spite and ill-will towards him, although, apart from the dispensary question, he had had no quarrel with them.

In re-examination, he said that ill-will against him had been specifically expressed in a letter from Dr. Lowman to Dr. Cox where he said, "The feeling in the Division is quite unanimous, and especially against the men who had taken posts in opposition to their wishes." Practically all the other medical men in Coventry belonged to some other institution.

Mr. Justice McCardie: What is the difference between a private club and a provident institution? A private club is

where a medical man simply has books of his own and they pay to him or to his collector. That is a private medical club.

Ernest Camden Pratt, L.S.A., examined by Mr. Schwabe, said that before he came to Coventry in 1912 he had practised mainly in connexion with friendly societies. He received a letter from Dr. Pendred on his appointment to the dispensary, and he replied, saying that he thought it was conducted more to the advantage of the medical man than the general run of such institutions. He had joined the British Medical Association in 1911 because of the National Insurance Act. On June 6th, 1913, he wrote a long letter to Dr. Cox, pointing out that he considered the British Medical Association were making a mistake in the matter of the dispensary, but saying that he agreed his membership of the Association was incompatible to his then position, and offering to resign from the British Medical Association. His resignation was refused. He subsequently saw Dr. Kenderdine and refused to resign from the dispensary. On June 8th, however, having previously attended a meeting of the Coventry Division, he did say he was willing to resign at the end of the year on the ground that, though he was satisfied with the work and remuneration at the dispensary, it was detrimental to the interests of the medical men at Coventry. By that he meant financial interests. Before he took up his appointment at Coventry, Dr. Kenderdine had told him he would be boycotted, even if he took it on trial for a short period. He found nothing which he considered detrimental to his honour as a medical man in occupying the appointment at the dispensary.

In cross-examination, he admitted he knew the Coventry men objected to the dispensary before he joined it. He did not think it right that medical men should have complete control although they should take part in the management. He agreed that the medical man should have the right to choose his patients and the patients should be entitled to choose their medical attendant. He quite admitted that when he wrote the letter already referred to he thought his position was incompatible, and would not blame other medical men for taking the same view. In October, 1913, he was anxious to return to the British Medical Association. His wife had urged him on social grounds. The Association had refused to let him climb down; in fact, he resigned from the dispensary late in 1917. He did not admit that Dr. Kenderdine came to him merely as a friend, but he did say that as an old friend he desired to save him from the bad opinion of the profession. It was true that on February 4th, 1918, he wrote that he had quarrelled with his colleagues at the dispensary, and that in his opinion they had proved themselves rank outsiders, but he had since changed that view. Difficulties had arisen because the other medical officers had taken over his patients while he was away. He had not gone fully into the facts before forming an opinion, but he could not say he had ever apologized.

(To be continued.)

## Universities and Colleges.

### UNIVERSITY OF CAMBRIDGE.

THE degree of Master in Surgery is now known by the initials M.Ch. instead of M.C. as heretofore, and the initials used in abbreviation for the degree of Bachelor of Surgery have correspondingly been changed from B.C. to B.Ch.

### ROYAL COLLEGE OF PHYSICIANS OF LONDON.

At an ordinary comitia on July 25th, the President, Dr. Norman Moore, being in the chair, the following gentlemen, having passed the required examination, were admitted Members of the College:

Geoffrey Bourne, L.R.C.P., Francis Henry Mosse, L.R.C.P.,  
 Frankston Roberts, M.D.Cantab., L.R.C.P., William Wilks  
 Balziel Thomson, M.D. Helms, John Gratian Wilson, M.B.  
 Louie, L.R.C.P., Cecil Denton Wood, M.B. Oxon.

Licences to practise physic were granted to 73 candidates, and diplomas in public health were granted, in conjunction with the Royal College of Surgeons, to 6 candidates:

S. L. Baker, T. F. Brown, Ganany Han, Mangalanathan Donamick,  
 H. Isaac, E. D. Richard-son, F. L. White.

Officers were elected for the ensuing year; they included as censors Dr. Newton Pitt, Dr. F. W. Mott, F.R.S., Sir Humphry Rolleston, K.C.B., Dr. Raymond H. P. Crawford. Dr. T. Arnold Chaplin was elected Harveian Librarian, in succession to Dr. Norman Moore, who had held the office for many years and resigned it on his election as president. Dr. Leonard Guthrie and Dr. P. Horton-Smith were elected members of council.

A copy of the revised edition of the *Nomenclature of Diseases*, 1918, was received. The thanks of the College were presented to Dr. Leonard Guthrie for his work as secretary of the committee and editor, and he was asked to accept an honorarium of two hundred guineas.

The Moxon medal was awarded to Dr. F. W. Mott, F.R.S. On the recommendation of the adjudicators it was decided not to award the Weber-Parkes prize this year.

The following universities and medical colleges were added to the list of institutions whose graduates in medicine are admissible to the Final Examination of the Examining Board in England, under the conditions of paragraph iv, Section III, of the Regulations—namely: University of Vermont, Burlington; University of Alabama, Mobile, Ala.; Women's Medical College of Pennsylvania; Union University, Albany, N.Y.; University



of Louisville, Ky.; St. Louis University School of Medicine, St. Louis; Long Island College Hospital, Brooklyn, N.Y.; University of Pittsburgh; Medical College of State of South Carolina; Syracuse University, New York.

The following schools were recognized for instruction in chemistry, physics, and biology, or in one or other of these subjects: Leeds Grammar School, Downside College, Royal Masonic School, Bushey; Shrewsbury School, Merchant Taylor's School, Crosby; Barry Intermediate School.

#### ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary council was held on July 25th, when Sir George Makins, president, was in the chair.

Diplomas of membership were granted to 70 candidates found qualified at the recent examination.

A further donation of fifty guineas was made to the Belgian Doctors' and Pharmacists' Relief Fund.

Mr. R. Lawford Knaggs was elected a member of the Court of Examiners in Dental Surgery in the vacancy occasioned by the retirement of Mr. W. G. Spencer.

## Medical News.

DR. A. LINNELL of Paulerspury has been unanimously elected chairman of the Northamptonshire Insurance Committee.

CAPTAIN MORRIS JONES, M.C., R.A.M.C., of Colwyn Bay, has been appointed to the Commission of the Peace for the county of Denbigh.

At the instance of the Ministry of Food, arrangements have been made by the Local Government Board and the Board of Agriculture conferring on local authorities power to make rat destruction regulations, and to supervise their execution. It is proposed to rely chiefly on poisoning, and the Treasury is to contribute towards the cost, which it is believed will not be great.

OWING to a recent improvement in the situation the Ministry of Munitions of War is now in a position to release quantities of calcium carbide for public purposes on a somewhat more lenient basis. The Department therefore considers it unnecessary to continue to refer applications from medical practitioners to the British Medical Association for recommendation, and has thanked the Association for the very valuable assistance which it has rendered in this matter. Medical practitioners who experience any difficulty in obtaining supplies of calcium carbide should now communicate direct with the Controller of Non-Ferrous Material Supplies, Ministry of Munitions of War, 8, Northumberland Avenue, London, W.C.2.

AN Officers' University and Technical Training Committee has been appointed by the Boards of Agriculture and Education, the Minister of Labour, and the Minister of Pensions to advise as to what courses of education and training it may be desirable to arrange for the benefit of officers and ex-officers of his Majesty's Forces and men of like standing, particularly with a view to fitting them for suitable employment after the war; it will consider any general questions arising in connexion with such education and training, and, when necessary, will advise individual officers as to suitable courses of training. The chairman of the committee is Lieut.-General Sir Alfred Keogh, G.C.B., and among the members is Sir William J. Collins, M.P.

THE Food Controller has announced that he is prepared to grant licences for the purchase and sale of milk of greater purity than the ordinary supply at prices higher than those fixed in the milk Order for the time being in force. Two grades of this higher quality have been arranged by the Local Government Boards for England and Wales and for Scotland respectively. Grade A is milk produced under exceptionally clean and hygienic conditions from a herd free from tuberculosis, and immediately bottled in sterilized bottles on the premises where it is produced, in such manner that the lip of the bottle is entirely covered. Grade B is milk produced under specially clean conditions from a herd free from tuberculosis. In the case of Grade A the price, wholesale or retail, in excess of the maximum prices permitted by the milk Order shall not exceed 4d. per imperial quart bottle and 3d. per imperial pint bottle. The price in excess of the milk maximum prices permitted by the Order in the case of Grade B must not exceed 4d. per imperial gallon when sold retail, 3d. per imperial gallon when sold wholesale by the producer, and 3½d. when sold wholesale by any person other than the producer. A full statement of the conditions can be obtained from the Secretary, Milk Section, Ministry of Food, London County Hall, Westminster Bridge Road, S.E.1.

## Letters, Notes, and Answers.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Atiology*, Westrand, London; telephone, 2631, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Mediseera*, Westrand, London; telephone, 2674, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin. The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### LETTERS, NOTES, ETC.

#### INCOME TAX.

J. A. inquires as to the legal authority for claiming to have allowances for life assurance, abatement, etc., set against civil income instead of against "pay" taxable at the reduced "service" rates.

\* \* This is provided for specifically by Section 11 (a) of the Finance Act, 1917, and is continued by the current Finance Act; for the years up to and including the financial year 1916-17, the allowances had to be made from the "pay" first and the civil income next, and, as our correspondent realizes, the reversal of that rule for 1917-18 and future years carries an appreciable benefit. We may add that the rule extends even to civil unearned income in preference to "pay," the order for the allowance being, civil earned, civil unearned, and lastly "pay."

G. R. P. inquires as to the position of civilian medical practitioners in receipt of army pay for work on medical boards, V.A.D. hospitals, etc., with regard to the special service rates.

\* \* Section 30 (1) of the Finance Act of 1916 restricts the application of the special service rates of tax to "any person who has served or is serving as a member of any of the naval or military forces of the Crown, or in service of a naval or military character in connexion with the present war for which payment is made out of money provided by Parliament, or in any work abroad of the British Red Cross Society or the St. John Ambulance Association or any other body with similar objects." As regards the V.A.D. hospitals, the work referred to by our correspondent is presumably not "abroad," and so far as medical board work is concerned it would seem that the authorities regard this as of a civilian rather than of a military character, probably because it does not carry liability to military discipline.

#### MEDICAL SICKNESS AND ACCIDENT SOCIETY.

DR. A. WITHERS GREEN (Wardrobe Place, E.C.) writes: For the past few weeks letters have appeared complaining of the action of the Medical Sickness, Annuity, and Life Assurance Friendly Society in deciding to withhold, after the end of 1918, the bonus from members reaching the age of 65. From inquiries at the office it can be learnt that this action has been due to war conditions and appears to be quite wise and necessary. It would be much more reasonable if members, instead of complaining in a public journal, were to obtain first-hand information from the office of their society, 300, High Holborn, London, W.C.1.

All members received the thirty-fifth report and statement of accounts before the annual meeting was held, in which, at the last paragraph, the actuary (Mr. S. G. Warner) definitely recommends that the remaining Sickness Fund surplus should be left untouched after the end of 1918, on account of the entirely exceptional circumstances brought about by the large number of war injuries and sickness which may become claims on the Sickness Fund on the return of the invalids to this country.

### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	...	...	0 0 0
Each additional line	...	...	0 0 9
Whole single column	...	...	4 0 0
Whole page	...	...	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.



## A Lecture

ON

TREATMENT OF THE WOUNDED IN THE  
AID POSTS AND FIELD AMBULANCES.GIVEN TO THE MEDICAL OFFICERS OF AN AMERICAN  
DIVISION,By S. MAYNARD SMITH, C.B., COLONEL A.M.S.,  
CONSULTING SURGEON, BRITISH EXPEDITIONARY FORCE.

## IMPORTANCE OF FIRST-AID WORK.

It is perhaps natural that articles in the medical journals should have dealt almost entirely with the comparatively finished surgery of the clearing stations and base hospitals. The surgery of first aid is not a subject in which the profession generally has interested itself. Abdominal and chest surgery, for instance, lend themselves more to literature than the efforts of the regimental or field ambulance officer. At one time there was a real danger that insufficient effort might be given to developing and encouraging the surgical work of the fighting line. But the keenness and devotion of many officers with divisions has saved the situation, and the improvement effected in the surgery of the forward units is just as striking a feature of the medical history of the war as that which has taken place in the clearing stations and base hospitals abroad and in England. The improvement in forward work is strikingly reflected in the condition in which the wounded reach the clearing stations. My attention was drawn at a unit at home to the fact that whereas at one time the arrival of a double leg amputation was a rarity, now there were a large number of such cases awaiting artificial limbs. Improvement in the treatment of shock, and surgical treatment generally, has, of course much to do with this, but I am inclined to attribute a large share of the credit to the work of the regimental and field ambulance officer. In many a case the question whether a wounded man can have a chance of survival has been settled by the treatment adopted before the ambulance convoy deposits him at the clearing station. In all that follows I am telling you methods which have for the most part been devised by officers who have spent their service in forward units, and what I shall say is largely what I have learnt in visiting those units.

## GENERAL PRINCIPLES.

In surgical work at forward units it is necessary to have clearly in mind what surgical aims one has in view: what it is possible to do in dealing with a wound; what is impossible, and therefore waste of time to attempt. In laying down the general principles which govern the treatment of wounded at the aid posts and field ambulances, it is essential to consider briefly the whole question of the treatment of the wounded as it now stands.

In the conditions of warfare existing on the western front the great majority of the wounds met with are severely lacerated, the soft tissues are extensively crushed and devitalized. Such wounds are heavily infected, not only with the ordinary pathogenic organisms but also with the anaerobes of gas gangrene and gas cellulitis. Fragments of shell or bomb and pieces of clothing, or masses of mud, carried in by the missile, are frequently present in the wound. Varying in proportion with the character of the fighting, clean through-and-through bullet wounds are met with. Even bullets, especially when striking bones at short range or when splitting into myriads of fragments through hitting accoutrements or ricocheting from hard objects, produce wounds which possess all the grave characteristics of those caused by large fragments of shell.

The results in the early days of the war of treating wounds of this nature by simple aseptic or antiseptic dressings, on the lines adopted in South Africa, caused a rude awakening. In the first place tetanus was rife; the routine administration of antitetanic serum had an immediate effect in controlling the incidence of this disease. In the second place, anaerobic infections of the nature of gas cellulitis and gas gangrene—conditions almost unknown to us in civil practice—were nearly universal complications of bad wounds. The measures first adopted, of free opening and drainage, and the avoidance of constriction and undue pressure, had but little effect in the prevention of gaseous

infections. Attempts at disinfection in the forward area by pastes and strong chemical antiseptics were notoriously unsuccessful. Almost all severe wounds became infected and foul. Deaths were frequent, and prolonged and painful convalescence the rule.

*Excision of Damaged Tissue.*

Not much progress was made until it became recognized that all but trivial superficial wounds or clean through-and-through bullet wounds need an early and complete cleansing operation—an operation which involves the free exposure of all the recesses of the wound; the removal of all missiles, clothing, dirt, and debris; the methodical excision of damaged muscle and fascia and the paring of damaged skin edges. This operation must be performed with surroundings permitting of care and thoroughness, with proper aseptic ritual, by surgeons experienced in the technique, and in places where patients, if necessary, may be retained for a short period. It was found that when this operation had been efficiently performed wounds ran a course free from complications; that secondary suture was possible in many at an early date; and finally that, under certain circumstances, many wounds could be sewn up right away, and would heal much as the clean operation wound of civil practice. It is now everywhere recognized that this operation is the factor in deciding between severe infection, prolonged illness, and eventual crippling on the one hand, and an aseptic course, rapid convalescence, and a minimum of disablement on the other. This operation may conveniently be termed the excision of the wound. When is it to be performed? Certainly as soon after the infliction of the wound as possible. The longer the delay the greater the chance of established infection. Where? You have not the necessary appliances, theatres, personnel, and accommodation in the forward units. Special hospitals are provided for the purpose, as near the line as possible. We call them Casualty Clearing Stations. Your work, then, will consist in getting your wounded back as soon as possible, and as fit as possible for the further treatment necessary.

*Summary of General Principles.*

Having these facts in mind, one may now summarize the general principles which govern forward unit work as follows:

1. Get the wounded back to the clearing station as soon as you can.
2. Dress the wound once carefully; afterwards do not disturb the dressings unless they have slipped or unless there is bleeding.
3. Take measures to avoid shock; if it has already supervened, take measures to treat it.
4. Efficiently splint all fractures.
5. Arrest haemorrhage.
6. Take any special measures needed in special cases.

*Rapid Evacuation.*

This calls for qualities of organization, endurance, devotion, and courage. It is not a surgical problem. Yet perhaps I may be allowed to say these words: Success in regimental and field ambulance work depends at least as much on what is done to meet the rush beforehand as on the actual conduct of affairs at the time. Forethought and organization are all-important. Every man in a unit should know what is expected of him, and should be trained to carry out his particular job. A wounded man passes through one of the larger units in much the way that a piece of metal passes from department to department of a factory till it emerges the finished article. Records have to be taken, antitetanic serum given, food or drink administered, the wound dressed, splints applied, the patient warmed and packed up for transport. Often this has to be done under circumstances of almost intolerable difficulty. The difficulties can only be surmounted by organization of the machine beforehand, so that each man does his job and confusion is avoided. "Team work" is essential. To see a Thomas's splint applied to a fractured femur by a well-drilled team is a revelation to the inexperienced.

*Dressing the Wound.*

Dressings must be ready beforehand. Gauze should be cut up into 6-inch squares and sterilized. The best way, I think, of doing this is to boil the gauze in a marmite. The excess water is drained away, and, when cool, the



gauze is covered with eusol. When needed for use the eusol is drained off, and the gauze is ready for use. Roller bandages are laid out ready to hand. The triangular bandage is of great value, and all your orderlies should be trained in its application.

The field or shell dressing will have been applied usually by unskilled hands. It is liable to be dirty and tight. You should therefore remove it and do one careful dressing. It is not possible for you to have clean hands. Rubber gloves are out of the question, but if you will practise sufficiently you will find that forceps can do the whole work without your hands having to touch either the wound or the dressings which are to be in immediate contact with it. Pairs of sterilized forceps standing in glasses of antiseptic should be at each dressing "dump." The wound itself is temporarily covered with gauze; the skin around is then washed and painted with picric acid (3 per cent.) in spirit. (Iodine is liable to blister, and when combined with cyanide gauze causes serious burns.) The wound is then uncovered, obvious dirt or foreign bodies are removed, and the surface of the wound swabbed over with eusol. No attempt should be made to clean out the depths of the wound or to syringe or irrigate. Attempts to delay or avoid infection by the injection into wounds of fluids or pastes are futile. You are more likely to spread infection to previously uncontaminated areas. You will waste valuable time. You will disturb clots and restart bleeding. You only need to see a few wounds opened up at the clearing station to realize how impossible of realization is the first-aid disinfection of lacerated shell wounds. The wound is finally covered with gauze and wool and bandaged.

#### Shock.

I can do no more than touch on the practical aspect of this wide subject as far as it affects your forward work. It is convenient to speak of primary and secondary shock.

*Primary shock* ensues practically immediately on the receipt of a severe wound. It is not possible for you to avoid its occurrence. If adequate means be taken to combat it, the patient may recover from it and secondary shock may not follow. In the worst cases, or where no treatment has been available, it passes into a condition of secondary shock, with or without a period of rallying and partial recovery.

*Secondary shock* comes on later. It may be a sequel to primary shock or come on *de novo*. It is produced by various factors, which will be spoken of, and to a considerable extent may be avoided if adequate treatment is possible.

The factors which cause primary shock to pass into secondary shock, and those which cause secondary shock, are largely identical. They are—cold and exposure, lack of food and drink, haemorrhage, pain and disturbance. The onset of sepsis aggravates and perpetuates the condition. A condition of acidosis is often present, and further research on this point is being carried out. Cold and exposure are, of course, in part inevitable, but much can be done to avoid them. The warm stretcher is well known in our service, and is used even in many aid posts. (A demonstration was given of this and a practical method of warming blankets at a field ambulance shown.) Improvised hot-water bottles are widely employed, and our ambulance cars are warmed by the exhaust pipe. When circumstances allow, and it is possible to do it in reasonable warmth and shelter, the wet clothes may be changed. During one severe action every one of the badly wounded in a certain division were sent down in dry warm clothing with hot-water bottles applied, without delaying evacuation. The circumstances were exceptional, but I quote this as an example of what can be done when determination exists to get as near the ideal as the military situation permits. Hot drinks should be given. Hot tea is the favourite with our men. With a view to combating acidosis, a teaspoonful of bicarbonate of soda is sometimes added. Of all factors concerned in shock perhaps haemorrhage is the most potent. Every effort must be made to reduce it to a minimum. Remember that every change of dressing starts oozing afresh. In the avoidance of pain, the importance of efficient splinting cannot be overrated. Not only fractures, but also extensive lacerated flesh wounds of the extremities should be splinted. Morphine is of great value. It should not, however, be given indiscriminately, and the dose needs careful regulation. A good deal of

difference of opinion has existed on this point, but the view of those best qualified to judge is becoming unanimous, that a dose of  $\frac{1}{4}$  grain should seldom be exceeded. The question of the more active treatment of shock, in the forward area, by intravenous injections has been studied for a long time. Injection of normal saline is generally held to be too transitory in its effect to be of much value in helping a badly shocked man over his journey back. We are now investigating the effect of a solution of gum and sodium bicarbonate in the forward units. As might have been expected, it is in cases where there has been much haemorrhage that the effects have been most favourable. Since the technique is rapid and easy it may be that intravenous injections will become a recognized feature of field ambulance work. Transfusion of blood, the most effective form of treatment we have at present, I am not discussing, as its employment in front of a clearing station is hardly ever a practicable matter. Attempts have recently, however, been made to employ preserved blood for the purpose.

#### Fractures.

Allusion has already been made to the shock produced in fractures of the larger bones. Transport with fractures imperfectly splinted is a great feature in increasing and producing shock. The condition of a man with a fractured femur at the end of a journey without a splint is pitiable. One of the most striking things in war surgery is the improvement in the condition of fractured femurs arriving at the clearing stations since the adoption of the Thomas splint in front line work. Every fracture should be immobilized as far forward as possible. This is very often possible at the aid post. Failing this, it should be done at the advanced dressing station. The fewer and simpler the varieties of splints used the better.

For all fractures of the femur, serious fractures involving the knee-joint, and fractures of the upper part of the tibia, the Thomas splint should be used, with an extension applied over the boot, which should not be removed. (A demonstration was given of the first-aid application of the Thomas splint.) In those rare cases where the ring of the Thomas would press on the wound, a long outside splint must be substituted.

For fractures of the middle and lower third of the leg, and for those of the ankle and tarsus, a back splint with footpiece is efficient, provided always that side splints are used with it. Otherwise the heel slips out, and the splint becomes useless.

Fractures of the humerus are not easy to splint effectually. If the lower end of the bone is broken, an internal angular splint, or the variety of this with a posterior splint fixed on like a shutter, is efficient and simple. If the fracture is in the middle or upper third no internal angular splint can come high enough into the axilla to get any useful grip on the top fragment. After much trial and discussion with front line officers I have come to the conclusion that the best method is to use the thorax as a splint for the arm. A wool pad is placed in the axilla, the whole upper arm is then bandaged to the chest, a piece of Gooch's splinting being applied to the outer side of the arm, reaching from the acromion to the outer condyle. The wrist is supported by a sling. Of course you will understand that I am dealing only with transport as far as the clearing station.

For fractures of the radius and ulna the internal angular splint is used, with a straight splint for the back of the forearm. For those close to the wrist straight splints to the front and back of the forearm suffice. In all these fractures the sling should reach as far as the fingers, so as to support the hand.

#### Haemorrhage.

*The Tourniquet.*—In speaking of haemorrhage one is at once up against the much-discussed question of the tourniquet. Properly used, the tourniquet at times saves a life. Improperly used, it is a frequent cause of loss of life and limb. Its use is seldom justifiable, and then only as a temporary measure for the arrest of serious bleeding until the wounded man can be got to a place where the arrest of haemorrhage by the recognized surgical methods can be carried out. You should remember that some form of emergency tourniquet may have been applied by a comrade or stretcher-bearer. In the rush of heavy fighting it is easy to miss such a tourniquet hidden by the man's clothing or the corner of a blanket. Being warned of the



possibility, one should not do so. In patients getting back as far as the clearing station with tourniquets applied, death of the limb from interruption of the circulation is almost invariable. Even if this does not occur, the cutting off of the blood supply from an area of smashed muscle provides all the ideal conditions for the development of gas gangrene.

Other measures than the tourniquet should therefore be adopted, and if for some reason a tourniquet has been applied it is the duty of every medical officer through whose hands the case passes to remove it. In most cases there will be no bleeding. If, however, bleeding recommences, then the following methods should be employed:

1. In many cases the obvious source is exposed in the wound and may be seized with pressure forceps and ligatured. This is the ideal.

2. In other cases blood may be seen welling from a deep recess of the wound. Pressure forceps are applied in that area and the bleeding ceases. To apply a ligature over the forceps may need a free opening up and present difficulties. In this case it is best to leave the forceps on and pack round with gauze. The patient is sent on with the forceps in situ.

3. If neither of these methods is applicable pressure must be obtained by packing the wound. But it is essential that the pack really presses on the bleeding point. It is no use packing gauze through a small aperture into a big lacerated cavity. The pack must be cone-shaped, with its apex at the source of haemorrhage. If the wound aperture be small it must be enlarged by slitting up the skin and fascia. No anaesthetic should be used. The pain caused is not great, particularly if the incision has been made in a distal direction where the nerve supply has been interrupted by the injury. Gauze is then packed firmly into the wound and a pad placed over it. Firm pressure is made with a bandage, but a wide wooden splint should always be applied to the opposite side of the limb before the bandage is applied, in order to avoid constriction of the extremity.

#### Special Cases.

*Penetrating Abdominal Wounds.*—These should be sent by the shortest route to the clearing station. The mortality varies directly with the number of hours which intervenes between the receipt of the wound and operation. It is important to realize that not only wounds with their entrances in the abdominal wall, but also wounds of the back, buttock, hip, groin, and lower chest, are potential "perforating abdomens." Shock, out of proportion to the external appearance of the wound, pain in the abdomen, rigidity—especially in regions remote from the wound—and vomiting, point to the likelihood of an abdominal lesion. Any case in which suspicion exists should be sent on at once.

*Penetrating Chest Wounds.*—An injection of morphine should be given. This lessens the respiratory distress. The patient should be placed in the position of greatest comfort, which is usually the semi-recumbent posture. While it may be an advantage to keep a bad case for a time to allow him to tide over his initial shock, the general rule is to send cases back as soon as they are fit to travel. In dressing the wound, it is important to avoid the interference with the free play of the uninjured side of the chest caused by an encircling bandage. Use strapping when possible. There is one class of chest wound that needs special attention. The wound in the parietes may remain open so that air is sucked in and out with respiration, or the blood collected in the pleural cavity may be leaking away through the external aperture. "Sucking pneumothorax" and "leaking haemothorax" are convenient terms for these conditions. In the first the respiratory embarrassment is extreme, and the patient's condition desperate from the start. In the latter, so long as there is a free external leak, internal bleeding is likely to continue. In both infection is certain if the condition continues. In both types of case the wound should be closed before the patient is sent on. Stout sutures inserted with large curved needles are used. A good grip should be obtained of skin and muscle. If the gap be large, a piece of gauze should be laid in the wound and the stitches tied over this. When for any reason suture of the wound is impracticable, the wound should be plugged with gauze, and strapping applied over it in the manner employed in strapping a broken rib.

It should be practicable thus to render the wound airtight. The improvement in a patient's condition brought about by suturing a sucking pneumothorax is immediate and dramatic.

*Penetrating Wounds of the Knee joint.*—Great care must be taken to splint all cases in which joint injury is suspected. It is easy to diagnose a wound of the knee-joint when the synovial cavity is distended with blood or effusion. It is very easy to miss such a case at an early stage, when there is nothing to see but a small entry wound in the lower part of the thigh. The matter is, however, of great moment. A knee-joint into which a missile has carried infection, is much less likely to run an aseptic course after operation if distension of the synovial cavity has opened up all its recesses to the scattering of infected material. Failure to splint favours bleeding, effusion, and distension. The unrecognized knee case sent down "walking" does badly. It is a safe rule to splint all penetrating wounds near the knee.

*The Field Medical Cards.*—In conclusion I should like to say a word about this card. It forms the means by which you are enabled to communicate to the unit behind you any information which may be useful in the further treatment of the case. Look at it from this point of view: "If I were in the unit behind, what information should I like to have about the previous history of this case?" Put that down on the field medical card. In most cases nothing is needed but your diagnosis. Above all write legibly. Put the important wound or wounds first and be precise. "G.S.W. abdomen, arm, both legs," may mean anything. It may mean "G.S.W. abdomen perforating, also arm, right thigh, left leg." It may mean "G.S.W. fracture right femur also abdominal wall, left arm, left leg"; or again, "G.S.W. fracture left tibia, right knee-joint, also abdominal wall, arm." Note the occurrence of serious bleeding and the means taken to arrest it. Note such a thing as a sucking pneumothorax. Note the dose of morphine in the special space, and the administration of antitetanic serum. In short, try to help the man behind you. He will be grateful, although perhaps, at times, he may seem to lack exuberance in showing it.

## ON GUNSHOT WOUNDS OF THE HEAD.\*

BY

T. O. GRAHAM, M.D., D.P.H., F.R.C.S.I.,

MAJOR R.A.M.C.(S.R.).

DURING ten months' experience at a general hospital nearly 500 cases of gunshot wounds of the head have passed through my hands. Whilst very encouraging results have been obtained in many instances in which extensive damage to cranium and brain had occurred, I have to admit that in about 50 per cent. of those cases in which the dura was opened by depressed or indriven fragments of bone, by the missile, or subsequently opened at operation, death ensued; but, so far as I have been able to ascertain, my results compare favourably as regards mortality with those obtained by others engaged in operating on head injuries of war.

Cranial injuries may be classed in two main categories, according as the dura remains intact or is opened and penetrated.

In my series of 500 cases in which trephining had to be resorted to, the mortality was less than 10 per cent. where the dura was intact, and just over 50 per cent. in those in which the dura was penetrated.

#### ANAESTHESIA.

It has become my practice to operate under local anaesthesia in nearly all cases. Two-thirds of a grain of omnopon is injected hypodermically half an hour before operation. When the patient is on the operating table, 2 per cent. novocain and adrenalin is injected into the scalp in a complete circle of infiltration all around the area to be operated on. In this way a circumferential zone of "blocked" nerves is produced. The conscious patient feels no pain either while excising the infected scalp wound, trephining or nibbling away the bone, incising the dura,

\* Being a paper read at the Boulogne Base Medical Society, August 24th, 1917.



or removing fragments of bone and metal from the disintegrated brain track. Moreover, this "barrage" infiltration method affords efficient haemostasis during operation, and there are no post-operative ill effects, such as restlessness and vomiting, which are so frequent after general anaesthesia. The patient can also be made to sit up in bed immediately after the operation. Recently I have only had to have recourse to general anaesthesia when the patient was very restless and semi-conscious.

#### THE OPERATIVE PROCEDURES.

In all cases it is essential that the lacerated scalp wound should be freely excised, in order to ensure an area as free from sepsis as possible for further intracranial interference. In most cases these further measures may be proceeded with by simply extending the original excised scalp wound and retracting the edges of the elliptical incision so produced. A wider area of bone may be exposed by a lateral incision at right angles to the ellipse, thus producing a triradiate incision. In some cases it may be preferable to turn down a wide flap denuding the bone of its pericranium. The subsequent measures to be adopted will be indicated by: (a) The findings of previous stereoscopic x-ray plates. In this connexion I cannot speak too highly of Captain H. E. Gamlen's x-ray work in cranial radiography. To him I am indebted for much valuable assistance. (b) The symptoms presented by the patient as elicited by careful neurological examination. In these neurological examinations I have fortunately enjoyed the advantage of the expert advice and guidance of Lieut.-Colonel Gordon Holmes, C.M.G. (c) The actual local findings in the wound and track in the brain at the time of operation.

Each case must be treated on its merits. It will be well to discuss the lines of treatment which I have followed in dealing with the following types of injuries.

##### 1. *Fissured Fractures without Depression.*

In fissured fractures without depression it is only necessary to trephine in those cases in which the patient has exhibited definite neurological symptoms, such as Jacksonian twitchings or signs of increasing intracranial pressure—for example, severe headache, vomiting, increasing optic neuritis, and slow pulse. In such cases a decompression operation is performed and extradural clot removed, haemorrhage, if continuing, being appropriately dealt with.

If the dura is undamaged, in my opinion it should not be opened unless there are indications of large intradural clot, and even then the risk of opening the dura and courting disaster by infecting the subarachnoid space with contaminating sepsis from the wound probably more than counterbalances the risk to the patient's life of leaving the clot to absorb spontaneously if decompression has been efficiently performed by removal of bone and subsequent lumbar puncture. I have been driven to this conclusion as the result of a very sad experience. In my misdirected enthusiasm, engendered by an article written by a heroic cranial surgeon, I opened the dura in a few cases where there was an obvious clot under the dura, with disastrous fatal results.

That the scarring resulting from the absorption and organization of clot and disintegrated brain is more prone to produce epilepsy than the scarring of an open brain track is not proved.

##### 2. *Depressed Fractures without Injury to the Dura.*

Very much the same line of treatment may be adopted where very slight depressions of the inner table have been shown by x rays. Masterly inactivity should be advocated, particularly in those cases in which the outer table is not depressed, and where it is morally certain that no injury to the dura exists. When extensive depression of all tables has occurred and the patient suffers from severe headache, increasing optic neuritis and vomiting, accompanied perhaps by focal symptoms of twitchings or loss of sensation, hemianopia, and so forth, it is advisable to remove the depressed bone, some of which may be elevated and replaced. Should there be a rent in the dura, with free escape of cerebro-spinal fluid, this may be arrested by the application of a muscle graft to the tear. This will seal it off completely.

##### 3. *Depressed Fractures with Injury to the Dura by Indriven Fragments of Bone.*

If the x rays have demonstrated the presence of depressed bone with indriven fragments in the brain, and consequently perforation of the dura, it is usually my practice to trephine just clear of the depressed area, remove the depressed bone by nibbling with a large laminectomy forceps or De Vilbi's forceps all round the hole in the bone, so as to expose the healthy dura for at least a quarter of an inch around the dural opening. The brain track is then cleared of indriven bony fragments, disintegrated brain matter, and clot. The hole in the bone and the dura may be covered over by a pericranial roof. The scalp wound is then tightly sewn up, a small lateral rubber glove drain being introduced under the scalp down to but not into the dural opening. A direct drainage tube of metal, celluloid, or rubber need only be inserted into the brain track in those cases in which marked sepsis of the track is evident or suspected, or has been demonstrated by bacteriological examination. In the removal of indriven bone from the brain track the greatest possible care and gentleness must be exercised in order to avoid further injury to the brain, and to obviate the risk of opening up protective adhesions of the subarachnoid space, and lighting up a spreading purulent meningitis. Moreover, there is a grave danger of opening into the lateral ventricle, which tends to bulge out towards the softened and yielding necrotic brain.

The dura should be treated with the greatest respect. I feel certain that the less interference with, and trimming of, the dura, the less will be the danger of hernia cerebri and meningitis.

A finger may be introduced gently through the hole in the dura into the brain track to feel for fragments of bone, which may be picked out with a pair of dissecting forceps, the intracranial pressure being sufficient to drive many of the smaller pieces, and most of the disintegrated and softened brain substance and clot. (At the discussion which followed this paper Major Harvey Cushing suggested the use of the soft rubber catheter as a sound for detecting fragments of bone. I have employed the catheter, and find that it acts as a satisfactory and efficient sound.)

##### 4. *Penetrating Wounds with Retained Missile in the Brain.*

It may be taken as an axiom that the missile will almost invariably be found to occupy the deepest recess of the brain track, having passed in more deeply than the indriven fragments of bone.

To the question whether all missiles should be removed the answer is unquestionably "No." Some are too large, some are too small, some too inaccessible. As a result of Sargent's and Gordon Holmes's investigations into the after-results of cranial injuries, it has been shown that many patients with missiles retained deeply in the brain recover, and are not more liable to serious complications than men whose brains have been lacerated and have not retained foreign bodies. An abscess if it develops usually occurs round a retained infected bony fragment in the track rather than round the missile. If the metal can be easily removed without any further destruction to the brain tissue than that already produced by its entrance it should certainly be extracted. If it is lying deeply in the brain—for example, in the pons—or has passed through the lateral ventricle in its course, its removal should not be attempted. Surgical intervention in such cases is usually attended with very ill results.

##### 5. *Perforating Wounds through the Brain.*

In the through-and-through perforating wound of the brain, if the bullet has passed through the frontal region from side to side, the entry and exit wounds should be excised and the routine toilet of the bone and dura carried out, indriven bony fragments being removed. The wounds may then be sutured up and drained by lateral glove or tube drains.

A through-and-through wound from side to side through both hemispheres in the parietal region has not reached me at the base hospital. If such a case did arrive so far I should be very conservative, and do little more than excise the infected scalp wounds. In two cases in which the missile had passed through one hemisphere I have adopted more heroic methods, and have attempted to



perform a more radical trephining operation. Both patients died with spreading septic encephalitis, which burst into the lateral ventricle and purulent meningitis.

#### HAEMORRHAGE FROM MENINGEAL VESSELS AND SINUSES.

Any of the above types of head injury may be associated with haemorrhage from the meningeal vessels or from the larger venous sinuses. So far as possible, the haemorrhage is arrested by means of a muscle graft taken from an uninfected area. In the case of larger sinuses the piece of clean muscle excised from an uninfected area is plugged into the lumen of the sinus. The sinus may be compressed by introducing a gauze plug between the dura and the inner surface of the skull. Since employing the muscle-graft method I have not found it necessary to insert gauze into a vessel to arrest haemorrhage, and for some considerable time I have not passed a ligature through the dura to tie a bleeding vessel, thanks to the efficiency of the muscle graft when applied to the surface of the dura over the torn vessel.

#### COMPLICATIONS OF TREPHINING.

Only one or two of the subsequent complications of trephining will be dealt with. Herniation and meningitis naturally suggest themselves as the most common sequelae in the patients while they remain at the base hospital. Septic infection is the common cause. The treatment in each case is partly similar. The fundamental cause of serious herniation being undoubtedly septic infection of the brain substance, every possible precaution must be taken to avoid the introduction of infection, and when the brain is once infected to provide for efficient drainage. The careful toilet of the scalp wound and the complete removal of all infected and damaged tissue is therefore essential before trephining. The liability to the development of a fungus cerebri if the dura is opened and encephalitis ensues, is to my mind one of the strongest arguments against incising an intact dura, or enlarging the hole of an already opened dura. This lesson has been impressed upon me by my failures.

The extent of the hernia will depend upon the amount of infection, and be proportional to the size of the hole in the dura.

In order to diminish the tendency to herniation, and to bring the effect of gravity to our assistance in the treatment of hernia cerebri when it has developed, the patient should as far as possible be made to sit up in bed with a back rest. The patient should be kept quiet by the administration of bromides, chloral, or morphine. Lumbar puncture should be repeatedly resorted to. This may be performed under novocain local anaesthesia in most cases. It is highly undesirable to administer a general anaesthetic daily to a man who is already very seriously ill when a harmless local anaesthetic can be employed and is found efficient.

The amount of cerebro-spinal fluid drawn off averages about half an ounce. It should be withdrawn slowly, lest too rapid a reduction of the intraventricular pressure should cause an involution of the hernia with breaking down of subarachnoid adhesions. This may lead to a fulminating purulent meningitis.

It is dangerous to attempt to remove any of the hernia, owing to the very real risk of opening into a diverticulum of the lateral ventricle, which frequently protrudes into the herniated brain. The hernia should be protected with a ring pad, and kept as clean as possible. If the hernia is of moderately firm consistence, light bandage pressure may be applied to the surface.

Many of the measures adopted to prevent herniation apply equally in the obviation of meningitis—namely, removal of infected scalp and dirt, abstention from incising the dura unnecessarily, and careful treatment of the margins of the rent in the dura where it exists, to avoid breaking down recently formed adhesions in the subarachnoid space.

Urotropin in large doses may be given as a routine with a view to rendering the cerebro-spinal fluid sterile. Even when definite meningitis has become established it may be combated by repeated lumbar puncture. I have had several cases in which Captain H. Henry has demonstrated the presence of streptococci, staphylococci, and *B. pyrogenus* in the cerebro-spinal fluid, which have made a good

recovery, although definite clinical signs of meningitis had developed.

I have not had sufficient experience of the treatment of intracerebral abscess as the result of gunshot wounds to pronounce any definite opinion thereon.

The subject of epilepsy will also be better dealt with by those who have seen the cases after they arrive in England!

#### CONCLUSIONS.

There are a few fundamental principles which, I think, should be followed in the treatment of cranial injuries:

1. Two stereoscopic x-ray plates are essential for accurate localization.
2. Careful neurological examination will often elicit signs and symptoms which will guide in operative treatment.
3. All cases should be operated upon early, before marked sepsis has intervened. The special "head centres" at a casualty clearing station provide for early operative treatment.
4. The dura should be treated with respect, and the risk of hernia cerebri and meningitis when the dura is opened always borne in mind. The dura should be incised only when urgent symptoms demand it, and not merely to avoid phantom symptoms which may never arise. Headache and a mild degree of optic neuritis, unless increasing in intensity, are not necessarily indications by themselves.
5. An attempt to remove foreign bodies should be made only in the case of those easily accessible. By "accessible" I mean those which can be removed without producing greater damage to the brain than that already created by the entry of the missile.

## TRAUMATIC ANEURYSM OF THE LEFT SUBCLAVIAN ARTERY:

SUCCESSFUL LIGATION AT THE JUNCTION OF THE FIRST AND SECOND PORTIONS.

BY

J. SINCLAIR WHITE, M.Ch., F.R.C.S.,

LIEUT.-COLONEL (R.A.M.C.):

3RD NORTHERN GENERAL HOSPITAL, SENIOR SURGEON TO THE SHEFFIELD ROYAL INFIRMARY; PROFESSOR OF SURGERY, SHEFFIELD UNIVERSITY.

THE treatment of aneurysm of the left subclavian artery by ligation of the vessel always presents considerable difficulties, which are the greater the nearer the ligation is applied to the origin of the artery. From the experience of the following case I have been led to draw certain conclusions, which are set out at the end of the report.

Pte. M., aged 35 years, sustained a gunshot wound of the chest on August 16th, 1917, at Ypres. The bullet entered behind to the left of the third dorsal vertebra and escaped just above the clavicle at a point corresponding to the junction of the middle and inner thirds of the bone. He spat blood for a day or two afterwards, but the wound progressed favourably, and on August 30th he was transferred to England. By September 3rd his wound was soundly healed. There was partial paralysis of the left deltoid muscle, for which daily massage and galvanism were prescribed. He continued to pick up until November 16th, when a pulsating swelling appeared at the root of the neck. It had all the characters of an aneurysm, and as it steadily increased in size, Colonel A. M. Connell, assisted by Major E. F. Finch, operated on December 8th. The swelling proved to be a sacular aneurysm arising from the second part of the subclavian artery. Owing to the dense matting of the tissues around the aneurysm the placing of a proximal ligation was not attempted. Instead a stout catgut strand was tied around the base of the aneurysm where it sprang from the upper convex margin of the artery.

This procedure was for a time followed by marked improvement, and both swelling and pulsation almost entirely disappeared. Then the aneurysm began to enlarge again, and by the end of December it had become obvious that, unless something further could be done, it was merely a question of how long he would live. In view of its position and the knowledge that one would have to conduct a deep dissection through tissues distorted by inflammatory exudate and containing vessels and nerves of the first importance, further operative measures could not be lightly entertained, but, as the alternative seemed wholly black, the facts of his case were placed clearly before him, and he elected to be operated on a second time. The operation took place on January 2nd, 1918, under chloroform anaesthesia given by Captain N. Milner. I had the valuable assistance of Major G. Wilkinson and Major E. F. Finch.



*Operation.*

The steps of the operation were: (1) Removal of the scar of the first operation, together with some unhealthy granulation tissue. (2) Subperiosteal resection of the inner half of the clavicle. The sternal attachments of the bone were not divided, and the decorticated bone was made to pivot over to the right after being surrounded by gauze. (3) A long and tedious dissection involving the ligation and division of several veins, injury to the thoracic duct or one of its branches, from which much milky fluid escaped, and identification of the subclavian and internal jugular veins and the lower part of the scalenus anticus muscle. (4) Careful division of the scalene muscle with a small scalpel from without inwards. The fibres were divided close to the rib and very cautiously, taking especial care not to encroach on the anterior or internal portions of the muscle sheath. (5) The subclavian artery at the junction of its first and second portions was ligatured with a double strand of No. 1 Van Horn's catgut after it had been ascertained that occlusion of the artery at this point controlled the circulation in the aneurysm. (6) The displaced portion of the clavicle was fixed in position by strands of catgut passed through holes drilled in the bone, and the extensive wound closed by a series of superimposed catgut sutures, a small rubber tube being left in for seventy-two hours.

Aseptic healing followed, and beyond a small mass of cicatricial tissue no local evidence of the aneurysm can be discerned.

I am indebted to Captain J. E. Stacey for the notes of the case.

The lessons which I have learnt from a study of this case are:

1. To be prepared to meet with extraordinary difficulty in exposing the artery on account of inflammatory exudate caused by the bullet or shell fragment.

2. The value—indeed I might say the necessity—of resecting the clavicle in order to secure adequate room.

3. The advantage to be derived from dividing the scalenus anticus muscle in the way I have described. By the judicious use of small retractors after its division it is possible to draw inwards the phrenic nerve and to displace the pneumogastric and sympathetic nerves, together with the other important structures lying to the inner side of the muscle, and so reach the distal part of the first portion of the artery.

## BLOOD PRESSURE IN WAR TRAUMATISMS:

## A POSSIBLE SOURCE OF ERROR.

BY

EDGAR F. CYRIAX, M.D. EDIN.,

LONDON.

*(Preliminary Note.)*

DURING the last two years a number of observers have estimated the blood pressure in cases of war traumatism and have published their results. Personal observations in the same line, chiefly made from observations on officers at the Swedish War Hospital in London, have convinced me that there is a possible source of error—namely, that in a certain proportion of unilateral traumatisms the pressures in the two arms may show wide differences. Not only is this so, but the readings on one day may be higher in one arm than in the other, but the reverse a day or two later. When differences occur they generally diminish as improvement proceeds and disappear some time before complete recovery.

In the cases mentioned below all the readings were taken with Riva-Rocci apparatus, and were measured alternately first from the one arm and then from the other on successive days. The interval between the two readings on the same day varied from five seconds (two apparatuses being employed) to ten minutes. Neither the length of this interval nor the arm in which the pressure was first estimated seemed to have any influence on the actual readings; this was shown by a number of controls taken from ten to thirty minutes later. These were obtained first from the arm which was dealt with last and with a different interval.

Thirty-six cases were examined in all; in twenty-six no difference, or only a slight difference (2 to 4 mm.), was found; such differences were considered negligible. In six cases differences of 6 to 8 mm. were found, which sank to about half this amount about three days later, and disappeared at the end of the week. The details of the other four cases are given below. Naturally a much larger number of observations will have to be made before definite conclusions can be drawn, but I think I should point out this possible source of error in order that those who are working on blood pressure in war traumatisms may avoid it.

## CASE I.

Lieut. —, suffering from a small septic shrapnel wound of the right shoulder inflicted on February 8th, 1918, with resultant muscular weakness of the whole right arm.

Date.	Right Arm (Injured Side).		Left Arm.		Difference.	
	Max.	Min.	Max.	Min.	Max.	Min.
February 28 ..	98	68	104	88	-6	+0
March 1 ...	108	68	104	66	+4	+2
" 5 ...	118	64	110	70	-2	-6
" 9 ...	112	70	110	72	+2	-2
" 20 ...	112	74	106	72	+6	+2
" 30 ...	118	72	118	78	+0	-6

The wound was practically healed on March 30th.

## CASE II.

Lieut. —. The right leg was so badly injured on October 24th, 1917, that it had to be amputated through its middle on October 25th; reamputation in its upper third was performed on December 21st.

Date.	Right Arm (Injured Side).		Left Arm.		Difference.	
	Max.	Min.	Max.	Min.	Max.	Min.
February 21 ...	114	58	108	58	+6	+0
" 22 ...	122	68	126	62	-4	+6
" 23 ...	126	76	108	62	+14	+10
" 28 ...	114	52	104	60	+10	-8
March 9 ...	130	54	122	55	+8	-2
" 13 ...	106	48	124	60	-18	-12
" 18 ...	130	62	152	74	-22	-10

All the observations except the last, when he had been walking, were taken while the patient was in bed.

## CASE III.

Capt. —. The right humerus badly splintered by a missile on September 20th, 1917. Bony union was quite good by January 8th, 1918, but he was left with almost complete paralysis of the musculo-spiral nerve. By the end of March, when he left the hospital, some amount of movement had returned in the extensors of the wrist.

Date.	Right Arm (Injured).		Left Arm.		Increase on the Uninjured Side.	
	Max.	Min.	Max.	Min.	Max.	Min.
February 23 ...	118	78	126	88	+8	-10
" 23 ...	120	68	132	72	+12	+4
March 5 ...	118	88	126	84	+8	+4
" 6 ...	92	74	114	76	+12	+2
" 12 ...	112	84	112	82	■	-2
" 18 ...	104	72	118	72	+14	■
" 22 ...	92	66	102	72	+10	+6

The pulse was much feebler and the auscultatory blood pressure sounds were less distinct in the right arm during the whole time that the patient was under observation.

## CASE IV.

Lieut. —, on April 12th, 1918, was hit by a bullet which penetrated the right lung, leaving him with a good deal of consolidation in the right lower lobe, and diminished respiratory movements on that side.

Date.	Right Arm (Injured Side).		Left Side.		Increase on the Injured Side.	
	Max.	Min.	Max.	Min.	Max.	Min.
May 16 ...	128	72	110	78	+18	-6
" 17 ...	118	66	108	72	+10	-6
" 21 ...	128	80	112	72	+16	+8
" 23 ...	118	72	112	66	+6	+6
" 24 ...	118	72	114	70	+4	+2
" 28 ...	118	72	112	72	+6	0
" 30 ...	124	82	122	52	+2	0

The movements of the right lung were much improved on May 28th.

I am much indebted to the Medical Committee of the Swedish War Hospital for permission to publish the above results.



A NOTE ON THE "MAN VALUE" OF WORKING CLASS DIETS.

BY  
MAJOR GREENWOOD, CAPTAIN R.A.M.C.(T.F.),  
READER IN MEDICAL STATISTICS, UNIVERSITY OF LONDON  
(LISTER INSTITUTE),  
AND  
CECILY M. THOMPSON.

THE "man values" of diets consumed by various samples of working-class families were published in a recent report by one of us and Viscount Dunluce.<sup>1</sup> The reduction to "man values" was effected by the application of the coefficients used in America, and provisionally adopted by the Food Committee of the Royal Society. It was, however, pointed out in an appendix to the report (op. cit., pp. 40-41) that the only direct measurements of consumption available to us, those of Slosse and Waxweiler, suggested that the consuming power of children was seriously underestimated, and consequently the "man value" of a family diet overestimated, by the orthodox method of calculation. Further evidence has now been accumulated, and the results of Lusk and others make it probable that the indications afforded by Slosse and Waxweiler's measurements are correct. The Inter-Allied Food Commission has accordingly adopted a new standard (Table I). The change in the coefficient for women from 0.80 to 0.83—that is, of 3.75 per cent.—causes all the estimated man values of

TABLE I.

Attwater's Coefficients.		New Coefficients.	
Ages.	Man Value.	Ages.	Man Value.
0-5	0.4	0-5	0.4
6-9	0.5	6-10	0.7
10-12	0.6	11 and over:	
14-15:		Males	1.0
Males	0.8	Females	0.83
Females	0.7	All children, combined ages*	0.68
16 and over:			
Males	1.0		
Females	0.8		
All children, combined ages*	0.51		

\* These values for use when the ages of children are not specified were obtained by multiplying the appropriate coefficient by the census population of children at the age to which the coefficient applied and dividing the sum of the products by the total population under 16.

TABLE II.—Energy Value of Various Dietsaries.

	Calories Calculated by Attwater's Coefficients.	Calories Calculated by New Coefficients.
<b>Rowntree—York Families:</b>		
Class I. Wages under 26s.	3,000	2,574
Class II. Wages over 26s.	4,102	3,390
Class III. Servant keeping	4,052	3,807
<b>Board of Trade:</b>		
I. Wages under 25s.	3,094	2,670
II. Wages 25s. to 30s.	3,348	2,879
III. Wages 30s. to 35s.	3,581	3,036
IV. Wages 35s. to 40s.	3,589	3,034
V. Wages over 40s.	4,013	3,330
<b>British Agricultural Labourers:</b>		
Northern Counties	3,654	3,085
Midland Counties	3,398	2,868
Eastern Counties	3,598	3,037
Southern and South-Western Counties	3,634	3,067

the diets taken by female munition workers to be slightly too high. For families including several children the difference is substantial, and we have thought it advisable to recalculate the figures for all the family samples. The results are shown in Table II. It will be seen that the original estimates were much too high.

REFERENCE.  
<sup>1</sup> An Inquiry into the Composition of Dietsaries, with Special Reference to the Dietsaries of Munition Workers. Medical Research Committee Special Report Series, No. 13, London, 1918.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

SEPTICAEMIA DUE TO MIXED INFECTION.

T., a man in good condition, was admitted to hospital in a typhoid state; the evening temperature on the day of admission was 104°. The history was that he had had for a few days before admission general catarrh and mild bronchitis. The pulmonary condition soon cleared up, but the temperature continued high, and he was thought to be suffering from enteric fever. With a view to establishing the diagnosis I made a blood culture and found in all the tubes *Bacillus septicus* and a staphylococcus. The culture was made on the tenth day of his illness, and the evening temperature had been 103° to 104° all this time. His condition was then critical, and, in fact, the medical officer in charge of the ward was of opinion that he could not live much longer. On the evening of the twelfth day of illness I gave him a mixed autogenous vaccine, the dose being 35 million of *B. septicus* and 50 million of the staphylococcus. The temperature almost immediately dropped to normal, which it had not reached previously during the illness, and his general condition was much improved; later it went up again to 101.8°; the next morning it was subnormal, but rose at night to 100°; the following day he had another similar dose of vaccine, and the temperature rapidly fell to normal, and so remained.

I consider a record of this case of importance for the following reasons:

1. I am unable to trace a record of any similar case, although the organisms found are extremely prevalent.
2. The autogenous vaccine apparently had an almost miraculous effect on the patient's temperature and general condition.
3. The case emphasizes the need for more frequent blood cultures in febrile conditions arising out of colds, bronchitis, etc.
4. Finally, the symbiosis present in the case is of interest; the presence of the staphylococci possibly augmented the virulence of the *B. septicus*.

B. HENRY SHAW, M.D.,  
County Asylum, Stafford.

Reviews.

LIFE OF MISS SOPHIA JEX-BLAKE.

WITHIN a comparatively short time three books of great biographical interest have appeared, all dealing more or less with medical Edinburgh, and recalling "old, unhappy, far-off things and battles long ago." Mr. Miles's *Edinburgh School of Surgery before Lister*, reviewed on April 6th, is necessarily devoted solely to life and work in the northern Athens, whereas Sir Rickman Godlee's great biography of Lord Lister, already in its second edition, and the *Life of Sophia Jex-Blake*<sup>1</sup> now before us, deal fully with important events occurring in Edinburgh, which, however, was not the only scene of their subjects' activities.

As Lord Lister wished, his published life mainly tells the story of his surgical achievements, whereas Dr. MARGARET TODD has contributed a much more elaborate study of her friend's intimate life and character. A member of a Tory Norfolk family and the daughter of highly orthodox parents, Miss Jex-Blake's electric personality was rather a disturbing element in her family,

<sup>1</sup> *Life of Sophia Jex-Blake*. By Margaret Todd, M.D. (Graham Travers). London: Macmillan and Co., Ltd. 1918. (Pp. 574; 4 illustrations. 18s.)



for whom she had the warmest affection, and it speaks well for her innate independence of mind that she survived the dwarfing if well-intentioned influence of her education which was chequered by many changes. She was born in 1840, and when 18 years old she took the then rather startling step of going to work at Queen's College, London, where she soon became tutor in mathematics, thus raising a protest from her parents, who considered it an indignity that she should receive a stipend. Intent on gaining a thorough knowledge of the education of women, she went to Edinburgh, lived in Germany, and subsequently in America, where, from her friendship with Dr. Lucy Sewall, she was attracted to medicine as a career; and after bringing out her book *A Visit to Some American Schools and Colleges* in 1867, abandoned her intention to adopt education in general as her life's work in favour of medicine. The second part of the volume tells the most exciting story of her battles in Edinburgh to secure the admission of women to the medical school, with all its ups and downs, heart-breaking delays and reverses, which preceded her eventual triumph. The opposition offered by Professor Christison, the riot at the Surgeons' Hall, the animated electoral meetings at the Royal Infirmary, and the libel action brought by Professor Christison's assistant against Miss Jex-Blake, ending in an award in his favour of one farthing damages, and her moral courage and wonderful determination in an uphill fight, are graphically told.

The account of her work in establishing the London School of Medicine for Women, and in getting the University of London to open its examinations to women in 1876-7, completes the second part of the biography, dealing with ten years of dramatic and incessant struggle for the rights of medical women. After this the question arose as to where she should settle down; London offered the best scope for practice, but now that the London School for Women had been taken out of her hands, it seemed inadvisable to remain as an onlooker, and finally, after much consideration, she decided on returning to Edinburgh—a rather unlikely choice after her experiences. There she practised for the next twenty years, founded the Edinburgh Hospital and Dispensary for Women and Children, and the School of Medicine for Women, and eventually succeeded in 1894 in getting the university to admit women.

In this well-written memorial of a great fighter for medical women the biographer has done her work well, but has perhaps gone to an extreme in her entire suppression of any reference to her share in Miss Jex-Blake's life, on which it would have been interesting to have some light.

### HYSTERICAL DISORDERS OF WARFARE.

The subject of the treatment of the *Hysterical Disorders of Warfare*<sup>2</sup> has been graphically described by Dr. YEALLAND in a clearly written contribution introduced by a preface from the pen of Lieut.-Colonel E. Farquhar Buzzard. The essence of the intensive treatment by powerful suggestion and the faradic battery is that the cure should be effected at one sitting however long that sitting may take. The author has successfully treated six cases of mutism in less than half an hour, and, on the other hand, an intractable case of the same disorder of nine months' standing required four hours' continuous treatment. The first eight chapters deal with various hysterical manifestations, and the ninth and last is devoted to malingering, which, like most observers, the author finds is rare. In the diagnosis of malingering from hysterical disorders the late Dr. Charles Beever's criterion, that in the latter the antagonistic groups of muscles contract before the principal movers begin, is accepted. The cases were patients in the National Hospital, Queen Square, and most of them were of considerable duration, and had had experience of various forms of treatment. The records of the cases are dramatic and the success achieved very noteworthy. The personality of the author must obviously play a most important part in the results obtained, which command the respect of the reader, especially if he be sympathetic enough to imagine himself as the author's patient. As Dr. Buzzard remarks, the time-honoured employment of

the faradic battery in skilful and determined hands has been shown to be at least as efficacious as hypnosis or ether anaesthesia, and resort to these alternatives with their obvious disadvantages was rarely, if ever, necessary. But as personality must count for so much, it would appear probable that the author will have more admirers than rivals in his methods.

### NOTES ON BOOKS.

PROFESSOR C. L. GREENE'S large textbook of *Medical Diagnosis* may be described as a *multum in magno* for the student and practitioner of medicine. It consists of a dictionary of diagnosis, a textbook of medicine, and a treatise on clinical methods, rolled into one. Beginning with a general introduction to the special problems of medicine and the outward signs of disease, it goes on to deal with disorders of the various somatic systems; it is on the subject of diseases of the heart and blood vessels that the author has most to say. There is a vast amount of information in the volume, and it is made readily accessible to the reader by means of an unusually good index. It is not a book for the immediate purpose of passing examinations, but it may be recommended as a comprehensive and admirably unorthodox textbook of medical diagnosis. Many of the illustrations are excellent.

Mr. LAURANCE BINYON has devoted much literary skill to the task of compiling an official record of the work done by Britain for the French wounded from the earliest days of the war until the end of 1917. The result of his labours is an attractive volume entitled *For Dauntless France*,<sup>3</sup> written in a spirit of warm admiration and affection for the heroic people who have been our allies in arms during the past four years of immeasurable sorrow, suffering, and endeavour, through which we have fought side by side against the common enemies of freedom. "Celivre," writes the French Ambassador in his charming preface, "est comme un monument élevé à la gloire des deux nations, et un gage précieux de leur union fraternelle." And he goes on to explain that what gives all its worth to this lively description is the feeling which pervades it—the love of the people of France, who are so well represented by the simple soldier in his hospital bed, and admiration for that which hardly-ried France has done and will yet do for the safety of the world. M. Paul Cambon finds only one thing lacking, a defect easily remedied; it is that the book should be read in France as well as in England. This moving tale of service in hospital, convoy, and canteen, and of relief work among refugees and in devastated areas, reached us too late for notice on "France's Day"; but recent events on the Western front have increased—if that were possible—the sympathetic interest taken by the people of these islands in all that relates to the armies of indomitable France.

<sup>2</sup> *Medical Diagnosis for the Student and Practitioner*. By Charles Lyman Greene, M.D. St. Paul, London: W. Heinemann Medical Books, Limited, 1918. (Med. 8vo, pp. xix + 132; 548 figures; 14 coloured plates. £22s. net.)

<sup>3</sup> *For Dauntless France: An Account of Britain's Aid to the French Wounded and Victims of the War*. By Laurence Binyon. London: Hodder and Stoughton, 1918. (Demy 8vo, pp. 386; 6 illustrations, 10s. 6d. net.)

ALTHOUGH in septicaemia due to *Bacillus pyocyaneus* the meninges like most of the organs may contain the micro-organism, meningitis due to this bacillus is very rare. In 1917 Chaffard and Guy Laroche recorded a case of meningitis due to direct introduction of *B. pyocyaneus*, and quite recently Abadie and Laroche (*Bull. Acad. de Méd.*, lxxx, 15 18) have reported a similar case which was discharged cured. Nearly three weeks after a shell wound of the occipital region, causing a cerebellar hernia, the cerebrospinal fluid was noticed to turn a bluish-green colour on standing. A week later signs of subacute meningitis, mainly spinal, appeared. Two intrathecal injections of electrargol were given without any benefit, and it was decided to give intrathecal injections of the patient's own serum. A culture of the *B. pyocyaneus* obtained from the cerebrospinal fluid was agglutinated by the patient's blood serum in 1 in 1,000 dilution, but not by the serums of two normal subjects; the complement deviation test was positive with the patient's serum, but negative with the control serums. As the patient's blood serum therefore contained the *pyocyaneus* antibodies, 3 c.cm. were injected intrathecally on two occasions at an interval of thirteen days, and a rapid cure resulted.

<sup>2</sup> *Hysterical Disorders of Warfare*. By Lewis R. Yealland, M.D. London: Macmillan and Co., Limited, 1918. (Demy 8vo, pp. 252. 7s. 6d. net.)



## Medico-Legal.

## THE COVENTRY CASE.

*Pratt and Others v. the British Medical Association and Others.*

THE following is the continuation from page 125 of the report of this case:

Isaiah Farren, who had been connected with the dispensary from 1870 to 1912, said that he had been appointed honorary secretary in 1904, before which he was collector. The Medical Service Committee was formed twenty-five years ago. There had always been a wage limit of £2, and he had known cases of membership being refused. The rates of subscription were practically the same as other rates in Coventry. No one made any profit out of it except the medical officers and the paid servants. In September, 1909, he was requested to write to the Secretary of the British Medical Association with a view to getting the ban removed, and in June, 1909, a meeting took place in London. The meeting came to nothing because when they asked what would happen if they consented to the proposed conditions, the representatives of the British Medical Association intimated that the then medical officers must make peace for themselves. The practice of paying the collector by commission was given up when the question was raised by outside doctors. He could not be certain of the date.

In cross-examination, he said that there was always an agitation against the dispensary. The "outs" objected to the "ins." He did not know that payment of the collector by commission was objected to years before the alteration was made. Having regard to the scruples of the British Medical Association, he thought the commission system was bad. A member was entitled to remain although his wages increased to over £2. He remembered the issue of the Bradford Rules, and that Dr. Pickup approved of them. He also remembered the resignation of Dr. Fletcher, but his reason for doing so was always a mystery to the witness. When the five doctors resigned, one-third of the members also resigned. At the meeting in London it was suggested that there should be greater representation of the doctors on the general committee, that the medical staff should be open to all local members of the profession, and that there should be a rigid wage limit. These conditions they were willing to accept, but they refused the compromise because they wanted to stand by their doctors. They were never willing that the dispensary should be all under complete medical control. The dispensary had been started by a Dr. Smith, and gradually became self supporting. It was originally started to benefit poor persons who could not pay the usual fees. From 1906 they were willing to pass a rule to prevent the abuse of the wage limit.

Charles Alfred Gray said he had been connected with the dispensary for forty years. Most of the committee were public men in Coventry. He did not think many members exceeded the £2 limit. So far as he knew, the dispensary was always properly managed, but he always knew there was opposition to it.

In cross-examination, he said that at the present time the committee consisted mostly of working men who were taking part in public affairs. The medical officers had asked for a larger proportion of representation on the committee, but he always understood the agitation was for a larger control of the dispensary by the doctors. The dispensary was not registered as a friendly society until 1908.

In re-examination, he said that clergymen and employers had been members of the committee, and even now it included some employers of labour.

Mr. Turton having been examined,

Mr. Alfred Bonham, the present secretary, was called. He said he was appointed in 1913, but before that he had been auditor. He considered it untrue to say that well-to-do members continued to use the dispensary. He had prepared a history of the institution from 1831, when it was founded. In 1873 there were 9,000, and in 1888 20,000 members, when the receipts were £2,620. It became an approved society in 1912.

In cross-examination, he said that there were now 10,000 members. The dispensary gave medical relief to the actual subscriber and to his wife and children.

The answers to certain interrogatories having been put in, this closed the plaintiffs' case.

Mr. McCall, K.C., in opening the defence, submitted (1) that there was no illegal conspiracy; (2) that there was no illegal conspiracy causing damage to the plaintiffs; (3) that there was no defamation of the plaintiffs by either libel or slander; (4) that there was privilege for all publications; (5) that there was no express malice; and (6) that the suggestion that each defendant was agent for all the other defendants so as to make those other defendants liable for the individual acts was quite unfounded. As to the liability of the Association, it had not in any case been decided that a corporation as a legal entity could be guilty of conspiracy (*Williams v. Manchester Corporation*), although a corporation had been held liable for malicious prosecution on the specific ground that the corporation might have attributed to it the malice of its agents. Even in the case of a combination of workmen, it had been held, before the emancipation of trades unions, that a conspiracy or combination was not *per se* illegal (*The Queen v. Rowlands*). It was necessary to consider carefully the position of the parties and the scheme of professional protection which was embodied in

the Memorandum and Articles of Association of the British Medical Association. By paragraph 3 the objects of the Association was "to promote the medical and allied sciences, and to maintain the honour and interests of the medical profession." All its income was devoted to that object. Here was a dispensary which the doctors in Coventry unanimously, or with one exception, pronounced to be detrimental to the honour and interest of the profession, and a number of persons, including the plaintiffs, had determined to assist and serve under the Association. He referred to the *Mogul Steamship Company v. MacGregor*, where the defendants (in the words of Lord Bowen) "had done nothing more against the plaintiffs than pursue to the bitter end a war of competition waged in the interest of their own trade." It was there held that such commercial motives did not deprive of "just cause or excuse" acts done in the course of trade which would but for such motive be justifiable. Unlimited competition in the interests of a profession or trade was *per se* justifiable, and not the less so because that competition was in the protection of the defendants' own trade interests. "Professional interests" were equivalent to "trade interests."

Mr. Justice McCardie: The net result of the *Mogul* case is this—that mere competition agreed upon by a body of persons with intent even to ruin a man is not *per se* actionable.

Mr. McCall agreed to this. According to the *Mogul* case, it was lawful for four grocers, who decided to ruin a fifth, to circularize his customers and undersell him. That in effect had been declared to be lawful.

Mr. Justice McCardie: The real point is—Have the defendants here gone beyond that? This case raises in the most acute form the permissive limits of quasi-coercive acts.

Mr. McCall, continuing, said that the case might be different if the object of the defendants was malicious, namely, to injure the plaintiffs whether they, the defendants, should benefit or not. Dr. Burke had admitted that he could not point to anything showing express malice against the plaintiffs on the part of individual defendants.

Mr. Justice McCardie: But the charge is conspiracy. Suppose it contains the ingredients of coercion and intimidation. I am not aware that it is any answer, if you have effected by the ingredients in a conspiracy, to say "I did that to benefit myself."

Mr. McCall, continuing, said that the mere fact that people had conspired gave no cause of action (*Salaman v. Warner*, 65 L.T. 132). It must be a conspiracy to do an illegal thing or a legal thing by illegal means. The results of the conspiracy must give a right of action. Much had been said about social as distinct from professional ostracism, but social ostracism was no part of the policy of the British Medical Association, even if social followed professional ostracism. Social ostracism did not give a cause of action.

Mr. Justice McCardie: A number of medical men may agree together not to meet Dr. A. professionally or otherwise. There is then merely abstention by agreement. But suppose the same men go to one who is friendly with Dr. A. and say, "If you meet him you yourself shall suffer the doom of professional boycott." Is that permissible in law? That is the question in this case.

Mr. McCall submitted that this was permissible. The members of the Division were entitled to say that A, B and C were doing what was detrimental to the interests of the profession, and that they would have no meeting or commerce with them. There was, then, no coercion in the legal sense.

Mr. Justice McCardie: Suppose a trade union leader says to an employer, "If you continue to keep that man Brown in your employment I will call every one of your workmen out." What is the difference?

Mr. McCall said the cases were dissimilar, and that mere calling or trying to call the men out would not give a cause of action. The Association only claimed to influence members of the Association. They indicate something which a Division has pronounced to be inimical to the interests of the profession, and invite the members to carry it out.

Mr. Justice McCardie: Mr. Schwabe calls it a threat.

Mr. McCall said that the use of the words "conspiracy," "threat," or "malice" was calculated to obscure the facts. The defendants merely invited—invited with sanction behind it—the Birmingham practitioners to aid in carrying out the Birmingham policy.

Mr. Justice McCardie: Does not that amount to a threat?

Mr. McCall admitted that it was a threat, but to be actionable it must have been an illegal threat. But the Association had made no illegal threat; they were entitled to say, "This Association, which is founded for the purpose of maintaining the honour and interests of the profession, has by its members who are on the spot and know the facts come to the conclusion that no medical men should be associated with this dispensary, and we invite you to help us." Even supposing the invitation or notice meant that in the event of refusal the recipient would be called on to explain or resign, it was within their rights.

Mr. Justice McCardie: The gravity of this case is that the Association, as it seems to me, are claiming the right to destroy a man professionally and socially because he fails to conform, not to the General Medical Council's standard, but to their standard of what a medical man should be.

Mr. McCall said that was what the defendants did in the *Mogul* case. If "threat" was the proper word to use, they were entitled to use the policy of exclusion to protect their own interests. As to the alleged libels, they were privileged. The publication was made in the *BRITISH MEDICAL JOURNAL* in the ordinary course of business, that paper being only read by the medical profession.



Mr. Justice McCardie: That might be so if it was purely a society journal. But it is registered as a newspaper.

Mr. McCall submitted that publication in the JOURNAL was well within the rule laid down by Lord Mountain in *Edmondson v. Birch and Co., Ltd.*, and *Horne*, cited in *Fraser on Libel*, 5th edition, p. 250. There was no case proved of the libel being thrust upon any third person. In the absence of proved malice privilege was a defence. Privilege was not destroyed by taking reasonable means to bring a matter to the knowledge of those who were not members of the Association, but were members of the medical profession. The names were not given in the JOURNAL, and the only libel, or the typical libel on which the plaintiffs relied was the alleged libel that appeared on April 4th, wherein aspirants for these positions were divided into four classes, almost on the face of them exclusive.

Dr. Alfred Cox, O.B.E., examined by Mr. Hollis Walker, said that the British Medical Association had 18,000 members in this country and 5,000 elsewhere. There were 33,700 medical men in the United Kingdom. Having stated the objects of the Association, he said that it was in constant communication with all the Government departments. Every member agreed to abide by the regulations contained in the Articles and By-laws. It was divided into Branches which were subdivided into Divisions. The Coventry Division was one of the elements of the Birmingham Branch. These Divisions were formed in 1903. The profession was forced into organizing itself so as to form some other court which would fill up the hiatus or vacancy left by the limited powers of the General Medical Council. Before they took up the question of ethics each man was a law unto himself. They did not claim more than that it was best for question of conduct not sufficiently serious to be considered by the General Medical Council to be dealt with by some organized form of medical opinion, and they had gradually evolved the necessary machinery. Medical men signified their assent by joining in large numbers. The question of contract practice had often been before the Association. It had often led to abuses, as when irresponsible laymen used to farm out doctors, and made profit by running clubs at a very low price. There were three objections: (1) The medical man became a mere servant; (2) people took advantage of it who had no business to do so; (3) the payment was often quite inadequate. After a report issued in 1905 the campaign against contract practice began. The first form of warning notice, issued in 1907, enjoined people to inquire of the local Division, but they could also apply to him. In 1914 people were asked to inquire of him alone. Before any such notice was published in the JOURNAL he would receive a report from the local Division. It was then put before the Central Ethical Committee. The notice was usually put in for three months. Apart from contract practice, ethical procedure was considered by the Association, and in 1904 rules known as the Bradford Rules were formulated which formed the basis of the present rules. The Ethical Committee was also formed, which covered the whole range of professional conduct, good taste and etiquette. Their introduction often succeeded in establishing good relations. Rule "Z" (B) provided for a notice being sent by a Division to a Branch, but the Division was autonomous, and might not require the help of the Branch. The machinery of the Division in relation to the Coventry Dispensary was not invoked until 1906. Until 1903 the Birmingham Branch had local jurisdiction over the dispensary dispute, and they had frequently expressed their opinion about it. They had never attempted to deal with the question of private fees, but contract practice was on a different footing. An individual doctor could deal with an individual patient, but when it came to dealing with friendly societies, trade unions, and large bodies they required a combine like the Association. The General Medical Council, which was for the protection of the public, could not interfere.

Mr. Justice McCardie: Why should not a doctor deal with folk as a body?—The danger lies in the growth of power on the part of that body. In Coventry at one time it used to be a boast that they had nearly half the population in this dispensary.

Continuing, he said that it was not wholly a question of finance. It was a question of free choice between doctor and patient, and the abolition of friction between members of the profession. They believed the interests of the profession and the public were best served when there was no interposition of a lay body.

Mr. Justice McCardie: I do not see where the question of ethics comes in except so far as it may be ethical righteousness to stand by your professional brethren when they are fighting for the improvement of their pecuniary interests?—Ethics also come in because in this dispute between the medical officers of the dispensary and the local men there was bad feeling.

Continuing, witness said that under the Insurance Act the State had already fixed certain minimum fees which were higher than those paid at Coventry; but it was fair to say that the dispensary were now paying to their medical men on behalf of a large number of their patients the State fee which they got from the State.

Mr. Justice McCardie: I have been asking a number of questions, but I feel this case is striking so acutely at the welfare of the medical profession that I want to understand the bases of the matter.

The witness was then referred to various letters and minutes. With regard to the meeting in London at which there was an attempt to arrive at an understanding the position was that they could not recognize the men holding the appointments. The Coventry men would not recognize them, and as against

them the boycott would remain even if the rules were altered as desired.

Mr. Justice McCardie: Has the Association no power to require its members to abstain from boycotting the individuals they have boycotted?—These men (at Coventry) had been fighting at very considerable trouble to get the dispensary rules altered. They had been prevented by the interposition of these four gentlemen, and it was not reasonable to expect that they would allow them to remain in possession of the spoils. That was our attitude. Continuing, witness said it was immoral to allow them to so remain—immoral in the sense that they had failed to act up to the conduct required for the pecuniary advancement of the profession. The main objections of the Association were three: (1) Its growing power was diminishing opportunities for private practice; (2) people were admitted who ought not to be in the opinion of many to have been admitted; (3) many of the Coventry doctors had no opportunity of taking part in the dispensary practice. He also desired to emphasize that it gave rise to local friction and disputes. Professional honour involved something more than fees.

Mr. Justice McCardie: The point you are helping me on is a point arising in so many branches of professional activity apart from doctors. Hence the curious importance of this case. The great problem is: Are the defendants entitled to ruin the individual in order to benefit the greater body?

The witness was then taken through a large number of documents. He said he had no ill-will towards any of the plaintiffs—he did not know them personally.

In cross-examination, he admitted it was a serious thing to say of a medical man that he had done something detrimental to the honour of the profession, but it was not the same as saying he was guilty of infamous conduct in a professional respect. It would justify men in an association binding themselves together to ostracize him, and to agree not to meet him professionally. Some people might not, of course, accept their standards.

Mr. Schwabe: Do you say that these gentlemen (we need not bother about the gentleman who is dead now) have done something which renders them unfit to be met by anybody in the profession? Yes or no?—No, I do not.

They are perfectly honourable members, so far as you know, of their profession?—I know nothing against them except taking this appointment.

And you agree with me that is not a thing which renders them persons who have been guilty of any conduct detrimental to the interests and honour of their profession?—How can I agree with you when my Association have said so? It depends upon the standard. Had I been a member of the Coventry Division I should have thought so.

Never mind the Coventry Division. Give me an answer as a man. I want to know your definition of "dishonourable."—I consider their action dishonourable in coming into Coventry and preventing the Coventry profession reaping the fruits of their attempts to reform the dispensary.

Continuing, witness said that having regard to its past history he could not admit that to hold office there now was not detrimental to the honour of the profession.

Mr. Justice McCardie: It is a fair question. Leave out the past history. Taking the dispensary as it is, in your view would a man be acting against the honour and interests of the profession if he became an officer subject to the rules we know of?—In such conditions it would entirely depend upon the opinion of the other local medical men who would be affected by its operations. They would know better than we do in London. But I cannot dissociate the institution from its past history.

Mr. Justice McCardie: Suppose, for example, Dr. Pickup were to accept a post there now, what would you say?—Leaving the present men there?

Mr. Justice McCardie: Yes.—I should say he had betrayed the whole business.

Mr. Justice McCardie: Take Dr. Orton?—Neither he nor any other Coventry man would take the appointment until satisfied the conditions were satisfactory.

Continuing, witness said ostracism, even if advocated by the Division, would not necessarily follow unless the Central Council approved.

Mr. Justice McCardie: The scheme presented by the British Medical Association appears to be that the Central Ethical Committee dictate the standard of honour.

Continuing, witness said he did not consider it detrimental to the honour and interests of the profession to hold an appointment under lay control. Ostracism did not necessarily follow conduct detrimental to the honour and interest of the profession, but it would generally. There might be a different standard of ethics in different parts of England. They tried to conduct their inquiries impartially. If Dr. Holmes was condemned without being heard it was wrong. With regard to Dr. Holmes being refused attendance at a hospital when he had a poisoned finger witness said he might have gone to one of his colleagues. The warning notice was meant to convey that from a professional point of view a man should not go before satisfying himself before he goes that he would be wise in doing so.

(To be continued.)

THE University of Wisconsin has received donations amounting to £20,000, which, together with an appropriation of £10,000 from the Legislature of 1917, will be used in the construction of a new infirmary for the medical school.



# British Medical Journal.

SATURDAY, AUGUST 10TH, 1918.

## THE FIFTH YEAR.

At the beginning of this fifth year of war the British Forces are on many fronts. Lord Curzon last week enumerated seven—France and Flanders, Italy, Salonica, Palestine, Mesopotamia, Persia, and Egypt; to these must be added East Africa and North Russia and Vladivostok. The Prime Minister said on Wednesday that, including men already with the colours on August 4th, 1914, 6,250,000 men had been raised for the army and navy in Great Britain alone, most of them by voluntary recruiting; the Dominions had contributed 1,000,000, and India 1,250,000. The Dominion forces are self-contained and have their own medical services, and the work both of administration and treatment has been carried out with great ability and success. On the British Army Medical Service falls the responsibility for the preservation of the health of some six million men in every sort of climate from the arctic to the tropic and for the care and treatment of their sick and wounded; its officers are now gaining as varied an experience of the influence of climate on health as that which falls to the naval medical officers to whom is committed the charge of the health of the men of the Royal Navy, whose number has increased from 145,000 to 420,000, not counting another million in the mercantile marine. The answer to any question as to how the Army Medical Service has discharged its responsibility will be that the large measure of success attained altogether outweighs the failures. The success on the Western front has opened a new chapter in the history of medicine more than vindicating claims made for modern methods of prevention that by them the enteric fevers, the scourges of armies in the past, can be so controlled as to have little effect on invaliding rates. Louse-borne diseases have also been held in check, and the discovery that trench fever is thus transmitted will stimulate the authorities to acquiesce in the vigorous measures medical science recommends for the destruction of this vermin, since it is now proved to be not merely a nuisance to the individual, but a constant threat to the maintenance of the man power of armies.

It is inevitable that the successes of preventive medicine, which are always negative, should never quite receive all the praise they deserve, and to a lesser extent the same is true of surgery; only those who are at the pains to study the surgical history of past wars can appreciate the volume of suffering and the wreckage of permanent disability saved by methods of wound treatment devised and systematized during the last three years. They are passed in rapid review by Colonel Maynard Smith in the address published at p. 127, but we may especially instance, first, the excision of infected tissues, which we owe to the surgeons of the French and British armies, in the latter particularly to the apostolic fervour of Colonel Gray of Aberdeen; and, secondly, the antiseptic method of treatment founded on the scientific work of Dakin and brilliantly applied in practice by Carrel.

A retrospect of some of the other campaigns affords little cause for congratulation. The story of the Dardanelles has not been told; it has not been considered politic to publish the report of the Statutory Commission, and the mouths are for the present

closed of those who witnessed the havoc wrought by dysentery and wound infections among the gallant Englishmen and Anzacs who were sacrificed to want of foresight and to lack of administrative capacity to deal with new conditions which required the administrator to get out of his rut.

The failure of the Mesopotamia campaign in its early stages was primarily due to the inadequate conception the Government of India and the Commander-in-Chief in India formed of the magnitude of the military task. This initial failure called to life every vice of a system which had been allowed to become antiquated, owing to the penny wise pound foolish policy dictated by the Indian Finance Department. The medical units were insufficient, and their equipment was out of date. Moreover, when the scope of operations was extended, reinforcements were sent without essential medical units to join a force fighting in a treacherous climate. It was of course inevitable, when failure overtook the expedition, that the medical organization should suffer with the rest, and indeed more than the rest, for the task of the medical service in a retreat is extraordinarily difficult even when transport is adequate and lines of communication free; but in this case land transport was utterly insufficient, the country was infested by marauding native bands, and the river, the natural artery of the country, was without hospital ships or carriers. In this dire emergency every medical officer from the junior to the senior did what was humanly possible, but the means were wanting. All through the early stages of the campaign there was failure also to take effective means to check dysentery and malaria. The root of the mischief was in the Government of India, dominated by the baneful influence of its Finance Department. But the Army Medical Service cannot be excused for its failure to speak out and the want of elasticity of mind which prevented it from making use of the experience ready to its hand in India. Automatically, under the system which has been allowed too long to prevail, the principal medical officer of the British army in India became responsible for the medical plans of the whole force, British and Indian alike. The Indian Medical Service became little more than a supply department for certain purposes; officers of that service enured to the prevention and treatment of tropical diseases, and surgeons of wide clinical experience were not used, or were placed in subordinate positions where they could have little influence on the course of events. To malaria, dysentery, and wound infections the men fell victims in thousands, while the I.M.S. officers and civilian practitioners with the army had to stand by powerless to apply the preventive measures which they knew would have saved lives and lessened invaliding.

It is to be feared that this instance of disinclination to make use of skill and experience because their possessors do not belong to the regular Army Medical Service is typical of a state of mind which has prevailed too long, and that in spite of the new spirit breathed into the service by the institution of the Royal Army Medical Corps, there is still enough of the old Adam remaining to cause many of its senior officers to regard with a jealous eye proposals for the advancement of any one, not a regular, to positions of large responsibility. Good administration is essential, but it is only a means to an end. There is a tendency in every Government department to make it an end in itself and to entertain an absurdly exalted idea of the ability needed for administration. The regular Army Service has not escaped, and some of the results have spelt injustice to individuals and injury to the nation



and its soldiers. The Army Medical Service started the war with a small body of regular officers, and many Territorial medical officers. The treatment the Territorials have received from the War Office since the war began has been very shabby, and the Army Medical Service has failed to do many things within its power to mitigate their lot.

If we compare the success in France with the failures in Mesopotamia and, we fear we must add, East Africa, we shall, perhaps, find the reason in a greater disposition to accept help and advice, even though they came from beyond the charmed circle. Sir Arthur Sloggett showed that he had a mind open to suggestions, not only as to the best conduct of medical and surgical measures and laboratory investigations, but also as to their organization, on the sound principle of choosing the best man irrespective of his army status. He was ready, we believe, to accept some, at least, of the suggestions for economy made by the Committee of Inquiry which went to France last year, so that, though its report has not been published, its labours have not been wasted. We have every reason to believe that his successor, Major-General Burtchell, is of the same mind. The need of economy in medical manpower grows with the increase in the number of men under arms and in the number of separate campaigns. It is a national obligation on the Army Medical Service to make the best and most economical use of the large body of medical men holding Territorial and temporary commissions. We believe—nay, we are sure—that, whatever may have been accomplished in this direction in France, very much remains to be done at home. Economy may be effected by improvements in organization which will give every medical officer a reasonably full day's work, but it may be even more effectually obtained by using the talent available to the best advantage and in the most suitable types of work.

### WAR GAS POISONING.

THE Chemical Warfare Medical Committee was appointed in January, 1918, by the D.G., A.M.S., with the concurrence of the Controller of Chemical Warfare, Ministry of Munitions, to deal with aspects of chemical warfare in which medical science is concerned. This Committee, of which Professor Cushny, F.R.S., is chairman, and Dr. J. S. Edkins secretary, has recently presented a report on the symptoms and treatment of the late effects of gas poisoning. The gases used commonly by the enemy are of three main varieties—suffocative, vesicant, or pure lacrymatory. In the first cloud gas attacks in April and May, 1915, chlorine was liberated from cylinders to drift forward on the wind. In December, 1915, and in the attacks from April to August, 1916, phosgene,  $\text{COCl}_2$ , was used, together with chlorine, but since the date mentioned no cloud gas attacks have been made by the enemy. Lethal gas shells were used in the autumn of 1916; they contained phosgene, chloropicrin,  $\text{CCl}_3\text{NO}_2$ , and other allied lung irritants in varying proportions; in July the enemy introduced the mustard gas shells containing the vesicant dichloroethyl sulphide  $(\text{C}_2\text{H}_4\text{Cl})_2\text{S}$ , commonly called yperite. Later, shells containing organic arsenic compounds, such as diphenylchlorarsine, were used. The general aim of the enemy in the present use of gas shells is to fire simultaneously shells of different types, some of which will cause so much sensory irritation that the man will discard his respirator, and then become vulnerable to lethal shells containing phosgene and similar substances.

Owing to this mixture of shells the symptoms reported by patients are often, it is stated, very confusing, and it is perhaps on this account that some of the details in the report are not very easy to put into their proper place. The suffocative gases act mainly on the alveolar epithelium of the lungs, causing acute oedema of the lungs, of very rapid onset, and thrombosis of the pulmonary capillaries. They have less effect on the air passages, but may have an irritant action on the pharynx, larynx, and bronchi. Symptoms of asphyxia, due to affection of the lung alveoli and accumulation of fluid in them, appear within three to twelve hours after exposure. Respiration is rapid and usually accompanied by pain, often intense, in the chest. There may be violent fits of coughing, but the amount of expectoration, profuse in some cases, is scanty in others. Patients with severe pulmonary oedema fall into two groups: (a) Those with definite venous engorgement in whom the breathing is not only increased in frequency, but the actual amount of air reaching the lungs is greater than normal, while the pulse-rate is full and of good tension, and not much above 100. (b) Those with collapse, in whom the breathing is shallow, so that there is little true hyperpnoea and the pulse is weak and rapid (130 to 140). In patients who recover, and escape secondary bronchitis or bronchopneumonia, the oedema fluid is absorbed within a few days.

Dichloroethyl sulphide is an oily liquid; it is scattered from shells and slowly evaporates on the ground. If it is spattered on the clothing it may act directly on the skin. At first the person exposed to the evaporating oil merely notices a smell reminding him of mustard. Definite symptoms come on later; the first is conjunctivitis, which appears after about three hours and rapidly becomes very acute, being accompanied by photophobia and swelling of the lids, by which the eyes may be closed for days. A little later, from the fourth to the eighth hour, vomiting and epigastric pain supervene, as a rule, and may be persistent and intractable. Later still, after about twelve hours, widespread erythema with local vesication occurs, going on to definite burns. The affected surfaces frequently become pigmented, and when the liquid yperite itself comes into contact with clothes or skin deep burns may be produced. Laryngitis, pharyngitis, tracheitis, and bronchitis develop from twenty-four to forty-eight hours after exposure. The lesions vary from simple surface irritation to ulceration of the mucous membrane of the whole passages, followed by infection of the raw surfaces which may be so extensive and severe as to cause death either directly or through secondary bronchopneumonia.

In both kinds of gas poisoning (by suffocative or vesicant fumes), if the patient is not treated in the early stage by the administration of oxygen, there is deficient oxygenation of the blood, and to this some of the late signs and symptoms would appear to be attributable. These late signs and symptoms, which occur most frequently after phosgene gas poisoning, closely resemble those of "D.A.H." or the "effort syndrome,"<sup>1</sup> and are often complicated by functional nervous disturbances. In the treatment of these general symptoms prolonged rest in bed is contraindicated. The patients should be encouraged early to undertake increasing amounts of exercise, either by graduated physical exercises or by definite amounts of walking. The effect of the exercises must be carefully watched, and if there is obvious respiratory distress for more than a few minutes, or if the pulse-rate remains appreciably above the resting rate for more than five minutes, the exercise must be adjudged too severe.

<sup>1</sup> BRITISH MEDICAL JOURNAL, June 22nd, 1918, p. 732.



Patients who are making good progress should be returned as soon as possible to army discipline. Prolonged stay in hospitals, either primary or auxiliary, is particularly apt to exaggerate the neurotic conditions, which are then difficult to overcome.

Recent experience of casualties from mustard gas in France has shown that the best results are obtained by vigorous measures at the outset for all except the very serious cases. Slight burns heal under a non-irritating protective paste; if they are extensive the patient should be given a hot alkaline bath for twenty minutes or half an hour, which removes the old dressings and promotes cleansing of the infected areas. These baths, which may be repeated two or three times a day, should be followed by the application of a paraffin spray as a protective dressing. The conjunctivitis, sometimes complicated by keratitis, has generally become subacute when the patient reaches a home hospital, and it may be necessary to keep him away from the light, or to give him dark glasses or a shade. It is important, however, that the use of these appliances should not be continued beyond the inflammatory stage, otherwise functional photophobia is likely to result. Every effort should be made to direct the patient's attention from the condition of his eyes by finding him constant employment. Persistent and troublesome vomiting, observed sometimes in the late stage, is said to be undoubtedly neurotic. Means should be taken to convince the patient that the condition is not serious; and as there is usually a deficient amount of hydrochloric acid in the gastric secretion he may be given a little of this (20 minims of dilute acid in an ounce of water) after meals. Exposure to pure lacrymatory gas has no after-effect, and men are not sent to the United Kingdom on this account alone.

#### A MINISTRY OF HEALTH.

It appears that the committees of medical men appointed by various bodies to consider the important matter of the formations of a Ministry of Health have lost no time in setting to work. We mentioned a fortnight ago that the Joint Committee of the Royal College of Physicians of London and the Royal College of Surgeons of England had been joined by three experienced members of the public health branch of the profession. Lady Barrett, M.D., has also been added. We hear that this committee has had an interview with the Cabinet Committee for Home Affairs, over which the Home Minister, Sir George Cave, presides. We hear also that the committee of the Royal Society of Medicine has been holding frequent meetings, and its deliberations will no doubt assist in formulating the views of the medical profession on the proposed bill. The Ministry of Health Committee appointed by the Council of the British Medical Association will probably meet shortly, when doubtless the scheme adopted by the Council will be reviewed in the light of any new material which may be brought to notice. We trust that discussion will result in the finding of some method of pooling ideas and information collected by these three committees. The functions of the proposed Ministry will be mainly medical. No Government can avoid consulting the medical profession before adopting a policy that must have such far-reaching consequences to the welfare of the whole community—the one aim of a movement which has aroused so much interest in many various quarters. If it is found that the profession is speaking not with one voice, but with three voices, and if it should happen that these voices are not in unison, an honest Government will be in serious difficulty, and the politicians will be disposed merely to play off the owners of the voices against one another. In a national question of such importance as the proposal for a Ministry

of Health it would be wise to consider how a great united profession can best make its influence felt in the interests of the country.

#### BACTERIOLOGY OF THE INFLUENZA PANDEMIC.

THE pandemic of influenza has not spared any part of Germany. The clinical course does not seem to differ from that run by the disease in this country. Relapses and fatal attacks of pneumonia have been particularly noted. The clinical picture is declared to be identical with that of the last pandemic of 1889.<sup>1</sup> A statement made and generally confirmed at a special meeting of the Munich Medical Union on July 9th was to the effect that persons under 30 years of age mainly fall victims to the disease; this was attributed to a survival immunity in the elder generation. The meeting considered all the aspects of the epidemic on the basis of the hospital and university material of Munich. Pfeiffer's bacillus had been found only exceptionally. Streptococci, and occasionally pneumococci, were recovered from the sputum and organs, and also from the blood of patients. Similar findings were recorded in 1889, and thus the present results were in "keeping with precedent." Pfeiffer's bacillus was not found until 1892, although it should have been impossible to overlook it in 1889. The editors of the *Deutsche medizinische Wochenschrift* have addressed a circular to all the leading bacteriologists in Germany requesting information as to the results of their laboratory investigations. Pfeiffer himself had reserved his final opinion as to the relationship of this pandemic with those of 1889 and 1891-92. He had not examined a sufficient number of cases at Breslau, but found his bacillus in some, while failing to recover it from others, and was still investigating the causes of this discrepancy. Grüber answered from Munich: "Influenza bacilli not found hitherto—investigations proceeding." Ulrich Friedemann, who is in charge of the infections wards of the Virchow Hospital, Berlin, expressed his belief that the symptomatology and complications of the epidemic correspond exactly with those described in 1889-90. He had not found Pfeiffer's bacillus, streptococci and pneumococci being the most common agents of the complicating pneumonias. The influenza bacillus he thought might be evading capture on account of faulty methods, though the possibility that there may be epidemic diseases clinically resembling influenza of which the Pfeiffer bacillus is not the agent should not, he considered, be overlooked. Uhlenhuth has so far reported from Strassburg the same contradictory results as those of Pfeiffer. Kolle reported, under the date of July 18th, from Frankfurt that he had failed to detect Pfeiffer's bacilli in any of the few cases he had thoroughly examined. In practically all cases there were found, however, large numbers of a Gram-positive coccus, often in a pure culture or in symbiosis with pneumococci. The diplococcus tended to develop involution forms and to grow in very long chains in the condensation water. He regards it as the agent of a secondary infection in the "Spanish disease," which he thought may not be identical with the pandemic influenza of 1880-1893. The finding of this pleomorphic Gram-positive diplococcus is very interesting in view of the observations of Rosenow and his pupils in the United States. Very similar results have, we believe, been obtained in the British armies in France, as noted in our columns of July 13th and 20th. The Medical Research Committee, to which we are indebted for the abstracts of the German publications quoted above, hopes that the German experiences may attract the attention of bacteriologists in this country. The Secretary asks them to send the results of their observations during the epidemic in this country to him at 15, Buckingham Street, Strand, W.C.2, in order that the results gained here may be collated, with a view

<sup>1</sup> Der bakteriologische Charakter der "Spanischen Krankheit," *Dtsch. med. Woch.*, 1918, 44, 775, and 803. Editorial notes, *Munch. med. Woch.*, 1918, 65, 804.



to the organization of such co-ordinated work as may be found possible for the study of the secondary waves of infection that are to be expected.

### ARMY VOTERS ABROAD.

MEDICAL men serving abroad have, in common with other members of the forces on naval and military duty out of the United Kingdom, direct interest in the arrangements being made for the category of parliamentary electors known under the new reform act as "Absent Voters." Nearly all medical men doing such duty will have a vote under the ordinary qualification for some constituency, and most of those who are graduates can also claim a vote in respect of university qualification. This matter was dealt with in the *BRITISH MEDICAL JOURNAL* of June 1st in so far as interpretation of the Act was then possible. Since then progress has been made in getting matters into form. By an Order in Council it was laid down that all service electors coming within the Act, who are at the time of a general election in France or Belgium, shall record their votes by post; the voting by all other service electors outside the United Kingdom will be by proxy. The method of proxy voting has already been explained. For service electors (other than university electors) absent voters' lists have been in process of preparation, and are practically completed. Cards to be posted to these absent voters are now being printed. Registration officers will in due course see to their dispatch. These cards will acquaint absent voters with the particulars of their registration, and will contain instructions as to voting. The registration officer will keep a record for the time being of the address of any person on the absent voters' list, which may be furnished to him by the voter, the Admiralty, the Army Council, or the Board of Trade. In the case of university electors no list of absent voters is required. The returning officer for each university prepares a register. It is laid down in Clause 36, Section 3 (b): "It shall not be necessary to prepare an absent voters' list, but the right to vote by proxy may be exercised by any person who would be entitled to exercise such right if his name were on an absent voters' list, so long as all other conditions enabling him to vote by proxy are fulfilled." Apparently within certain limitations it depends upon the registrar of each university to determine when his register shall be completed. The Local Government Board does not, at any rate, regard the matter as coming under its control, the arrangements for university voting being made under Orders in Council. But the probability is that the lists will be completed in each case by October 1st, the date at present fixed by the Local Government Board for its own purposes. Certain formalities will need to be gone through previously by claimants, and it will be a prudent thing for every graduate of a university to communicate with the registrar of his university or some other authority to ascertain if his name be on the register. This remark, in fact, applies to all graduates whether in the fighting services or not.

### MALARIA IN ENGLAND, 1917.

ON May 25th, in discussing the action initiated by the Army Medical Department for dealing with soldiers returned to this country with malaria, and the risk thereby involved of the establishment of malarial centres in this country, we stated that the Army Medical Department was working in co-operation with the Local Government Board, which had secured the services of two inspectors of wide experience of malaria in India—Lieut.-Colonel S. P. James, I.M.S., and Lieut.-Colonel E. Wilkinson, I.M.S. It was added that the Local Government Board had in preparation a memorandum on the subject, and this has now been issued.<sup>1</sup> We learn from it that in certain south-eastern counties of England the number of cases of malaria undoubtedly contracted locally which occurred

during the summer and autumn of 1917 was 178, although it is thought certain that others occurred the nature or indigenous origin of which was not detected. In all cases the disease was benign tertian, was not very severe, and caused no deaths. Of the total cases 136 occurred in men serving in the army, 19 in the navy, and 23 in civil life. Only in two or three areas, notably in the Isle of Sheppey and the adjacent region between the Medway and the Thames, and the neighbourhood of Sandwich on the Kent coast, were the cases sufficiently numerous to warrant the statement that malaria was locally prevalent, and even in these the prevalence was inconsiderable. Malaria has been made a notifiable disease in Sheppey, Queenborough, Sheerness, and New Romney, but notifications have been received only from the first two. The hope is expressed that any medical practitioner who comes across a case which he suspects to be malaria of indigenous origin will communicate the fact to the medical officer of the district, or direct to the Local Government Board, and utilize the facilities provided for the examination of blood specimens. The summary which Dr. G. S. Buchanan, assistant medical officer to the Local Government Board, has prefixed to the report, contains a discussion founded on a very practical paper contributed by Colonel James on the principles which should govern preventive action. Writing on July 20th, we gave an account of a map prepared by Mr. W. D. Lang, M.A., showing the known distribution in England and Wales of the anopheline mosquitoes. This map is reproduced in the report with which we are now dealing and is accompanied by an essay by Mr. A. J. Groves, acting entomological investigator to the Local Government Board. Anopheline mosquitoes, as was pointed out, are known to exist in many parts of England and Wales, and the survey is far from being complete. A national campaign against the breeding places is set aside as too great a task, as also are measures designed to produce a temporary reduction in the numbers of anophelines in areas where they are specially abundant. If carried out on an adequate scale such a scheme would, it is found, make demands on labour and entail an amount of interference with agricultural work that cannot be asked for at the present time. Men actually suffering from malaria are segregated by the army in special hospitals when actually ill, or in special camps or in convalescent establishments. If they are treated in other hospital units and there is a risk of mosquito infection the ward is screened and other precautions taken, but there are a large and increasing number of men who in the intervals of attacks are well, or in fair health, though liable to relapse, and they cannot be segregated and kept from their proper army work, or from going on leave to their homes, for the long periods which would be necessary. Reliance is therefore placed upon the curative administration of quinine in such a way as to secure as far as possible the "disinfection of the infected," or at least to obtain a great reduction in the period during which the blood would contain the parasite, and also in the intensity of possible infectivity. The general conclusion of the Board's report is that it will be sufficient at the present time to limit exceptional precautionary measures to the particular malaria-suspected areas to which reference has already been made. With this conclusion we must remain satisfied, fortifying our hopes by Sir Ronald Ross's calculation of the risk of the spread of malaria, which he reduced to an almost negligible quantity. Remembering, however, the uncertainty of what is called the "disinfection of the infected" by quinine, we can only hope for the best.

### TORPEDO SHOCK.

DR. CLUNET, who was on board a steamer torpedoed on the high seas not long ago, has made a communication to the Neurological Society of Paris on the mental effects of the attack upon the victims. He distinguished four stages

<sup>1</sup> *Reports and Papers on Malaria Contracted in England in 1917.* His Majesty's Stationery Office. To be purchased through any bookseller. (4s. net.)



The first was one of purely emotional disturbance. He was reading in the saloon, when he heard a rather feeble explosion, and felt a slight vibration as if the ship had struck something. The engines stopped, and at once the companion way was thronged by anxious people. A naval officer on the bridge, pale but cool, said: "We have been torpedoed; we are lost." The crowd in the companion way became greater but remained silent, the only sound being the wailing of some left in the body of the ship. Soon excitement showed itself in irrational acts. Some men got into the boats on the bridge without attempting to launch them; others discharged firearms in the air; others seemed to be stupefied. An officer on the deck was firing a pistol into the sea by way of controlling his fear. After a few minutes other shots were heard, which marked the outbreak of an epidemic of suicide. But among the passengers generally there were no such severe indications of psychoneurotic crisis as convulsions or paralysis; almost all remained silent, but could give clear answers to questions. A quarter of an hour later the ship sank. In the second stage the chief feature was acute suffering from the cold on the raft. At first there were some manifestations of dissatisfaction and want of discipline, but after an hour confidence was restored, and people began to pick up the preserved eatables floating in the water. During the night a soldier from Martinique, declaring that he was lost, broke out into religious lamentations which had a depressing effect on the others. The doctor ordered him to pray inwardly, and this having no effect, threatened to throw him into the sea. This scared the man into silence. The third stage occurred in the ship which rescued them. Neuropathic phenomena began to show themselves: mutism, spasmodic weeping, lamentations, sighing, grumbling, trembling, spasmodic movements of the limbs, but never convulsions. Clunet treated the patients by energetic massage combined with the administration of alcohol, and the phenomena disappeared. The fourth stage was that of return to normal life when the shipwrecked people were disembarked.

#### THE COLLECTION OF INSTRUMENTS AT THE COLLEGE OF SURGEONS OF ENGLAND.

We learn that Major-General Sir Robert Jones, C.B., F.R.C.S., Inspector of Military Orthopaedics, has presented to the museum of the Royal College of Surgeons of England a collection of instruments devised and used by his uncle, the late Mr. H. Owen Thomas of Liverpool. His splints, long used by surgeons who have made themselves acquainted with the principles of their construction and application, have, as is well known, become the standard appliances for the treatment of fractures, especially of the lower extremity, in the British, Canadian, and American armies. In addition to specimens of splints Sir Robert Jones's gift includes the large hypodermic syringe which Thomas carried with him for the treatment of cases of intestinal obstruction, his two-way aspirator, and a set of the double rectangular staffs and the combination knife and gorget which Thomas used in performing lithotomy after his special method. We learn also that two cases are being prepared for the display of instruments and personal effects associated with John Hunter and with Lord Lister.

Mr. MACPHERSON, Under Secretary of State for War, who is also vice-president of the Army Council, stated in reply to a question by Commander N. Craig in the House of Commons on Monday last that a report by Colonel Pyke and Colonel Balfour in regard to the Army Medical Service in Africa had been received. The report, which was received in May, disclosed a very serious state of affairs in regard to army medical administration. It had received immediate consideration and effective action had been taken. Mr. Macpherson declined to publish the report on the ground that it was of a personal and highly confidential nature.

## THE WAR.

### RECENT DEVELOPMENT IN R.A.M.C. FRONT LINE EDUCATION.

THE correspondents of the daily papers have made every one familiar with the fact that in the British armies in France many schools have been established for teaching and training, especially in new methods of attack and defence, but little or nothing has been said about the educational activities of the Army Medical Service. It will therefore be interesting to give some particulars of the army medical schools of instruction in France drawn from an article which Lieut.-Colonel Guy Stephen, R.A.M.C. (T.C.), has written, the full text of which will, we understand, shortly appear in the *Journal of the Royal Army Medical Corps*.

The object of such a medical school and the way in which it does its work may best be explained by giving an account of a R.A.M.C. School of Instruction of a certain Army which has been sufficiently long established, as war time goes, to have attained a wide reputation.

The general aims of the school may be described as including the following:

1. To provide instruction in improved methods of doing the work required of the Royal Army Medical Corps in front line areas.
2. To put workers in these areas into touch with any knowledge that has been gained at bases or elsewhere, and with which it is to their interest to become conversant, either because it has a bearing on their own work or on general grounds.
3. To fill in the gaps which exist in the military education of a large proportion of existing medical officers, and to furnish them with a wider view of the general aims of military medicine than they are likely to gain by work in any single medical or military formation.
4. To break down the mental barriers which subconsciously arise between men who, although all parts of the same machine, have very different duties assigned to them.

The schools of instruction are not confined to medical officers, but include not only non-commissioned officers and men belonging to the R.A.M.C. itself or to the sister services of the Overseas Contingents, as well as officers and other ranks belonging to the American and Portuguese army, but also officers and other ranks of non-combatant units of all the forces mentioned. For officers and other ranks belonging to medical formations each course lasts ten days, and for the combatants four days.

The army medical officers and "other ranks" R.A.M.C. told off to attend these courses are drawn mainly from among regimental medical officers, and from field ambulances and sanitary sections and squads, with a smaller proportion of officers belonging to casualty clearing stations, or in charge of labour groups. The pupils from the combatant units are usually platoon officers, stretcher-bearers, and members of regimental sanitary squads, together with a few men employed or in training as regimental chiropodists.

For men belonging to sanitary sections and squads, as also for chiropodists, specialized instruction is provided, but the hours devoted to it are so arranged as to enable the men to share in the general instruction when this is of a kind likely to be useful to them. Much the same might be said, indeed, of the work of all the different classes of students, since all attend the general lectures and demonstrations.

In dealing with the combatant classes, the chief aim perhaps is to make them practically conversant with the best ways of rendering first aid and to impress on them the value of sanitation and show them how it can best be secured even in front line conditions. The special lectures for medical officers deal with the new developments in the medicine and surgery of war. The general work covers pretty nearly the whole field of first line work, and invariably deals with methods of obviating shock.

The formal day's work begins at 8.30 a.m. and ends about 4.30 p.m. Though this is not a long day, especially as time allowed for breakfast and luncheon is generous, it admits of the delivery, as a rule, of two or three lectures and of a corresponding number of practical classes or demonstrations, and leaves the students quite fresh-minded enough to discuss things amongst themselves and take part perhaps in an organized debate on some subject which,



though not forming part of the school course, has a common interest for all. It is easy to theorize about front line work, but if one wants to learn in how many different ways the same piece of work can be performed, and to determine which is really the best of them, the attendance at one of these debates is very valuable. The education provided by these debates and by the "shop talk" in general is entirely informal, but the rest of the work is accompanied by a certain amount of military ceremonial. The passage of the day is marked by bugle calls, and before the first morning lecture there is a roll call and parade, the students marching off in fours to their work. The actual beginning of each day's morning work is half an hour at "physical jerks" before breakfast and the actual beginning of each afternoon's work is another parade and about half an hour's squad and company drill.

#### ADMINISTRATIVE DETAILS.

##### *Accommodation.*

The school considers itself full when its "medical" students number 40 officers and 60 "other ranks," and its "combatant" students 10 and 130 respectively. The school buildings are empty huts belonging to the casualty clearing station in which the school does its work. The principal lecture room is a French pattern hut measuring 90 ft. by 30 ft. The principal demonstration hut was formerly a recreation room. There is also a hut used by the officers as sleeping quarters, one for non-commissioned officers, and two others for men. All ranks bring their ordinary camp kits. The arrangements for demonstrations were built by the sanitary section in whose area the school lies. The horses used are drawn from various field ambulances in the command, and are changed at the beginning of each course. For demonstrations in approved methods of field cookery the students attend a cookery school a few miles distant.

##### *Personnel.*

In the matter of housing, equipment, and upkeep the school costs nothing, since everything that it uses is either lent to it by some other formation or the British Red Cross Society, or is provided by moneys resulting from its own existence. Everybody who takes part in the tutorial or other work of the school is either on temporary loan from another unit or is voluntarily performing school work in addition to other duties. Subject to this consideration, the teaching staff may be said to consist of a commandant, an adjutant, an instructor, a quartermaster, three warrant officers, five sergeants, and a number of visiting lecturers. In addition, there are two cooks, one corporal, one bugler, and about thirty privates.

The commandant is also commanding officer of the casualty clearing station in which the school does its work. The adjutant is on loan from a field ambulance, and the instructor is a surgical specialist lent by one of the less active casualty clearing stations not far away. Of the visiting lecturers, some take part in the work of every course and others help only at one course or deliver merely a single lecture. Of the former, the principal are the D.M.S. of the Army, its consulting physician and consulting surgeon, an officer in charge of one of the mobile laboratories, and the officer in sanitary charge of the area in which the school is situated. The other visiting lecturers are drawn from any source in or out of the army that is available. Men distinguished in some particular line and likely to be interesting are invited.

##### *Subjects Taught.*

The tuition afforded by the school is not quite identical at each course. The field work is always the same, but it has not hitherto been found practicable to give all of it the same amount of attention at each course, partly because the school has to depend a good deal on chance assistance, partly because, except in regard to a few subjects, it has not yet been decided exactly what knowledge should and can be secured by every pupil in the very limited time at disposal. Many of the lectures and demonstrations, though differently entitled at different courses, really cover much the same ground; and judging from the time-tables of a number of courses, the authorities would generally seem to aim at securing in each course three or four lectures on surgical and medical subjects, half a dozen on questions of administration and

organization, two on horse-mastership, and one or two on military law.

The subjects invariably taught are the application of the Thomas splint, with special reference to the prevention of shock, the application of the rifle splint, the arrest of haemorrhage, the use of the triangular bandage, and the construction and use of field sanitary appliances. In addition all ranks take part in physical exercises and ordinary drill, and all medical officers have riding lessons, and attend demonstrations of useful ways of varying the use of the foodstuffs issued as rations. These subjects are mainly dealt with by practical classes.

##### *The Thomas Splint.*

In regard to the Thomas splint course, the surgical view underlying this teaching is now universally accepted in France. Immobilization of parts before evacuation from an advanced dressing station, or even a regimental aid post, should be secured in all cases of fracture of the femur, in extensive flesh wounds of the thigh, in injuries to the knee-joint, and in severe fractures in the upper part of the tibia; the Thomas splint is the best to use, except when a fracture of the femur is complicated by an unusually extensive wound in the buttock or upper part of the thigh of such a kind as to interfere with the fitting of the ring. The method of application taught secures attention to the value of warmth and absence of pain in the prevention of shock, and does not involve the removal of either clothes or boots or exposure of the wound until complete immobilization is achieved. It also assumes that the operator will have not more than two assistants, possible only one.

The principle on which it is taught is that in applying the Thomas splint in the circumstances of an advanced dressing station no thought should be necessary but every movement automatic. To secure this result the whole process has been worked out in the form of a definite drill in which the various groups of movement are indicated by numbers. It must suffice here to say that it covers everything, from the initial warming of the patient by blankets and a primus stove (movement 1) to fixing the splint to a suspension bar on the stretcher and placing hot bottles and blankets in position for the journey (movements 11 and 12).

The value of this drill is sufficiently indicated by two facts: a man who knows it well can carry it out with entire efficiency in the dark; and in the competition with which the teaching of this subject always ends, teams of "other ranks" often beat teams of officers in perfection of detail and speed of completion. The former do exactly what they have been told to do and the latter use their "judgement," which may or may not be good. A first class team can put up a limb perfectly in two minutes forty five seconds, and an average team in about four minutes.

##### *Other Training.*

The teaching of the use of the rifle splint and the triangular bandage is of an equally practical kind, and all classes of student take part in it. All classes receive instruction in sanitation, the number of sessions and the character of the teaching varying with their assumed initial knowledge. The appliances used for teaching purposes are models of those which have best stood the test of long experience. For the most part they have been evolved during the present campaign. They include methods of protecting food from contamination, disposing of excreta in different circumstances, and the destruction of parasites in clothing and equipment.

The drill and physical exercises absorb about one and a half hours each day. At the drills the medical officer students are encouraged but not obliged to take command of sections or the whole parade. This is very useful, because some of them have had no previous experience and many are rusty. A medical officer in charge of a party of stretcher-bearers or other group of men ought not to be dependent on his sergeant when he wishes to halt them, alter their direction, or move them out of the way of a passing lorry or a gun when marching along a road.

##### *Concluding Observations.*

Opinion in France as to the value of the school is perhaps best represented by saying that several other armies are duplicating it in their own areas.



Even should this army school of instruction shortly close its doors and never be duplicated, its existence will have been thoroughly justified: about 400 officers and 1,500 N.C.O.'s and men have passed through the curriculum, and it has been shown how much can be done without either an elaborate establishment or an expensive equipment; it has provided many dozens of men with knowledge entirely new to them, and in others has crystallized knowledge which previously was vague; in all, it has stimulated attention to a subject of the highest importance in front line work—namely, the preventive treatment of shock.

In conclusion, it may be said that a school of this order depends for its success little on its situation and not very much on the character of its visiting lecturers, but to an infinite extent on that of the resident staff. They must be men quite free from the schoolmaster spirit, but who are thoroughly conversant with their subjects.

In particular, the commandant should be a man of wide sympathies, whose knowledge of front line work is so complete that he can understand the point of view of all the different classes of pupils, and to whom the various ropes of army life are so familiar that he knows exactly which at any given moment he can leave slack and which tighten in order to maintain exactly the right admixture of discipline and ease. For one factor in a school of this order is that a course at it should be regarded as a privilege and a pleasant break in front line life.

## CASUALTIES IN THE MEDICAL SERVICES.

### ROYAL NAVY.

#### Wounded.

Surgeon Probationer A. A. Osman, R.N.V.R.

#### ARMY.

#### Killed in Action.

CAPTAIN J. C. T. TEGGART, R.A.M.C.(temp.).

Captain John Cameron Thompson Teggart, R.A.M.C.(temporary), was killed in action on July 21st. He was the son of Mr. Hamilton Teggart, of Glasgow, and was educated at the university in that city, where he graduated M.B. and Ch.B. in 1912, subsequently holding the posts of house-surgeon and house-physician at the Western Infirmary, Glasgow. His twin brother Lieutenant F. W. S. Teggart, Argyll and Sutherland Highlanders has been missing since October, 1917, and is now presumed killed.

Captain R. Jacobs, R.A.M.C.(T.F.).

#### Died on Service.

Major H. Betham Robinson, M.S., R.A.M.C.(T.), (obituary notice published at p. 148).

CAPTAIN J. W. BEATTIE, R.A.M.C.

Captain James Walker Beattie, R.A.M.C.(temporary), died suddenly at Southampton on July 22nd. He was the son of the late Alexander Beattie, of Drumblade, Aberdeenshire, and was educated at Aberdeen University, where he graduated M.B. and C.M. in 1878, and M.D. in 1889. Before the war he was in practice at Sunderland, where he was school medical officer, and honorary surgeon to the Sunderland Volunteer Life Brigade. At the time of his death he was in command of troops on the hospital ship *Aberdonian*, having previously held the same post on the *Warilda* and the *Asturias*.

CAPTAIN A. B. FOOTT, R.A.M.C.(S.R.).

Captain Alexander Boyd Foott, R.A.M.C.(S.R.), was reported as having died on service, in the casualty list published on August 3rd. He was educated at Queen's College, Cork, and took the diplomas of L.R.C.P.L. and L.R.C.S.I. in 1914, afterwards acting as house-surgeon of the Cork Eye, Ear, and Throat Hospital. He took a commission as lieutenant in the R.A.M.C. Special Reserve on September 3rd, 1914, and was promoted to captain after a year's service.

#### Wounded.

Lieut.-Colonel W. C. Croly, D.S.O., R.A.M.C.

Major G. B. Holroyde, R.A.M.C. (temporary).

Captain J. C. P. Bayley, R.A.M.C. (temporary).

Captain W. Hale, M.C., R.A.M.C. (temporary).

Captain W. St. G. McClure, R.A.M.C. (temporary).

Captain F. W. Schofield, R.A.M.C. (T.F.).

Captain R. L. Williams, D.S.O., M.C., R.A.M.C. (temporary).

#### Missing.

Lieut.-Colonel A. C. H. Gray, R.A.M.C.

Major E. J. Tilbury, R.A.M.C.

Major A. M. Wood, R.A.M.C. (temporary).

Captain M. Donaldson, R.A.M.C. (temporary).

Captain G. J. Jones, R.A.M.C. (temporary).

Captain and Quartermaster J. D. Genese, R.A.M.C.

Lieutenant J. R. M. McGregor, R.A.M.C. (temporary).

#### DEATHS OF SONS OF MEDICAL MEN.

Chisholm, John O., Lieutenant, only son of Dr. J. O. Chisholm of Glasgow, died of wounds, July 23rd.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]

## HONOURS.

A SPECIAL Supplement to the *London Gazette*, dated July 26th, contains long lists of awards in recognition of "gallantry and devotion to duty in the field." The list includes the following medical officers who receive the honours indicated:

(Continued from page 121.)

#### D.S.O.

Major Archibald John Collins, M.C., A.A.M.C.

When in charge of the evacuation of wounded during intense fighting, and although the advanced dressing station in which he was located was subjected to heavy enemy artillery fire, he, by his splendid energy, coolness, and courage, was enabled to evacuate safely several hundred casualties. His magnificent example inspired all who came in contact with him, and stimulated junior officers and exhausted stretcher-bearers to further efforts.

Temporary Captain (acting Lieut.-Colonel) Kenneth William Mackenzie, M.C., R.A.M.C. (late Captain I.M.S.).

When in charge of the forward evacuation he kept in touch with the retiring infantry, continually searching for and collecting the wounded. It was largely due to his great energy, skill, and foresight that so many of our casualties were so successfully evacuated.

Captain (acting Lieut.-Colonel) Arthur Thomas Pitts, R.A.M.C. (S.R.).

He established a dressing station in a very forward and exposed position. During two days and two nights he remained under continuous and terrific shell fire, dressing wounded and evacuating them. His courage and endurance under most trying conditions saved many valuable lives.

Captain (acting Lieut.-Colonel) Leopold Thomas Poole, M.C., R.A.M.C.

Hearing during a hostile attack that a large number of wounded were uncollected, owing to normal communications having been cut by the attack, he proceeded at once to the area, which was subjected to a sustained bombardment, and organized stretcher parties, sending up all his available cars. It was owing to his fine courage and promptitude that upwards of 300 casualties were not left unattended.

Temporary Captain Frederick Naylor Stewart, M.C., R.A.M.C.

He collected and dressed cases under the most intense shell fire, and on two occasions, by remaining behind after the order to withdraw had been given, succeeded in evacuating all the stretcher cases. He set a high example of courage and self-sacrifice. He was wounded in the face and thigh.

Temporary Captain James Lennox Stewart, M.C., R.A.M.C.

Although his aid post was in the open, a few yards behind the front line, he remained there, caring for the wounded, and through his efforts they were all dressed and evacuated. He was the only medical officer of the brigade left.

Captain (acting Lieut.-Colonel) Charles Herbert Stringer, R.A.M.C.

When in charge of an advanced dressing station, owing to the whole force retiring, the collection and evacuation of large numbers of wounded, who were lying in thick woods, was a task of extreme difficulty in view of the rapid advance of the enemy. Although subjected to heavy fire, he remained behind till the enemy were almost up to his position, and by his skilful organization he succeeded in evacuating practically all the wounded. His magnificent courage and devotion saved many wounded from falling into the enemy's hands.

Captain (acting Lieut.-Colonel) Joseph Hugh Ward, M.C., R.A.M.C.(S.R.).

For conspicuous gallantry and devotion to duty while in command of a cavalry field ambulance. During two days of intense fighting, in spite of the enforced moves of his unit, he continued to help an advanced dressing station, open until the last possible moment to deal with large numbers of wounded, only retiring when all had been evacuated, and when ordered to do so. Throughout this period he showed an example of pluck and determination beyond all praise.

Temporary Captain Roger Llewellyn Williams, M.C., R.A.M.C.

During operations, he, together with the C.O. and Adjutant, were the last to withdraw. Shortly after the C.O. was severely wounded, but, with the assistance of another officer, he carried him away for



over half a mile under intense machine-gun and rifle fire at close range. Afterwards he continued to dress the wounded, including the Adjutant, under the most intense fire, and throughout the withdrawal he showed the utmost energy and devotion to duty.

**Temporary Captain (acting Major) Herbert George Willis, M.C., R.A.M.C.**

When in command of a bearer division of the field ambulance throughout ten days' fighting he kept all in order by visiting the regimental advanced posts and ambulance relay posts, and when the trolley line was destroyed by shell fire he reorganized the system of evacuation, going round the posts and making the necessary arrangements at great personal risk. By his action he ensured the clearance of the wounded.

*Second Bar to the Military Cross.*

**Temporary Captain (acting Major) Charles Bromley Davies, M.C., R.A.M.C.**

While in charge of an advanced dressing station, his energy throughout whilst supervising the collection of the wounded was remarkable; it was due to him that the collection and evacuation of the wounded was so quickly and thoroughly carried out. Though slightly wounded, he remained at duty for another eight days, when he was severely wounded. His courage and energy were of a very high order. (M.C. gazetted August 25th, 1916. Bar to M.C. gazetted July 18th, 1917.)

**Temporary Captain James Wallace MacFarlane, M.C., R.A.M.C.**

In going under heavy shell fire to the assistance of a wounded man who was lying in the shelled area, dressing his wounds, and getting him safely to cover. He without doubt saved the man's life. (M.C. gazetted July 25th, 1917. First bar gazetted February 4th, 1918.)

*Bar to the Military Cross.*

**Temporary Captain Philippe Bernard Belanger, M.C., R.A.M.C.**

When the enemy had penetrated the defences on the left of his battalion in support, and were outflanking battalion head quarters, he went across 300 yards of ground swept by severe machine-gun and rifle fire, to assist a wounded officer, and had him carried into safety. He displayed great courage and self-sacrifice throughout operations. (M.C. gazetted October 18th, 1917.)

**Captain (acting Major) Henry Bryan Frost Dixon, M.C., R.A.M.C.**

This officer remained behind in "No Man's Land" and dressed three officers under extremely heavy machine-gun fire, and helped to carry a wounded man more than two miles to a place of safety. Later he continued to dress all wounded, although practically surrounded by the enemy. His cheerfulness and disregard of personal danger under these exceptionally trying circumstances inspired all ranks. (M.C. gazetted November 14th, 1916.)

**Captain Walter Elliot Elliot, M.C., R.A.M.C.(S.R.).**

He established a regimental aid post, and for twelve hours, assisted by two officers, and in spite of continuous shelling, attended to over 250 wounded, and succeeded in evacuating all to the dressing station. It was due to his personal courage and example that this was successfully carried out. (M.C. gazetted June 18th, 1917.)

**Captain (temporary Major) James Douglas Fiddes, M.C., R.A.M.C.**

In charge of an advanced field dressing station which was heavily shelled, he successfully evacuated all the wounded to a safer place. He also went up to the front when the officer in charge there was exhausted and gassed, and superintended the evacuation of all the wounded. (M.C. gazetted February 4th, 1918.)

**Temporary Captain James Phillips Jones, M.C., R.A.M.C.**

He was in charge of an advanced dressing station, and when the village had been temporarily evacuated he was entirely responsible for the getting away safely of many of the wounded. Throughout the ten days of the battle he displayed the most conspicuous ability, cool courage, and devotion to duty. (M.C. gazetted February 4th, 1918.)

**Temporary Captain Ronald Sinclair Kennedy, M.C., R.A.M.C.**

When in charge of advanced bearers he collected and led forward reinforcing bearer squads in a most gallant manner through a heavy barrage and through lines of retiring infantry, until he gained touch with the regimental aid post. He cleared many wounded who would otherwise have been left to the enemy. A splendid example of persevering gallantry and fearlessness. (M.C. gazetted September 26th, 1917.)

**Temporary Captain (acting Major) John Samuel Levis, M.C., R.A.M.C.**

When in charge of stretcher-bearers at the advanced dressing station his courage and example in leading squads over heavily shelled ground were the means of saving many lives. When ordered to evacuate, he displayed great ingenuity and resource in saving his personnel and equipment. Throughout the operations he has rendered most valuable services. (M.C. gazetted January 26th, 1917.)

**Temporary Captain James Manuel, M.C., R.A.M.C.**

Whilst battalion medical officer and during a withdrawal he frequently dropped back unaccompanied by medical staff and under very heavy fire attended to casualties. His conduct throughout the operations was of a high order. (M.C. gazetted February 4th, 1918.)

**Temporary Captain John Hay Moir, M.C., R.A.M.C.**

During a withdrawal he repeatedly went out into the open, under heavy fire, to attend the wounded. Throughout the withdrawal seven officers of the battalion were wounded. That only one was left in the hands of the enemy was largely due to the magnificent courage which he displayed. (M.C. gazetted November 14th, 1916.)

**Temporary Captain George Rankine, M.C., R.A.M.C.**

During a withdrawal he superintended the evacuation of wounded without rest and at great personal risk, notably when the left flank became exposed, and he led the bearers with great courage near the railway embankment and evacuated all the wounded under heavy artillery and machine-gun fire. (M.C. gazetted November 4th, 1915.)

**Temporary Captain Charles Roche, M.C., R.A.M.C.**

In evacuating wounded from the front line to the advanced dressing station, four out of five collecting posts occupied by him were heavily shelled, but he continued to work incessantly, and evacuated a large number of wounded. (M.C. gazetted October 20th, 1916.)

**Captain Thomas Victor Somerville, M.C., R.A.M.C.**

When his battalion was about to withdraw and the wounded could not be brought to his aid post in time, he went up to the firing line and stayed there attending to the wounded till all the troops had withdrawn. His gallant conduct saved many lives. (M.C. gazetted January 14th, 1916.)

**Captain (acting Major) John Stephenson, M.C., R.A.M.C.(S.R.).**

In continuing to dress cases in the open under heavy shell fire. When the advanced dressing station was heavily gas-shelled and several casualties caused he saved many of the patients and staff from being gassed by his example and coolness. On one occasion he went through a heavy barrage to the regimental aid post and by his coolness and judgement all ranks were encouraged to persevere in clearing the wounded. (M.C. gazetted September 26th, 1917.)

**Temporary Captain Charles Gordon Timms, M.C., R.A.M.C.**

During recent operations he continued to collect and evacuate wounded from his post, though several times nearly surrounded by the enemy and under heavy shell fire. By his fine courage and self-sacrifice he was able to get away a large number of wounded under most difficult conditions. (M.C. gazetted July 18th, 1917.)

**Temporary Captain John Wilfred Watthews, M.C., R.A.M.C.**

During the evacuation of a line he displayed the utmost courage and coolness in evacuating wounded under very heavy shell fire, and it was entirely owing to his energy and personal example that the whole of the wounded were got away in safety. Later, having lost the whole of his medical outfit, he rendered invaluable assistance in rallying the men in his vicinity. (M.C. gazetted November 26th, 1917.)

(To be continued.)

*EAST AFRICA CAMPAIGN.*

A Supplement to the *London Gazette* (August 6th) contains a list of names brought to the notice of the Secretary of State for War by Lieutenant-General Sir J. L. van Deventer, K.C.B., Commanding-in-Chief, British Forces, East Africa, for distinguished services during the operations from May 30th to December, 1917. The following members of the medical profession are included in the list:

*Staff.*—Lieut.-Colonels (temporary Colonel) W. W. Clemesha, I.M.S., (acting Colonel) F. E. Gunter, D.S.O., R.A.M.C. Captains R. L. Impey, M.C., R.A.M.C.(S.R.), G. G. Jolly, I.M.S. Temporary Captain C. P. Bligh-Wall, S.A.M.C.

*Royal Army Medical Corps.*—Lieut.-Colonel R. H. Humphrey, Major G. J. Keane, D.S.O. Captains W. Fraser, J. O. Garland, A. Hendry, H. F. Holmden, W. Mitchell, E. A. Sutton, M.C., G. A. Williams. Temporary Captains C. R. Howard, A. R. Lindsay, L. R. P. Marshall, J. Miller, M. T. Morgan, M.C., A. Moxon, W. A. Ryan, W. B. Walker. Temporary Lieutenants J. I. Greig, R. Semple.

*Royal Army Medical Corps (S.R.).*—Lieut.-Colonel J. McKie, D.S.O., Captains H. S. A. Alexander, S. J. V. Furlong, W. A. McLennan, G. M. Roberts, A. R. Ross, Lieutenants J. F. C. Braine, R. Lloyd-Jones, F. C. Logan.

*Indian Medical Service.*—Majors J. Husband, P. L. O'Neill, Captains F. W. Hay (attached Infantry), T. A. Hughes, H. M. Inman, M. L. C. Irvine, W. M. Lupton.

*Indian Subordinate Medical Department.*—Assistant Surgeons A. Bayley-de-Castro, (honorary Lieutenant) J. A. F. Harvey, E. D. Shave, Sub-Assistant Surgeons Singh Bhag, Jethabhai Desai Gordhandas, Ramchandra Upalekar Govind, Singh Hari, Ram-Chandra Kalamkar Kashi-Nath, Khan Mirhab, Kusan Muhammad, Riazuddin Muhammad, Ram Mukand, Lal Nand, Muhammad Nur, Nath Shambu, Varyam Singh.

*South African Medical Corps.*—Lieut.-Colonel R. L. Girdwood, D.S.O., Majors (temporary Lieut.-Colonels) W. V. Field, W. Gilbert, Majors C. M. Brothers, T. J. W. A. Johnston, A. Liebaert, A. D. McKenzie, Captains A. J. Ballantyne, H. J. Brady, R. D. A. Douglas, S. J. O'L. Greensill, D. Henderson, J. E. Hurworth, S. MacPherson, H. V. Potter, W. Shanks.

*East African Medical Service.*—Major C. A. Wiggins (Uganda Medical Service), Captain D. G. Tomblings (African Native Medical Corps), temporary Captain N. P. Jewell, M.C., Lieutenant R. McGeorge.

*West African Medical Service.*—Captain R. F. Williams, M.C., attached Gold Coast Regiment.

*Miscellaneous Medical Services.*—Captain J. A. Chisholm (Northern Rhodesia Medical Service), Captain and temporary Surgeon E. G. Storrs, M.C. (Northern Rhodesia Medical Service), temporary Captains B. J. Courtney (West African Medical Service), A. G. Eldred (Nyassaland Field Force Medical Service), A. H. Owen (Uganda Medical Service), W. C. Wigan (Nyassaland Field Force Medical Service).

The list also contains the names of a number of warrant and non-commissioned officers and men of the R.A.M.C. and of the Colonial medical services as well as members of the nursing services.

*MILITARY HONOURS TO NURSES.*

The Military Medal for distinguished service in the field has been conferred upon a number of members of the nursing profession, including three members of the Q.A.I.M.N.S., six of the Q.A.I.M.N.S.(R.), one of the T.F.N.S., one matron, one assistant matron, four sisters and one nurse of the St. John Ambulance Brigade Hospital, as well as upon eight members of the B.R.C.S. The Croix de Guerre of the French Republic has been awarded to Miss Annie Mackinnon in recognition of the services of the unit of the corps to which she is attached close behind the French front, and six members of the unit have been mentioned in French dispatches.



## Correspondence.

### SIGNIFICANCE OF FATS IN THE DIET.

SIR,—The figures quoted by Professor Starling illustrate the lack of reliable data regarding the food requirements of children from the laboratory standpoint. This emphasizes the necessity of relying largely, as Professor Starling does, on the statistical method—that is, by a study of the proportion of fat to the whole diet taken under known conditions. In this connexion I may refer to the results of an analysis of the daily dietaries of eight apparently healthy children in medical families—the analysis being made from cooked foods—which I carried out many years ago; the ages of the children ranged from 4 to 6 years. The average results were:

Protein	...	...	...	71 grams
Fat	...	...	...	67 "
Carbohydrates	...	...	...	198 "

Giving a total of 1,725 calories.

The percentage of protein is appreciably higher than that ordinarily recommended in standard textbooks. (In children the source of protein is probably of greater importance than the actual amount.) The fat percentage works out at 34 per cent. of the total energy of the diet, a figure which is remarkably close to the figure, 35 per cent. of food as purchased, founded on by Professor Starling and adopted by the Inter-Allied Scientific Food Commission.

Professor Starling's paper is a most timely contribution to our knowledge of this subject; there are, however, many clinicians who will find difficulty in agreeing with one conclusion—that the percentage of fat in adult dietary can be considerably augmented above the figures recommended by him without interfering with efficiency or with health.—I am, etc.,

Edinburgh, Aug 3rd.

CHALMERS WATSON, M.D.

### TREATMENT IN THE TOXAEMIAS OF PREGNANCY.

SIR,—In the JOURNAL of August 3rd (p. 108) is an interesting paper on "Treatment in the toxæmias of pregnancy," in which Dr. Gilbert Strachan has done me the honour of quoting a paper published by me in 1910, in which I described a successful case of Caesarean section for eclampsia gravidarum performed in April, 1908—the first successful case recorded in this country. My object in writing that paper was to urge a reconsideration of the question of rapid delivery in eclampsia gravidarum. Since then the view that rapid delivery is indicated in many cases has gradually been gaining ground, and Dr. Strachan's communication adds additional support to that view.

But with his condemnation of Caesarean section I cannot agree. It is true that the mortality of Caesarean section culled from the literature was about 50 per cent. Now, however, it is being rapidly reduced, and is thus following the same course as Caesarean section for pelvic contraction.

The modern Caesarean operation has been successful not only because of improvements in operative technique, but because the indications for the operation have been more clearly defined and acted upon without delay and before the patient has become infected through futile attempts to deliver.

If Caesarean section is to have a place in the treatment of eclampsia we must be able to say, "This is a case for Caesarean section," and have the courage to act promptly, for to delay until the patient is moribund and all treatment has been a failure is to court disaster.

The indications I have given for this operation are as follows:

1. When the fits are severe and recur in rapid succession.
2. When labour has not commenced.
3. When the cervix is difficult to dilate from elongation, hypertrophy, or excessive rigidity.
4. When the mother is moribund and the fetus living and viable.
5. When labour has commenced, and there is found considerable disproportion between the size of the child and that of the pelvis.
6. When the surroundings of the patient are suitable for a major surgical operation, and when the services of an operator skilled in pelvic surgery can be obtained.

The aim of the operation is to save both mother and child, and as in severe cases the child has been found dead when extracted, the operation is done solely to save the mother's life.

Dr. Strachan suggests an alternative—"to make two or three incisions into the cervix as Dührssen advises." The objection to this method is that the child must still be delivered by forceps or version which may be attended with difficulty, producing under any circumstances considerable disturbance to the patient with consequent increase of the convulsions. Further, such incisions, however carefully stitched, may become infected, causing trouble both immediate and remote. No information is available concerning the future obstetrical history of women so treated, as to how the cervical scars behave during parturition.

Abdominal Caesarean section is the most rapid method of delivery, and in the hands of an expert the mortality of the operation *per se* should be very low. This must be remembered before ascribing a death to the operation, for in the majority of the cases the death of the patient is due to the disease and not to the operation.

I may add that my patient has had two subsequent confinements without difficulty and is now the happy mother of two charming children.—I am, etc.,

London, W., Aug 3rd.

F. J. McCANN.

### THE FUTURE OF THE PROFESSION.

SIR,—I am glad to see that you support Dr. Rice-Oxley's plea in last week's JOURNAL for the better representation of the profession on those public bodies which are responsible for the making and the administration of the laws affecting the health of the community—a matter of great importance in view of the movement for a Ministry of Health, which has been brought appreciably nearer realization by the practical and logical address of Sir Bertrand Dawson.

The bodies chiefly concerned are Parliament and the borough and county councils. My object in writing is not to discuss our representation in the former body, which, important as it is, can only be carried out by a few medical men, and those seldom men in active practice. With local councils, however, the case is different: the ties and distractions of party can here be largely disregarded, the work of an ordinary member can be carried out efficiently without such a demand on his time as to prevent him carrying on his practice as a medical man.

It would surely be possible in the area of every such a council to find at least one medical man who could serve on it, and he would no doubt be welcomed and have much influence in the deliberations of the assembly if he would join as a public man having special knowledge of the conditions affecting the health of the people and of the proper value of preventive and remedial legislation and administration. At present, when in council, these bodies are entirely dependent for information and advice on medical matters on their medical officers, who are alone and unsupported; it is only natural that these officers should look on such matters from the preventive point of view, and with the best will in the world, which I believe most medical officers of health have, they can hardly be expected to have the same outlook as men in the actual practice of curative medicine. The one should be, and I have no doubt would be, the complement of the other. It is important that our representatives on these bodies should be men in actual practice, or at least in close touch with men in practice. Too often medical members of councils have failed to be as effective as they might be from our point of view because they have too long or too completely retired from practice.

It would, of course, be a mistake to act as aggressive trade unionists. If they did their advice would be looked on as tainted and so lose most of its intended effect. But at the same time we shall expect our representatives to hold a watching brief for their fellow practitioners and our ideals of medicine.—I am, etc.,

Bradford-on-Avon, Aug. 4th.

CHAS. E. S. FLEMING.

### THE BURDEN OF COSTLY REMEDIES.

SIR,—I consider the strictures passed by Mr. Smith Whitaker in his decision quite unnecessary.

In 1913 I applied to the Kent Committee for vaccines,



and was informed, after communication with the Commissioners, that vaccines were not to be supplied to panel patients. Payment in Kent was *pro rata*. I do not dispense for the panel.

In October, 1917, I told a patient he could not get vaccines on the panel, but advised him to apply direct to his club (Foresters), giving him a letter fully stating his case. Again a direct refusal was received.

Comment is needless.—I am, etc.,

Windsorham, July 31st.

G. BAYTON FORGE.

### BROKEN SLEEP.

SIR,—Dr. Guthrie Rankin, in his paper on this subject (July 27th, p. 77), says, *inter alia*: "Electricity is said to be sometimes useful as a sedative agent, but its effects are uncertain, and may prove to be exciting rather than soothing." From considerable personal experience I have no hesitation in saying that the reverse is the case. Before mobilization, nearly four years ago, I treated in Glasgow during the previous fourteen years numerous cases of insomnia *per se* by means of high-frequency currents with scarcely a failure, and, when sleeplessness formed one of a group of symptoms in cases of neurasthenia, the good influence of these currents was most marked in restoring sleep.

The sleep produced differs materially from that obtained from drugs. It is a refreshing sleep; digestion is not upset, nor is an evil habit acquired. I have never seen any "exciting effects" from the application of high-frequency current, and these should never occur if the treatment is in skilled and qualified hands.—I am, etc.,

W. F. SOMERVILLE,  
Lieut.-Colonel R.A.M.C.(T.).

1st Eastern General Hospital,  
Cambridge, July 29th.

### THE TRAVELLING MEDICAL BOARD.

SIR,—Called up on July 27th for examination and told to be punctual, I presented myself at the time fixed. Very little foresight was shown in the arrangements, and a good deal of valuable time was lost. My complaint, however, is that, stripped stark naked, I was fully exposed to the gaze of a clerk of perhaps sixteen years of age. To this I strongly object, as do others. An extra screen would have saved what I regard as an indignity to a man of my years. I hope that by this protest others may be spared what I regard as an unnecessary and degrading exposure.—I am, etc.,

G. P. NEWBOLT, F.R.C.S. Eng.,  
Senior Surgeon, Royal Southern Hospital,  
Liverpool.

August 3rd.

### CENTRAL MIDWIVES BOARD.

#### *Relations of Medical Practitioners and Midwives.*

At the monthly meeting held on July 25th, when Sir Francis Champneys was in the chair, a letter was considered from the Medical Officer of Health for the county of Durham, asking:

(a) Whether any objection can be raised to a registered medical practitioner employing a certified midwife to attend his midwifery cases, the midwife being paid a fixed salary for her attendance, including the collecting the fees due to her employer and paying them over to him.

(b) Whether, in such a case, the midwife is bound to continue her attendance on the patient for ten days after the confinement, or can she hand over the conduct of the case during the lying in period to her employer.

(c) What action should be taken by a county council desirous of appointing a subsidized midwife in a district not adequately provided with trained midwives, where the local medical practitioners object to her appointment unless they receive a guarantee for the payment by the county council of their fees when called in on the advice of the midwife, whether the patient can afford to pay the fee or not.

It was decided to reply as follows:

(a) That there is no objection to such an arrangement.

(b) That under the circumstances specified the midwife is bound to attend for the period of ten days after the labour.

(c) That as the county council subsidizes the midwife, it ought to hold itself responsible for the payment of the doctor when required.

### *Reciprocity with Scotland.*

On the motion of the Chairman the following resolutions were unanimously adopted, to come into effect if and when Clause 10 of the Midwives Bill, 1918, became law:

(a) That having regard to the equivalent value of the standards of training and examination required by the Central Midwives Board for Scotland and by this board, it be an instruction to the secretary to admit to the Roll of Midwives, subject to compliance with the terms and conditions of Section 10 of the Midwives Act, 1918, any woman holding the certificate of the Central Midwives Board for Scotland in virtue of having passed the examination of that body, and to report his action to the board.

(b) That in the case of a woman applying to be certified under Section 10 of the Midwives Act, 1918, by reason of any qualification other than that of holding the certificate of the Central Midwives Board for Scotland in virtue of having passed the examination of that body, the secretary do report thereon for such action to be taken as the board may deem expedient.

## Universities and Colleges.

### UNIVERSITY OF LONDON.

At a meeting of the Senate on July 31st a resolution was adopted expressing the gratification with which it had learnt of the proposals made by the authorities of University College Hospital for co-operation with other hospitals and for the admission of women to their medical school as from October 1st next.

*Examiners.*—The following were reappointed to act as examiners for the second examination for medical degrees: Part II, for internal and external students in the session 1918-19—Anatomy: Professor J. E. S. Frazer (St. Mary's Hospital Medical School), together with the external examiner, Professor R. W. Reid (Chairman). Pharmacology: Dr. E. Mellanby (King's College for Women), Chairman, together with the external examiner, Dr. H. J. Campbell. Physiology: Dr. J. Mellanby (St. Thomas's Hospital Medical School), together with the external examiner, Professor D. N. Paton (Chairman).

The following were appointed to act as additional examiners (Part II, for internal and external students) at any examination held in the session 1918-19 at which the number of candidates exceeds seventy. Anatomy: Professor T. W. Jones (London School of Medicine for Women), together with the additional external examiner (Mr. A. Macphail). Pharmacology: Mr. P. P. Laidlaw (Guy's Hospital Medical School), together with the additional external examiner (Dr. F. Ransom). Physiology: Dr. F. A. Bainbridge (St. Bartholomew's Hospital Medical School), together with the additional external examiner (Professor E. H. Starling).

*Chairmen of Committees.*—The following chairmen of committees of the Senate have been elected for 1918-19:—Council for External Students: Dr. R. Russell Wells. Committee of Medical Members: Sir Alfred Pearce Gould, K.C.V.O., M.S.

*Parliamentary Register.*—Any graduate who is not at present on the register of parliamentary electors for the University, and who desires to be placed thereon, is required to make a claim and to pay a fee of £1. Application for the form of claim should be marked "Parliamentary Register," and addressed to the Vice-Chancellor at the University.

### CONJOINT BOARD IN ENGLAND.

The diplomas of L.R.C.P. and M.R.C.S. have been conferred upon the following candidates who have passed the final examination in medicine, surgery, and midwifery of the Conjoint Examining Board:

A. Abelson, J. F. Adams, Kaiku Ardesbir Anklesaria, B. F. W. Armitage, C. H. Backus, Annie H. Banks, \*F. G. Banting, G. Blunt, M. V. Boucand, M. C. Breese, J. D. Byrd, F. Cavers, E. A. Clegg, A. W. Cocking, Kathleen M. Cogan, T. Colley, S. C. Cooper, C. C. H. Cull, Pares Chandra Datta, E. S. Davies, S. R. E. Davies, T. M. Davies, F. S. Drewe, C. B. Dyson, A. Edinow, Saad El Din Ahmed El Galst, F. K. Escritt, Lucie Gunstond, Soanars Galstaun Galstaun, E. S. Gawn, C. Gill-Carey, S. V. Goldhurst, L. Handy, F. T. Harrington, G. G. Havers, W. A. Hawes, S. N. Hayes, W. E. Heath, W. S. Herman, T. C. Higgins, C. P. Hines, J. Joffe, A. K. I. Jones, \*E. Ek Dun Lau, A. S. Lawson, N. H. Little, A. W. Lloyd-Davies, G. B. Lowe, Edith M. P. Morris, K. Mullen, R. A. Olphert, Irene G. Parsons, R. J. Perkins, G. F. Peters, Mary M. Prior, P. G. Quanton, Constance A. Randall, C. G. J. Rayner, Frances E. Rendel, N. Rumbold, J. A. A. P. Scott, A. G. M. Severn, W. H. Simmons, B. L. Slater, V. A. T. Spang, G. S. Swan, A. D. Symonds, M. S. Thomson, \*Agnes L. Powers, \*Elsie M. Visick, Yik Shing Wao, J. Whittingdale, V. D. Wyborn.

\* Diploma of M.R.C.S. conferred on July 11th, 1918.

† Under the Medical Act, 1876.

### CONJOINT BOARD IN SCOTLAND.

The following candidates, having passed the final examination, have been admitted L.R.C.P.E., L.R.C.S.E., L.R.F.P. and S.G.:

J. K. C. Megaby, H. G. Anderson, A. I. Meek, W. H. Duff, R. J. Patchett, Mahmood Abdel Kadar Mofreh, G. H. T. N. Clarke, J. L. West, L. W. Nott, J. Byrd, H. Lyth, S. G. Evans, J. J. van Niekerk, A. P. M. Leod.



## The Services.

### SENIORITY LIST AND ESTABLISHMENT FOR TERRITORIAL MEDICAL OFFICERS.

THE following Army Council Instruction No. 818 of 1918, was issued on July 21st:

818. *Introduction of a Seniority List and Establishment for Officers of the Army Medical Service, T.F., and R.A.M.C., T.F.*

1. Approval has been given for the Introduction of a General Seniority List, such as obtains in the Regular Service for officers of the A.M.S., T.F., and all officers of the R.A.M.C., T.F. (other than those belonging to the administrative and *à la suite* staffs of T.F. General Hospitals, and the Sanitary Service).

2. The following instructions will be observed in the transfer of officers to this list, and in regulating promotion.

(i) Officers will be shown in the seniority list according to the dates of their substantive ranks, except in the case of officers restored to their active list from the T.F. Reserve or retired list, when their seniority will be from the date of their restoration.

This exception will, however, not apply to those officers whose transfer to the Reserve, since mobilization, was at the instance of a recognized official body and for reasons other than their private interests.

(ii) Promotion up to the rank of major will be governed by para. 102, T.F. Regulations, as amended by A.Os. 45 of 1915 and 68 and 356 of 1916.

(iii) Promotion to the rank of lieutenant-colonel to complete establishment will be made by selection from majors who have qualified in such manner as may be prescribed by the Army Council.

(iv) Promotion to the rank of colonel to complete establishment will be made by selection from lieutenant-colonels.

(v) Promotions to substantive rank will be made to complete a War Establishment of 19 colonels and 107 lieutenant-colonels.

(vi) During the present out-bombardment of the T.F. a major or a lieutenant-colonel shall be considered qualified for promotion who has been recommended in the usual way, and whose advancement has been approved by the Army Council.

(vii) Substantive promotions to complete establishment will all bear the date of June 1st, 1916, but pay and allowances will only take effect from the date of appearance in the *London Gazette*.

3. Temporary rank will no longer be either held or given, and officers now holding such rank will, if they continue to hold their appointments, be eligible for equivalent acting rank.

91/Medical, 1308 (A.M.D. 1).

Mr. Macpherson has informed the House of Commons that the promotions would take place as soon as possible after the receipt of the recommendations from the various theatres of war with which these officers were serving. Officers not selected for promotion would not be retired on that account.

### EXCHANGE.

REGIMENTAL MEDICAL OFFICER, at present stationed in Northern Command, would like to exchange with M.O. Regimental or Hospital—in Western Command. Please address No. 2050, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

## Obituary.

### FREDERICK T. ROBERTS, M.D., F.R.C.P.,

Emeritus Professor of Medicine and Clinical Medicine,  
University College, London.

WE announced briefly last week the death in his 79th year of Dr. Frederick T. Roberts at his residence in London.

Frederick T. Roberts, after a period of apprenticeship in Carmarthen beginning in 1852, in 1858 entered University College, London, as did many other brilliant young Welshman of his day. He took the degree of B.Sc. at the University of London in 1862, and that of M.B. in the following year, graduating M.D. in 1870. Soon after completing his course at University College Hospital he became physician to the Liverpool Northern Hospital, and a lecturer in the Liverpool School of Medicine. It was, we believe, his experiences at this time and during his apprenticeship which turned his attention to the study of the diseases the nature and treatment of which were afterwards to be the subject of the Address in Medicine on Infective and Infectious Diseases which he gave to the annual meeting of the British Medical Association in Swansea in 1903. He was soon called back to London to become assistant physician to University College Hospital and lecturer on *materia medica* in the College. After a rather long period as assistant physician he became full physician, professor of medicine, and professor of clinical medicine. On his retirement he was appointed emeritus to the two chairs. Afterwards he lived for a time at Pinner, where he had to submit to amputation of the leg. This misfortune very much limited his activities; some years ago he returned to London, where he had a host of friends.

Frederick Roberts was among the first to attempt to make adequate use of the out-patient department for the training of students. His method was very direct, by way of question and answer, but he often gave the answer himself if the class showed any hesitation. Many can look back to their attendance in his out-patient room as a very valuable part of their training. His genial manner, his evident desire to help and to draw out the best that was in a man endeared him to his students, most of whom remained his friends throughout life. He made comparatively few contributions to periodical medicine, but was diligent with his pen. He was best known as a writer by his *Handbook of the Theory and Practice of Medicine*, which reached a tenth edition in 1909. It was a wonderfully comprehensive book, admirably arranged, but rather hard reading; its special value was to the student in the period immediately preceding his examination, when the perusal of "Roberts" reduced to order and sequence the chaotic masses of information acquired by various reading and practical observation. He was assistant editor of Quain's *Dictionary of Medicine*, and contributed many articles to that famous volume. He also wrote the article on diseases of the pericardium in Allbutt's *System of Medicine*. In 1895 he delivered the Lettsomian lectures before the Medical Society of London on the combination of morbid conditions of the chest, and in 1902 the Lumleian lectures before the Royal College of Physicians on the comprehensive study of thoracic phthisis, subjects with which he had been able to make himself thoroughly acquainted as physician to the Consumption Hospital, Brompton. He became a Member of the Royal College of Physicians in 1870, and a Fellow in 1877. He was Censor in 1902-03, and 1906.

Dr. Roberts was long a member of the British Medical Association; he was secretary of the Section of Medicine in 1877 at Manchester, vice-president in 1883 at Liverpool, and president in 1894 at Bristol.

Of his social qualities and of his love for Wales, Sir Vincent Evans has been good enough to send, at our request, the following brief notes:

The late Dr. Frederick Roberts was in many ways a typical Welshman. He was bright, generous, and genial, and extremely fond of music. During many years he befriended and assisted the young musicians who came to London from Wales to undergo their training. It may be added that he was similarly generous towards the young men of his own profession who came to seek a career in the metropolis. Dr. Roberts not only appreciated music, he was himself a singer of much more than average ability. Those who had the privilege of enjoying his hospitality—and they were many—well remember the entertainment provided for them in the fine music room attached to his house in Harley Street, at which he was frequently a principal performer; at the dinners of medical societies and at the Welsh banquets which he loyally attended it was his delight to respond to the request of his friends by singing some of the quaint ballads of his native country, such as "Gogeri-dan," and "Mentra Gwyn," and equally delightful English songs such as "Sally in Our Alley" and "Tom Bowling." The passion for music remained to the last; and one of his last "outings" was on June 22nd this year, when he was wheeled (by special permission) into a convenient corner of the nave of Westminster Abbey to hear Welsh hymns sung by a picked choir, the band of the Welsh Guards discoursing Welsh airs; and his fellow countryman and friend, Mr. Ben Davies, giving a most inspiring rendering of "Hen Wlad fy Niadau" (The Land of My Fathers) at the Welsh National Service held for the first time in that historic fane for the benefit of the Welsh Prisoners of War Fund.

In matters of science and literature connected with Wales Dr. Frederick Roberts, as might be expected, took a very keen interest. His contributions to science was recognized by the University of Wales—somewhat belatedly, according to the custom of that institution—by the conferment upon him of the degree of Doctor of Science *honoris causa*. For thirty years or more he was an active member of the Council of the Honourable Society of Cymmrodorion, the leading literary association connected with the Principality, and when he retired he was made one of its honorary vice-presidents, a position which he continued to occupy until his death. He was also an ardent supporter of the National Eisteddfod, and rendered



valuable services to that ancient representative institution of the Welsh nation when it visited London in 1887 and again in 1909. Of his many personal charities and private benefactions this is not the place to speak; suffice it to say that he was in such matters the type of a true-hearted, generous Welsh gentleman. In some obituary notice he was said to be a native of Carmarthen. As a matter of fact he was born in the neighbouring county, and in the town, of Cardigan. That it should have "happened" so was a fact to which he made amusing reference on more than one occasion at the county dinners of the rival shires, which in happier times were often held in London.

HENRY BETHAM ROBINSON, M.S., F.R.C.S.,  
Senior Surgeon to St. Thomas's Hospital, London.

WE regret to record the death on July 31st, after some weeks' illness, of Mr. H. B. Robinson, senior surgeon of St. Thomas's Hospital.

Henry Betham Robinson was born in August, 1860. He received his school education at Dulwich College and entered St. Thomas's Hospital as a student in 1879. There he had a most brilliant career both in work and games. As a half-back in the XV he learned to play the game in a way which stood him well in his later life, and enabled him to develop that humour, kindness, willingness, and decision which made him such a good lecturer and teacher of anatomy and surgery.

At the London University he won many distinctions, the chief being the Scholarship and Gold Medal in Medicine at the M.B. and the Gold Medal of the B.S. examinations. In 1893 he was appointed assistant surgeon on the staff of St. Thomas's Hospital. The turn of fortune gave him a long period of probation to serve before his advancement to the senior staff. This period of waiting he turned to good account. His out-patient clinic was always crowded with students bent on picking up instruction which he gave in a most attractive way. Few can have excelled him in this.

In 1892 he was elected one of the Hunterian Lecturers of the Royal College of Surgeons, choosing as his subject "Cystic diseases of the breast." The lectures are a mine of information. His later years were more occupied by teaching than publication.

In 1901 the Cheselden masonic lodge was started at St. Thomas's Hospital. Mr. Robinson soon became a member, and in masonry found an outlet for his surplus energies. He occupied the Master's chair of this lodge, when stricken with illness which was to rob the hospital of a great teacher, whose kindness and geniality went straight to the heart of the student.

Mr. Robinson took a keen interest in the work of the British Medical Association; he was a member of the council of the Metropolitan Counties Branch for twenty-five years without a break, had held the office of president, and had latterly been its treasurer. He also for some time represented the Branch on the Central Council.

Mr. Robinson leaves a widow and a son, the bright promise of whose career in his father's profession did much to sweeten the labours of the last years.

Mr. Edred Corner, to whom we owe many of the particulars here given, concludes by the following tribute to his colleague's memory:

The greater part of Mr. Robinson's work was done at this hospital, which will long mourn his loss. When the war broke out he took up work at the No. 2 General Hospital, later volunteering his services at the King George Hospital, where he worked with keen interest until he found it necessary to save all his strength for his own hospital and its military part, the No. 5 General Hospital, to which he was attached.

The war showed him to his colleagues as one willing to undertake much extra work, thus enabling others to go away, sacrificing himself—how much we now know—in its performance. Can it be wondered that so many mourn and feel his loss; or that so many paid a last tribute to his memory by attending the services held in the St. Mary-lebone Parish Church and the hospital chapel? At St. Thomas's Hospital Mr. Betham Robinson was surgeon to in-patients and lecturer on surgery. Outside the hospital he was consulting surgeon to the East London Hospital for Children, Shadwell, and examiner in surgery at the Universities of London and Manchester. He had also held

the following appointments: Surgeon to the Shadwell Hospital for Children, and to the King George Hospital; surgeon in charge to the Throat Department, St. Thomas's Hospital; teacher of practical operative surgery; lecturer on anatomy, demonstrator of anatomy, resident assistant surgeon, surgical registrar, and many minor appointments. This all shows the amount of work which Mr. Betham Robinson has done for the school and hospital to which he belonged, and for which both are sincerely grateful.

FREDERICK EUSTACE BATTEN, M.D. CANTAB., F.R.C.P.  
THE premature death on July 27th of F. E. Batten, after an operation, comes as a shock to his friends and contemporaries, and leaves a gap in the very small group of physicians who have specially devoted themselves to the two departments of nervous and children's diseases. The third son of the late John Winterbotham Batten, K.C., he was born at Plymouth in 1865, and after being educated at Westminster School entered Trinity College, Cambridge, where he was placed in the second class of the natural sciences tripos in 1887. He proceeded to the degrees of M.B., B.C., in 1891, and M.D. four years later, and in due course became a Member (1895) and a Fellow (1901) of the Royal College of Physicians. In the meanwhile he had completed his medical education at St. Bartholomew's Hospital, where he was house-physician (October, 1901, to October, 1902) to Sir William Church and subsequently casualty physician. He soon became a highly skilled pathologist and did a large amount of original investigation, especially in the laboratory of the National Hospital, Queen Square, on the histology of the nervous and muscular systems, thus laying a sure foundation for accurate clinical work. It is indeed a pity that he had at the same time to earn his living, and therefore could not devote his entire energies to research. His activities were, however, mainly given to the National Hospital and the Hospital for Sick Children, Great Ormond Street, where at the time of his death he was physician to out-patients and to in-patients respectively.

In addition to his original papers, which chiefly appeared in *Brain*, he contributed largely to systems of medicine and other publications, his special knowledge of the nervous diseases of children being much in request. In 1913 he brought out, jointly with Sir Archibald Garrod and Dr. Thursfield, the book entitled *Diseases of Children*, by various representative writers, and in 1916 he gave the Lumleian Lectures at the Royal College of Physicians on acute poliomyelitis, a subject in which he had long taken an active interest. He also wrote much on meningitis and myopathias, and, together with Drs. Risien Russell and James Collier, had in 1900 placed the peculiar features of subacute combined degeneration of the spinal cord on a firm basis. His last communication, on epidemic stupor, jointly with his friend and colleague Professor G. F. Still, appeared a few months ago.

These details might, perhaps, make it appear that Batten's outlook on medicine was mainly confined to the nervous diseases of children, but he was a general physician first and then an investigator of special problems, whose place it will be difficult to fill.

JAMES MOORHEAD, M.A., M.D.,  
Surgeon-Lieut. Colonel I.M.S. (ret.).

WE regret to record the death, on July 23rd, of Dr. James Moorhead in his 67th year. Dr. Moorhead's career as a student was very remarkable. Apart from scholarships and class prizes obtained whilst a student of Queen's College, Belfast, he won the gold medals and highest places at the university examinations for the B.A. and M.A. degrees. In the medical faculty he won whilst at Belfast the Malcolm and Charters exhibitions in medicine and surgery, and obtained the gold medal with the highest marks at the M.D. examination in the Queen's University in Ireland. He entered the Indian Medical Service in 1877, taking the first place, and, on leaving Netley, won the Martin Memorial Gold Medal and the Herbert Prize. He was civil surgeon at Simla, where he enjoyed a busy practice. On his retirement he resided for a time in Belfast, where he was lecturer in tropical medicine.

During the whole of his professional life Dr. Moorhead was a devoted member of the British Medical Association



His great knowledge of the world and of the needs of the profession impressed him deeply with the necessity of a protecting association, and nothing to him appeared so amazing as that a member resigned because of some supposed failure of the Association on some particular phase of its work, forgetful of the enormous conquests it has won for every section of the profession. As a physician he was alert, resourceful, and tender; consciousness of success in well-doing was the award he counted highest.

Dr. Moorhead was twice married. He leaves a wife, two sons, and four daughters to mourn his loss. About three years ago he removed from London to Bournemouth. His remains were interred in the Bournemouth Cemetery on July 26th.

The writer of this notice has known Dr. Moorhead for over thirty years. He deeply deploras the loss of such a friend, at once guileless, faithful, cultivated, and a very gentleman indeed.

DR. THOMAS J. DABELL of Nottingham, who died after a short illness on July 14th in his 55th year, received his medical education at St. Bartholomew's Hospital, where he gained the Treasurer's prize in anatomy. He took the diploma of M.R.C.S. Eng. in 1887, and soon after began practice in Nottingham. He served for many years on the City Council, both as elected representative and alderman. In 1904 he was made a sheriff and appointed to the Commission of the Peace. He was a member of the Nottingham Division of the British Medical Association, and in 1905 was president of the Nottingham Medico-Chirurgical Society. Dr. Dabell leaves a widow and three daughters.

## Medical News.

THE Under Secretary of State for War stated that the correct designation of the medal issued to the troops engaged in the retreat from Mons is the "1914 Star."

GENERAL SIR ARTHUR SLOGGETT, K.C.B., K.C.M.G., K.C.V.O., has joined the Board of Bovril Limited.

THE KING has awarded the bronze medal for gallantry in saving life at sea to Surgeon Eric Alfred Fiddian, R.N., in recognition of services in rescuing a shipwrecked British crew in January last in the White Sea.

THE Cheshire Local Medical and Panel Committee is summoning a meeting of the medical officers of health, medical officers of child welfare centres, and members of the committees of the centres in Cheshire to hear an address by Dr. Truby King on the work of the centres. The meeting will be held at the Crewe Arms Hotel, Crewe, on Saturday, September 14th.

THE sum of nearly half a million sterling was contributed to the British Red Cross and the Order of St. John on Our Day in Canada last October. The final payment of nearly £180,000 was made on August 2nd. The total sum the joint committee has received from all sources now exceeds eleven millions sterling.

AT a meeting at the London Mansion House on August 1st, attended by numerous representatives of literature, science, and politics of the City of London and of the University of Cambridge, an influential committee was appointed to establish a Chair of French as a potent means of maintaining and increasing the intellectual sympathy between the two nations.

THE late Surgeon A. L. Pearce Gould, R.N., youngest son of Colonel Sir Alfred Pearce Gould, K.C.V.O., who was killed in action on May 19th, had by his will provided that in the event of his dying on active service £1,000 Five Per Cent. War Stock should go to His Majesty the King for the reduction of the National Debt. A number of bequests are also made to religious and philanthropic institutions.

*Reveille* (price 2s. 6d. net) is a new quarterly which succeeds *Recalled to Life*. It differs from its predecessor inasmuch as its editor, Mr. John Galsworthy, has enlisted the help of many writers, including Mr. Rudyard Kipling, Mr. Joseph Conrad, and Sir J. M. Barrie, to lighten its pages. But it will continue to publish many articles on the methods of alleviating the lot of disabled sailors and soldiers.

THE Joint War Committee of the British Red Cross Society and the Order of St. John has, after consultation with General Goodwin, D.G., A.M.S., established a commission for service with the Allied Forces landed in North Russia. The principal medical officer with these forces

will act as British Red Cross Commissioner for the joint societies. Some of our readers may be glad to have their attention called to a paper by Dr. W. T. Grenfell of Labrador, on clothing against cold, published in the JOURNAL of January 15th, 1916.

At the twenty-ninth meeting of the Medical Society of the Canadian Army Medical Corps, Shorncliffe, on August 12th, Colonel Adami, C.A.M.C., F.R.S. (professor of pathology McGill University), will give a lecture on the Canadian Army Medical Corps and medical progress. Sir William Osler will lecture at the following meeting in September on the future of the medical profession in Canada. Medical men not members of the society who would like to be present at either lecture should communicate with the secretary, Major A. H. Pirie, No. XI Canadian General Hospital, Shorncliffe.

IN order to prevent any delay in issuing an infant's ration book, Food Control Committees have been instructed by the Ministry of Food to issue an emergency card in cases where registration of birth is unavoidably delayed. This card will bear enough coupons to provide the infant's weekly ration during the probable interval between birth and date of registration. Such card should be exchanged for an infant's ration book as soon as the birth certificate is obtained. Application for the emergency card should be made on Form N. 30, suitably modified, and must be countersigned by the doctor or midwife in charge of the case. The form can be obtained from any local food office, and, after being duly filled in, can be presented by any one acting on behalf of the parents.

IN giving judgement in a recent case at the Tenterden County Court, in which a medical practitioner sued a patient for fees for medical attendance, the judge ruled that a medical man could not legally claim increased fees due to war conditions unless a fresh contract had been made. We believe that in many areas of the country public announcement has been made of the intention of the medical men in the district to charge increased fees in future. In some areas medical men have themselves made the announcement by way of a circular, or by a notice hung up in their surgeries. In any district where this has not been done the local Division of the British Medical Association might appropriately take the matter up and issue a notification to the public.

DURING the summer school, Cambridge, Sir William Osler on August 7th gave a sketch of the evolution of scientific medicine in the United States, illustrated by lantern slides. He divided the story into four periods. The first, British, to 1820, concerned with medicine among the early colonists, tracing the influence of Edinburgh and of John Hunter, and coming down to the New England group illustrated by Jacob Bigelow and James Jackson. The second, French, period extended from 1820 to 1860, when the influence of Laennec and Louis was supreme; of the third, German, period extended from 1860 to 1890, the main features were specialism at the Vienna school, the teaching of Virchow and Koch, and the work of Traube in experimental medicine. The fourth period is the American, from 1890 to the present day, its chief features being the reorganization of hospitals as integral parts of the university system, and unit and team work illustrated in the clinics of Cushing, Halsted, and the Mayo brothers.

THE report of the Kashmir Medical Mission of the Church Missionary Society for 1917 gives an account of the work of the hospital at Srinagar by Dr. Ernest F. Neve and his colleagues during that year. The hospital contains 150 beds, including 40 for women, and from 10 to 20 are usually occupied by children. The following is a summary of the medical and surgical work: New out-patients, 16,158; total attendances, 38,934; in-patients, 1,719 (1,345 surgical and 374 medical). The surgical operations numbered 4,143, with 28 deaths. There were 23 deaths from medical diseases. Of 938 major operations, about 200 were on the eye, including 96 for cataract. The number of cases operated on for epithelioma was 104, almost all of the Kangri burn type. In 1917 the Durbar made a grant of 4 000 rupees, which was particularly acceptable as a mark of state recognition of the work of the hospital. In the Kashmir State Lepet Asylum there were 106 patients at the beginning of 1917; during the year 110 new cases were admitted, making a total of 216 (161 men and 55 women). Sodium gynocardate is in regular use; of eight cases treated for eight months, there were signs of improvement in five. Three patients who had been in the hospital for some years under various treatment, including nastine, were pronounced to be definitely cured. The value of the work of medical missionaries in India is great. While labouring faithfully in their Master's vineyard they bring the blessings of scientific medicine to fellow-creatures peculiarly in need of such succour.



## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *BRITISH MEDICAL JOURNAL* alone unless the contrary be stated.

In order to avoid delay, it is particularly requested that ALL letters in the editorial business of the *JOURNAL* be addressed to the Editor at the Office of the *JOURNAL*.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the *BRITISH MEDICAL JOURNAL* are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

The postal address of the *BRITISH MEDICAL ASSOCIATION* and *BRITISH MEDICAL JOURNAL* is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the *BRITISH MEDICAL JOURNAL*, *Antiology*, Westrand, London; telephone, 2651, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Medisecra*, Westrand, London; telephone, 2634, Gerrard. The address of the Irish Office of the *British Medical Association* is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### QUERIES AND ANSWERS.

#### INCOME TAX.

A. F. S. served in the army for twelve months, and during the succeeding eight months his (civilian) earnings exceeded those of previous years; he asks whether he is entitled to take advantage of the three years' average.

\*. The answer would seem to depend on whether or not A. F. S. was carrying on his civil occupation and paying tax on that source of income—for example, on the proceeds of the practice less cost of maintaining a locumtenent during his military service. In that case he would be entitled to the average, but if no tax was paid or assessed during that period on his civil earnings it would seem that he is committed to the contention that those earnings had ceased, in which case the taxing authorities would be entitled to assess on a fresh average when his civil earnings recommenced.

A. M. V. L. inquires as to the basis of computation of income tax rates.

\*. The rates are in all cases determined by the total income, and, as regards civil incomes, are the same for civilians as for persons in the forces. Consequently, in the case quoted (£400 as army pay and £400 unearned income—the respective rates will be 1s. 9d. and 3s. 9d.

### LETTERS, NOTES, ETC.

#### MEDICAL SICKNESS AND ACCIDENT SOCIETY.

AN OLD MEMBER writes: Dr. A. Withers Green entirely overlooks the main point at issue—namely, Was a bonus promised or not? The real facts are: (1) The present financial state of the society is sound. (2) The bonus was promised. (3) The accumulated funds are the property of all the members. If, owing to the war, there is a chance of the reserves or surplus being overdrawn, then the annual premiums fixed in a time of peace should be increased to all future members, or a war tax put on. I am told that this plan one or other is being followed by some insurance companies, and it is a perfectly correct method of overcoming the difficulty of meeting increased claims due to the war. Is it fair that the present young members as well as the future members should have all the advantages—some of these at the expense of the older members who have been the means of building up the society to its present healthy financial condition? If the original plan of paying a bonus to all members every five years had been continued all would have fared alike; when this plan was discontinued the members were distinctly told that the bonus would be paid on ceasing membership. The former secretary, Mr. Addiscott, and the former actuary, Mr. Crisford, both differ from the present actuary as to the equity of stopping the bonus.

R.A.M.C. (temp.) writes: I have been a member of the society since 1890. In three years' time I have been hoping to receive a small bonus, and I am in still hopeful expectation that a broader view will shortly be taken as to the disposal of the funds, which seemingly should rightly belong to the members of the society. Working abroad, it has been impossible for me to attend any annual meeting and to voice my individual opinion. I have served my country since the beginning of 1915, leaving my practice

in the hands of friends, and receiving only a moiety of my accustomed income, and I trust that the task of accumulating a small capital for myself and for my family against the approaching time when physical energy will surely decline may be lightened by the graceful action of the committee.

#### TREATMENT OF MENINGITIS.

Mrs. M. N. Fysh, M.B. Lond., writes: Captain Cade (June 1st, p. 634) says that my treatment is unscientific and retrograde. It is neither. Iodine, quickly absorbed through the unbroken skin, travels readily through the more easily penetrated tissues beneath, and soon finds itself in the meningeal fluid. Here, being a powerful germicide, it acts by destroying the meningococci, and helps defence by increasing the number of leucocytes. From many years' hospital experience in the external use of iodine in other internal inflammatory conditions, I am convinced that its uniform success in suitable cases is explained by this direct absorption into the natural fluid of the cavities concerned. I submit that the treatment is more scientific than injecting a serum which may or may not be the one suitable for the particular case. There must always be the doubt, for by the time the diagnosis could be established and a suitable serum prepared the patient would be beyond the reach of any remedy. In using iodine we are on sure ground, for it is an enemy to all germs alike. My treatment is an extension of the use of a remedy of proved value. It is simple, safe, and always at hand. Finally, if Captain Cade had seen the relief and comfort afforded to the patients by its use, the cessation of the piercing shrieks, the quieting of the restlessness and convulsions, the gradual awakening out of coma, and had experienced the joy of watching the restoration to health that followed, I am sure he would be sorry to discourage others from trying it.

#### THE FUND TO REIMBURSE DR. J. H. BELL FOR HIS LEGAL EXPENSES.

The following is the first list of subscriptions received:

	£	s.	d.		£	s.	d.
Dr. P. Watson-Williams	10	10	0	Dr. C. O. Hawthorne	2	2	0
Dr. G. Herbert Alcock	1	1	0	Dr. B. D. Gardner	2	2	0
Miss E. Letts	2	0	0	Dr. Byrom Bramwell	10	10	0
Dr. Florence Stoney	1	1	0	Dr. Edwin Bramwell	5	5	0
Dr. Murray B. Stuart	2	2	0	Dr. J. Walter Carr	1	1	0
Dr. T. D. Acland	2	2	0	Captain Owen Berkeley-Hill	1	1	0
Mrs. Mabel J. Smith	1	0	0	Dr. Hermann Johnson	1	1	0
Per Dr. J. Hedley	5	15	0	Dr. G. MacMillan Blair	1	1	0
Mr. E. Pascal Taylor	10	0	0	J. W. F. R.	1	1	0
Dr. J. Prescott Hedley	10	0	0	Mr. R. K. Howat	1	1	0
Mr. W. H. Battle	10	10	0	Dr. J. Francis Dixon	1	1	0
Dr. Telford Gibbons	10	0	0	Dr. Alfred G. Barts	5	0	0
Dr. Kinnier Wilson	10	0	0	Miss Constance Thomas	1	0	0
Dr. Neville Hart	1	1	0	Dr. J. Breward Neal	10	0	6
Dr. G. Douglas MacRae	1	1	0	Dr. F. W. Waterworth	0	5	0
Sir Sinclair Thomson	5	5	0	The Editor of the <i>Lancet</i>	10	10	0
Sir William Osler	5	5	0				
Dr. James Taylor	5	0	0				

Subscriptions should be sent to Dr. Kinnier Wilson at 14, Harley Street, London, W.1, and will be acknowledged in the *BRITISH MEDICAL JOURNAL* and the *Lancet*.

#### THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

Subscriptions to the Second Appeal.

The following subscriptions and donations to the Fund have been received during the week ending August 6th:

	£	s.	d.		£	s.	d.
Sergeant W. H. Cloud	1	10	0	Royal College of Surgeons of England	52	10	0
R.A.M.C.	2	10	0	Mr. E. Spencer Evans	0	10	0
Captain A. U. Millar	2	10	0	(monthly)	1	1	0
R.A.M.C.	2	2	0	Surgeon Rowland Hill	1	1	0
Captain Beatson Bird	3	0	0	R.N.	1	1	0
R.A.M.C.C.F.	3	0	0	Dr. A. C. E. Harris	1	1	0
Dr. C. W. Hanson	0	10	0	Mr. A. Ward	2	2	0
Captain A. E. Chisholm	1	1	0	Dr. Brown Kelly	5	5	0
R.A.M.C.	1	1	0	J. G. C. Macdoniensiensis	3	3	0
Dr. J. W. Martin	1	0	0	Dr. J. Brindley-James	1	1	0
Dr. F. W. Goodbody	1	0	0	Captain G. W. Curtis	2	2	0
(monthly)	2	2	0	R.A.M.C.	1	1	0
Dr. F. Wacher	5	5	0	Major W. Longbottom	1	1	0
Dr. C.	25	0	0				
Mr. J. B. Wimble							

\* Per Dr. Des Vieux.

† Per Captain G. W. Curtis.

Subscriptions to the Fund should be sent to the Treasurer, Dr. H. A. Des Vieux, at 14, Buckingham Gate, London, S.W.1, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited.

#### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the *British Medical Association* at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *posto restante* letters addressed either in initials or numbers.



## A Clinical Lecture ON ISCHAEMIC MYOSITIS.

BY  
SIR JAMES PURVES STEWART, K.C.M.G., C.B.,

SENIOR PHYSICIAN TO THE WESTMINSTER HOSPITAL.

(With Special Plate.)

CERTAIN injuries which in pre-war days were uncommon have become relatively much more frequent since the present war. Amongst them is the condition known as ischaemic myositis. Before referring to individual cases let me remind you of the chief points in its morbid anatomy and causation.

### MORBID ANATOMY.

Ischaemic myositis, as its name implies, is an affection of a muscle, or part of a muscle, resulting from local limitation of its blood supply. It is not due to total cutting off of blood, which would result in gangrene, but the muscle fibres affected, suddenly deprived of an adequate circulation, undergo coagulation-necrosis. There is an early or premonitory stage, during which oedematous swelling occurs in and around the affected muscles. Unless the blood supply is promptly restored by removal of obstruction to the arterial flow, coagulation-necrosis supervenes, which is irreparable. Later, the oedematous effusion becomes absorbed, and the coagulated muscle fibres become replaced by young fibrous tissue which rapidly contracts. Thus the affected muscles undergo shortening, become firm and doughy to the feel, losing their normal elastic consistence, until at last they are hard and board-like. Unlike most other forms of muscular atrophy, the bulk of the muscle is only slightly, if at all, diminished. Together with the muscles, the adjacent nerve trunks may have their blood supply reduced, and fibrous tissue may become deposited around them too.

### CAUSATION.

A. In peace the commonest cause of ischaemic myositis is the too tight application of bandages or splints over a fractured forearm or elbow. This is the variety described in the textbooks as *von Volkmann's paralysis*. Those parts of the forearm muscles which are most exposed to pressure (and it is almost exclusively the upper limb which is affected) develop ischaemic myositis. Children or adolescents are the victims, partly, perhaps, because of the greater ease with which their arteries are compressed, but mainly, I suspect, because an adult usually insists on the loosening of uncomfortably tight bandages, whereas less attention is paid to complaints of tight constriction in a child.

B. In war the commonest cause is obstruction of the main artery of the limb by ligature. Thus, I have seen cases following ligation of the subclavian, the axillary, and the brachial artery, on account of primary wounds or of their complications, whilst in the lower limb ligation of the femoral artery sometimes produces ischaemic palsy.

C. Least frequent of all are the cases due to spontaneous obstruction of the main artery, from embolism or from thrombosis.

Let us study examples of each of these varieties.

#### A. Ischaemic Myositis from Tight Bandaging.

Here the fibrous sclerosis of the affected muscle is usually not a diffuse, but a patchy affair, occurring at the areas of maximal constriction by the splint or bandage. Above and below the sclerosed zone there may be an area of normal muscle fibres, so that the affected muscle comes to have a digastric or even a trigastric form.

Immediately following the application of the splints and bandages there is a premonitory stage of swelling of the hand, with coldness and cyanosis of the fingers. There is also acute pain in the limb, which is sometimes overlooked, being wrongly attributed to the original fracture for which the splints were applied. The oedema and cyanosis subside in a few days, but the fingers become drawn up. Then, after days or weeks, when the bandages and splints come to be removed, it is discovered that the fingers and wrist are stiffly flexed, not from adhesion in the joints or tendon sheaths, but from shrinking of the flexor muscles. Active movements of the hand are diminished or lost, and even passive extension of the

fingers and wrist is impossible. The degree of flexor contracture of the fingers and wrist varies in different cases, and may attain an extreme degree. Often the thumb escapes (having a long flexor of its own), whilst the other four digits (corresponding to the flexor sublimis and profundus) are severely affected. If we increase passively the flexion of the wrist, this slackens the flexor muscles, so that the fingers can now be slightly extended. On the other hand, attempted passive extension of the wrist exaggerates the deformity of the fingers, by pulling on the shortened flexors. The affected muscles feel denser than normal on palpation.

The electrical reactions of the affected muscles in this variety of ischaemic myositis may remain normal, both to faradism and to galvanism, since certain fibres, which have escaped coagulation, retain their normal excitability. Sensory changes in this variety are usually absent, but not always.

The following are illustrative examples:

#### CASE I.

A boy, aged 10, fell and sustained a fracture in the region of the right elbow. He was taken to a hospital, where splints were applied, reaching from the middle of the upper arm down to the hand. The splints were not removed until a month later, when it was found that he could not move his fingers properly. Assiduous massage was tried at a second hospital but failed to produce any improvement.

He came under my observation ten months after the original injury. At that time there was (Fig. 1; see special plate) a wide dimple or indentation on the flexor aspect of the forearm, apparently in the substance of the flexor muscles, and probably corresponding to a special lump of padding within the splint. There was no cutaneous anaesthesia or analgesia. The forearm muscles, which were not wasted, were contracted, so that all the digits except the thumb were semiflexed at the interphalangeal joints, and could not be extended, either actively or passively, unless the wrist were previously hyperflexed to its full extent, when slight extension of the interphalangeal joints could be carried out. Voluntary movements of the thumb were free in all directions. To faradism all the muscles of the forearm and upper arm reacted, but less briskly than in the healthy limb. To galvanism there was diminished reaction in all the muscles of the forearm, but KCC remained greater than ACC, as in health.

#### CASE II.

A boy, aged 6, was riding a donkey on the sands at the seaside, when he fell off. The donkey trod on his right arm, causing a fracture of the lower end of the humerus. The limb was bandaged in a flexed position, and subsequently fixed in a rectangular poroplastic splint. Next day it was noticed by the parents that the child could not move the hand, which was swollen but not cyanosed. From the third day onwards the bandages were removed daily for purposes of massage and in order to dress a superficial abrasion on the front of the elbow, sustained at the time of the injury. Ten days after the accident the child began to complain of occasional pins-and-needles in all the digits except the thumb; this lasted for a fortnight, and then disappeared.

When examined, three and a half weeks after the injury, there was still considerable swelling above and below the elbow-joint. An x-ray photograph showed the fractured humerus in fairly good position. The elbow could be moved, the biceps, triceps, and supinator longus all contracting voluntarily. All the muscles of the wrist, thumb, and fingers, however, were totally paralysed. The forearm felt dense and doughy. There was slight flexor contracture of the wrist, thumb, and fingers. When the wrist was passively extended the flexion of the thumb and fingers at once became increased. To faradism the upper-arm muscles reacted normally, also the supinator longus, but there was no reaction in the flexor muscles of the wrist, thumb, or fingers, and only a trace of response in the extensor muscles. To galvanism there was no reaction to bearable currents in any muscle of the forearm or hand.

There was an area of total cutaneous anaesthesia to cotton-wool and pin-pricks in the "glove" distribution of the hand, front and back (Fig. 2). Joint-sense was lost in the thumb and fingers, normal at the wrist and elbow.

The radial pulse was palpable at the wrist, though for the first few days after the accident it could not be felt.

This case, of comparatively recent date, differs from the first mainly in the presence of anaesthesia of the hand.



FIG. 2.—Case II. Anaesthesia in ischaemic myositis of three and a half weeks' duration.



Such anaesthesia usually clears up in a few weeks or months.

### CASE III.

This was an unmarried lady who came under observation at the age of 59 for epilepsy. At the age of 6 she had a fracture of the bones of the forearm. She said that the limb was for three days in tight splints, and that until they were taken off, the fingers were blue and swollen. Ever since, the right wrist had remained fixed in a flexed position, also the fingers, especially the ring finger. (See Fig. 3, in special plate.)

On examination, fifty-three years after the original injury, there was well-marked contracture of the right wrist, which was flexed almost to a right angle, and could not be extended, even passively (Fig. 3). The fingers were similarly contracted, chiefly at the terminal joints, but the thumb was freely movable. The flexor muscles of the forearm were wasted in their lower two-thirds. The surviving third of these muscles formed a distinct lump, above the upper limit of the original splint, contrasting with the atrophied part below. To faradism and galvanism all the muscles reacted briskly and normally. A radiogram of the forearm and elbow showed slight thickening in the region of the head of the radius, as if from an old fracture of its neck. There was no diminution of cutaneous sensibility.

### B. Ischaemic Myositis following Ligation of an Artery.

In war wounds it is sometimes found necessary to tie large arteries in order to check primary or secondary haemorrhage, or to arrest the growth of a traumatic aneurysm. In some of such cases ischaemic myositis supervenes. This variety has several clinical differences from the group due to tight bandaging. Instead of having patches or zones of coagulation-necrosis, alternating with healthy zones, in the affected muscles, we find whole muscles undergoing diffuse coagulation-necrosis. The affected muscles come to have a curious hard, board-like consistence, much harder than in the other variety. Together with this, the electric excitability is often completely lost, both to faradism and to galvanism. Moreover, well-marked anaesthesia of the periphery of the limb is the rule rather than the exception, the sensory loss extending up along its outer border, but not in the territory of special nerve areas.

### CASE IV.

A soldier, aged 33, had multiple wounds from fragments of high-explosive shell, including a penetrating wound of the right axilla, from a fragment which entered through the right upper arm. The fragment was located and removed, but three weeks later a deep axillary abscess developed, and at the end of the fourth week severe secondary haemorrhages occurred. The axillary artery was clamped and the subclavian artery was then ligatured. When he came under observation, in a hospital at Salonica, five months after the original shell wound, there was total paralysis of the right arm, forearm, and hand, all the muscles of the limb being hard and board-like. The only

voluntary movements were feeble contractions in the right pectoral, deltoid, and latissimus dorsi, but not enough to move the shoulder-joint. The deltoid and pectoralis major shared in this board-like hardness of the musculature of the limb. The trapezius and all the vertebro-scapular muscles were normal, both in consistence and in voluntary movement.

The elbow was semiflexed. It could be freely flexed and extended, passively, within a short range, but full flexion and extension were brought up sharp by the fibrous hardness of the muscles. All the joints of the hand were stiffly fixed in a lightly extended position, and could not be passively moved at all. There was comparative blunting to



FIG. 4.—Case IV. Anaesthesia in a case of ischaemic myositis following ligation of the subclavian artery.

cotton-wool, with total analgesia to pin-pricks in the whole hand, front and back, and along the radial side of the forearm and elbow (see Fig. 4). Joint-sense was lost in the fingers and wrist, normal in the elbow-joint. No pulsation could be detected in the brachial nor in the radial artery. There was slight oedema of the subcutaneous tissues of the flexor aspect of the forearm and outer side of the elbow.

To faradism no reaction was obtained in any muscle of the hand, forearm, or upper arm. A few fibres reacted in the deltoid and pectoralis major; the trapezius and all the vertebro-scapular muscles reacted briskly. No galvanic battery was obtainable to test the galvanic reactions.

### CASE V.

A soldier, aged 28, was handling a loaded rifle when it went off. The entry of the bullet was through the left upper arm posteriorly, at the lower edge of the deltoid; the exit was just below the insertion of the pectoralis major anteriorly, in the line of the brachial artery. Next day the brachial artery was ligatured, and the wound was still granulating when he came under observation in Malta four weeks later. The patient complained, ever since the injury, of constant aching pain in his left fingers and palm, extending up to the elbow, also of difficulty in moving the fingers and of deficient sensation in the hand.

On examination, both hands were equally warm. In the left upper limb no pulsation could be felt in the brachial or radial artery. The left elbow was stiffly semiflexed and could not be passively extended. The left triceps muscle was hard and board-like in consistence, and had no voluntary power of contraction. The other upper-arm muscles, including the biceps, were normal. The flexor muscles of the forearm were hard, fibrous and paralysed, but not obviously wasted. The extensor muscles of the wrist, thumb, and fingers were normal in consistence, and contracted voluntarily.

The thenar and hypothenar muscles were paralysed, but not the interossei, for the fingers could feebly be spread out in fan fashion.

To faradism, there was loss of reaction in the biceps, triceps, flexors of the wrist, thumb and fingers, and in the intrinsic hand-muscles, whilst the supinator longus and the extensors of the wrist and fingers reacted briskly. The biceps-jerk and triceps-jerk were absent on the affected side.

There was total anaesthesia and analgesia of the hand, front and back, with a strip extending along the front of the forearm on its outer aspect (Fig. 5). Joint-sense was absent at the fingers, normal at the wrist and elbow. Vibration-sense was lost in the bones of the hand.

FIG. 5.—Case V. Anaesthesia in a case of ischaemic myositis following ligation of the brachial artery.

In this case the possibility of the anaesthesia being due to a concomitant lesion of the nerve trunks, whether by the original bullet injury or later, at the time of the operation, had to be excluded. But the fact that the supinator longus and all the extensors of the wrists and digits retained their motor power was against a direct lesion of the musculospiral as the cause of anaesthesia of the dorsum of the hand. Moreover, the absence of muscular atrophy of the flexor muscles and their characteristic hard consistence were against a lesion of the median and ulnar nerve trunks. Finally, the distribution of the anaesthetic area closely resembled that of other cases in our experience, in which the nerve trunks had certainly escaped direct injury.

### CASE VI.

A soldier, aged 22, was shot through the left upper arm. The entry wound was at the middle of the left biceps; the exit posteriorly, at the same level, an inch behind the line of the vessels and nerves. He was admitted to hospital in England, ten days later, with a localized swelling in the middle of the upper arm, with absence of radial and ulnar pulses, and considerable

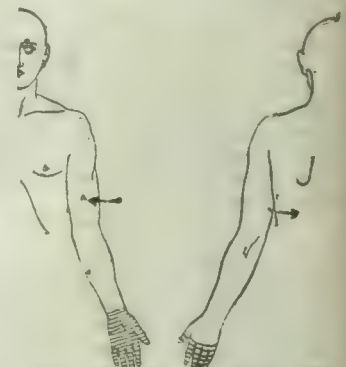


FIG. 6.—Case VI. Anaesthesia in a case of ischaemic myositis following ligation of the brachial artery.

weakness of the left wrist and fingers. On the fifteenth day profuse spontaneous haemorrhage occurred from the exit wound. Under an anaesthetic the bleeding cavity was laid open, blood-clot was turned out, and the vessels above and below the aneurysm were ligatured. Next day the extensor muscles of the wrist and fingers were distinctly stronger. The wound healed uneventfully. At the end of five weeks it was noticed that there was total anaesthesia of the fingers, and partial anaesthesia of the lower two-thirds of the forearm.

When examined, two months after the original wound, there was anaesthesia to cotton-wool touches of the left hand,



extending higher in front than behind (Fig. 6). To pin-pricks there was anaesthesia from the wrist downwards, front and back. All the muscles of the upper arm, forearm and hand contracted voluntarily, except the long flexors of the wrist, thumb and fingers, which were hard and doughy in consistence, totally paralysed, and had no reaction either to faradic or galvanic stimulation. The left hand was colder than the right. Slight blisters formed occasionally on the dorsal aspect of the terminal phalanges.

#### *D. Ischaemic Myositis due to Spontaneous Obstruction of a Main Artery.*

Rarest of all are the cases of ischaemic myositis following spontaneous thrombosis of a main arterial trunk. In this variety there is no direct compression of the affected muscle, nor is the artery directly injured either by trauma or by ligation. It undergoes spontaneous thrombosis as a result of extension of some inflammatory process, usually in the peri-arterial tissues. Similar arterial thrombosis may also follow an embolus, especially a septic embolus from the left side of the heart, but such patients rarely survive to show ischaemic myositis.

The following is an illustrative example of spontaneous infective thrombosis of the external iliac artery, following an intrapelvic septic process.

#### CASE VII.

A married woman, aged 30, who had a large intrapelvic growth, was operated on at Westminster Hospital by my colleague, Mr. William Turner. The operation, which was carried out extraperitoneally, was one of extreme difficulty. To gain access to the growth one incision in the left iliac region and another in the left ischio-rectal fossa were required. Ultimately the tumour, a fibroma the size of a cocoa-nut, was successfully detached from its point of fixation to the left iliac spine, and from the vagina, bladder, and urethra, to all of which it was firmly adherent. The wound became infected, and widespread pelvic cellulitis supervened, but under assiduous and skilful treatment it slowly healed up.

Two and a half weeks after the operation pain and oedemaous swelling were observed in the right foot and leg—that is, on the opposite side from the operation wounds. Next day there was pain and subjective numbness of both legs. Small

superficial trophic blisters appeared on both heels. The swelling of the right leg subsided in about a fortnight, but for some time there were painful cramps in the legs, more marked on the right side.

Three months after the operation, on getting up, it was noticed that the right foot was specially weak. At this stage she came under my observation, when the following state of affairs was found to be present:

There was marked feebleness of the right toes and ankle, but no individual movement was impossible. The anterior tibial and calf muscles of the right leg were hard and board-like on palpation. There was slight contracture of the calf muscles, precluding the right heel from reaching the ground when standing or walking. Passive dorsiflexion of the right ankle was impossible. There was no muscular wasting of the right leg; on the contrary, the right calf measured  $\frac{1}{2}$  in. more than the left. To faradism and galvanism there was loss of reaction in the anterior tibial muscles and the short extensors of the toes, and marked diminution to faradism in the peronei and calf muscles, but without polar changes to galvanism. The knee-jerks were brisk and equal. The right ankle-jerk was absent, the left was brisk. Both feet were warm, and the posterior tibial arteries were palpable at the ankles.

To cotton-wool touches and pin-pricks there was a "stocking" area of anaesthesia up to a level  $2\frac{1}{2}$  in. below the tubercle of the right tibia (Fig. 7). Joint-sense was lost in the right toes and ankle; normal at the knee and hip.

This case is specially interesting, inasmuch as, although the site of the original arteritis was presumably in the external iliac artery within the pelvis, nevertheless only a restricted group of muscles below the knee underwent coagulation-necrosis; moreover, the posterior tibial artery remained patent. It is possible that this was due to collateral anastomosis having restored the circulation in that artery, whilst the sural and anterior tibial branches of the internal popliteal artery remained obstructed.

In the foregoing cases of ischaemic myositis following obstruction of a main arterial trunk, it is interesting to observe that in all of them anaesthesia of the limb was also present. The explanation of this anaesthesia is not yet clearly established. It may be that the blood supply to the nerve trunks is interrupted together with that to the affected muscles. It is not due to mechanical compression of nerve trunks, for in nearly all the cases anything in the way of direct pressure—for example, by ligature—could be confidently excluded; moreover, the distribution of the anaesthesia is not that of individual peripheral nerve lesions. It is more like the distribution of an ordinary peripheral neuritis, where there is no picking-out of individual nerve trunks, but where all the peripheral nerve trunks share in the general malnutrition.

#### TREATMENT.

Various ingenious operations have been devised by orthopaedic surgeons to remedy the deformity of that variety of ischaemic myositis which results from tight bandaging and splinting, and which is usually limited to the flexors of the wrist and fingers.

In view of the mechanical shortening of the sclerosed muscles, artificial lengthening of the flexor tendons at the wrist has been tried. The disadvantages of this operation are the extensive dissection which is required and the prolonged after-treatment of the wound.

A simpler operation is one which shortens the bones of the forearm, by excising an inch, or more, of both radius and ulna, so as to allow of the fingers being placed in a position of extension and even slightly hyper-extended. The patient then has a shorter forearm but a more useful hand. The drawback to this procedure is the tendency to the formation of still more scar tissue by operating on an already sclerosed limb.

It is therefore better to attack this class of case, as recommended by Sir Robert Jones, by means of a careful and systematic stretching of the shortened tissues. His procedure is as follows:

First, the wrist is passively flexed by an assistant, thereby allowing the fingers to extend. In this position small metal finger-splints are fixed to each digit by adhesive strapping, leaving the pulps of the finger-tips exposed. Over these digital splints, either at the first sitting or a day or two later, is fixed a flat palmar splint, so as to keep the phalanges and metacarpals in line. Next, at intervals of two or three days, the wrist is gradually extended, a few degrees at a time, being fixed in its turn to a series of suitably angled splints, until at last the wrist and hand are in a position of extreme dorsiflexion. The wasted finger pulps begin to fill up; later, the power of voluntary dorsiflexion gradually reappears. Assiduous massage to the forearm muscles, hot douches, and whirlpool baths will all aid in the softening and stretching of the affected muscles. It is also advantageous to supplement these measures by local hypodermic injections of thiosinamine. By such means a considerable degree of recovery can generally be obtained, even in severe and long-standing cases, although the best results are only to be looked for in the milder and more recent case.

The diffuse hard interstitial fibrosis following arterial obstruction produces less deformity than the first variety, and is therefore less likely to become the subject of the enthusiastic operating surgeon. Here we have to make the most of such muscle fibres as survive, by means of balneological measures, massage, and passive movements. But if a muscle or group of muscles have been practically reduced to fibrous tissue, it is obvious that very little can be expected in the way of recovery of voluntary motor power.

At a recent meeting of the Waffenbrüderliche Vereinigung Deutschlands und Österreich-Ungarns a lively discussion on tuberculosis took place. Professor Sörgo of Baden thought that typhoid inoculation stirred up latent tuberculosis and that the tuberculous were peculiarly sensitive to foreign proteins other than tuberculin; soldiers should therefore, he argued, not be sent on active service until fourteen days after typhoid inoculation, and those already known to be tuberculous should not be inoculated against typhoid fever. All these views were ridiculed by Professor Kirchner of Berlin. To prevent soldiers from being sent on active service within fourteen days of typhoid inoculation was impracticable, as the need for men was far too pressing.

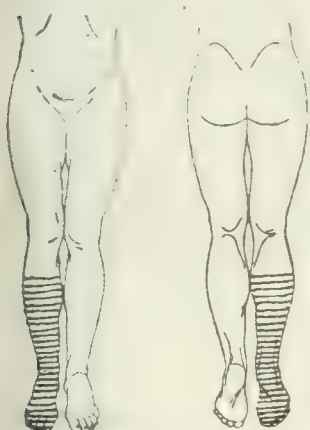


FIG. 7.—Case VII. Anaesthesia in a case of ischaemic myositis following spontaneous infective thrombosis of the external iliac artery.



## SUBACUTE BACTERIAL ENDOCARDITIS.

BY

H. J. STARLING, M.D.LOND.,

LIEUTENANT (TEMP.) R.A.M.C., MILITARY HEART HOSPITAL,  
COLCHESTER.

(With Special Plate.)

WITHIN a comparatively short time five cases of bacterial endocarditis, forming an unusual group, have been admitted to this hospital. These cases do not belong to that type of ulcerative or malignant endocarditis with the severe pyrexia usually associated with this disease. They rather demonstrate certain characteristics which warrant at least four of them being placed in a category together; each of them is distinct, yet all possess certain features in common. I propose, therefore, to give an account of each case and subsequently to discuss briefly the group as a whole.

## CASE I.

Aged 33; army service seven months. He had never been able to play games at school, and subsequently only did light work as a railway clerk. He had inflammation of the lungs at the age of 17. At the age of 31 he had rheumatic fever, and was in bed for a month. Five months ago he had a bad attack of influenza. He enlisted in June, 1917, had no training, and was sent almost at once to France, where he was employed as foreman of an unloading squad. He never felt well while in France; had dyspnoea, which grew worse; lost a good deal of weight, and had precordial pain. He was admitted into this hospital, under Lieutenant M. Rothschild, M.O., U.S.R., on October 13th, 1917. He complained of dyspnoea, palpitation, and precordial pain. He looked very ill and anaemic. The pulse at rest was 100. The apex beat was inside the nipple line; there was no increase of the cardiac area of dullness. There was a loud, harsh systolic bruit, replacing the first sound at the apex, the second sound in the pulmonary area was increased, and there was a definite diastolic bruit in the aortic area. The urine contained no albumin or sugar; specific gravity 1.027.

Shortly after admission he began to have pyrexia, irregular and of no definite type, varying from 99° to 102°. On November 3rd the urine contained albumin and blood. On November 21st red blood corpuscles were found in the urine with a few granular casts. On November 29th definite petechiae were seen on the left shoulder and right conjunctiva, haematuria continued, and clubbing of the fingers was noticeable. The heart was enlarged to the left 2 in. by percussion and palpation. A loud systolic murmur was heard everywhere, especially over the pulmonary area. The spleen could be felt one to two finger-breadths below the costal margin. There was tenderness over the sternum at the level of the sixth costal cartilage.

On December 1st the blood count was: Polymorphs 73 per cent., lymphocytes, large and small, 23 per cent., transitionals 1.25 per cent., mononuclears 1.5 per cent., eosinophiles 0.75 per cent. The haemoglobin content was 65 per cent. Wassermann reaction negative. Blood cultures on October 30th, November 2nd, and November 19th were sterile. During the early part of December he had a period of nausea, vomiting, and persistent diarrhoea. On December 19th a well-marked systolic thrill was felt over the base of the heart, and on the pinna of the left ear was an Osler's node, and multiple petechiae were scattered over the legs, thighs, and arms. A painful swelling had developed over the site of the left brachial artery. No pulse could be felt in radial or ulnar arteries of this arm. On December 23rd the swelling over the brachial artery had subsided to the size of a pea and the radial pulse was just palpable. During the preceding three days the left hand had not shown any sign of circulatory disturbance, either in colour, size, or warmth. The radial pulse was not perceptible again after this date. He got rapidly worse, and died on December 28th.

## Post-mortem Examination.

On the posterior flap of the mitral valve was a warty mass of vegetations about three-quarters of an inch long by half an inch broad and half an inch deep, and a similar patch on the anterior flap. There were multiple vegetations on the chordae tendineae right down to the papillary muscle. Near the edge of the valve the chordae tendineae were matted together by a mass of vegetations. There were also small cushion-like excrescences on the walls of the auricle. All these vegetations showed a tendency to heal, and small calcareous particles were seen and felt in them; on the wall of the ventricle were fine vegetations. Two of the aortic cusps were also involved from contiguity with the mitral valve on their ventricular aspect with slightly raised rough vegetations. The spleen was enlarged and fixed by adhesions to the parietes under the ribs; one section showed several large infarcts, yellow ochre in colour, raised above the surface and with a bevelled edge. These infarcts showed no sign of breaking down and were in the healing stage. Elsewhere were present more recent infarcts of a dark-red colour. The kidneys were covered with petechiae, "flea-bitten," one or two large infarcts were present, the capsules were very adherent. Microscopical examination of the kidney showed a condition of great hyperaemia, many of the tubules being choked with blood. Many of the glomeruli were affected similarly with a certain degree of leucocyte infiltration—a condition

of acute glomerular nephritis. In this case the typical lesion to be discussed later was not found. Dissection of the brachial artery at and around the bifurcation was difficult owing to inflammatory adhesion to surrounding tissue. On section, a thrombus could be seen entirely occluding the main artery and extending for three-quarters of an inch down the radial and ulnar arteries. The arterial wall was considerably thickened and calcareous in parts to a level both above and below the actual site of the thrombus. (See special plate, Figs. 1 and 2.)

## CASE II.

Aged 37; army service three and a quarter years. Previous occupation tailor. He was not strong as a child and played games with difficulty owing to shortness of breath. He gradually grew stronger, and when 23 years of age joined the army as a gunner. He served for eight years, and was in good health all the time. In May, 1912, he was ill in bed for four months with rheumatic fever, but quite recovered, and was still in the reserve when war broke out. He joined up in August, 1914, went to France almost directly, and had heavy work all the time. He was never wounded, gassed, or buried. His health was excellent till February, 1917, when he felt the cold weather severely. In April, 1917, he began to feel a little weak and short of breath and he noticed tender spots which appeared from time to time on various finger-tips. These spots would last two to four days, were pink in colour, appeared to be in the skin, and would then disappear, leaving a little flake of skin or "dried blood" which he picked off. He would have two or three in a fortnight and then a period of freedom from them. He continued his work until November, 1917 (a period of nine months in this condition), and then reported sick for dyspnoea and swelling of ankles.

He was admitted into this hospital under Lieutenant S. A. Levine, M.O., U.S.R., on November 16th, 1917. He was a tall, big man; he complained of dyspnoea, and looked rather anaemic, but was cheerful.

**Heart.**—Apex beat one fingerbreadth outside nipple in fifth space. Left border of cardiac dullness two fingerbreadths outside nipple by percussion. At apex, first sound feeble, followed by a systolic murmur and preceded by a presystolic murmur. Over the aortic area a blowing harsh diastolic murmur directly after the second sound.

**The tip of the spleen** was palpable and tender and a friction rub could be heard over it.

**Urine.**—Red corpuscles present in moderate numbers; albumin a slight trace.

On November 30th there was clubbing of fingers. Pain on pressure over the sternum at the level of the sixth costal cartilage. Definite Corrigan pulse with capillary pulsation. Mild pyrexia. Several petechiae on skin of abdomen.

December 23rd. Since the last entry there has been little or no pyrexia; the slight elevations appear to correspond to variations in the size of the spleen, which with the symptoms point to repeated infarctions.

January 4th. The patient has seemed much worse during the past fortnight. He has had attacks of diarrhoea and vomiting; complexion pale muddy colour; spleen again enlarged.

He was better on January 27th and made great progress, and on February 20th was getting up all day and feeling "quite well." The spleen was just palpable, the heart sounds were not altered; sternal tenderness was no longer present.

**Blood.**—Cultures on November 19th and 30th sterile. Wassermann reaction negative.

Polymorphonuclear leucocytes	55 per cent.
Lymphocytes	41
Mononuclears	2
Transitional forms	15
Eosinophiles	0.5

## Blood count on February 28th, 1918:

Red blood cells	5,100,000 per c.mm.
White blood cells	6,875
Haemoglobin	45 per cent.
Colour index	0.40

## Differential count:

Polymorphonuclear leucocytes	60 per cent.
Lymphocytes, large and small	34
Mononuclears	2
Transitionals	3
Eosinophiles	1

April 9th. Except for four days' mild pyrexia during the previous week the temperature has been normal, and he has been out walking slowly, but managing to do about two miles. During the past week a fresh Osler node appeared on the palmar surface of the right fourth finger-tip, causing pain for the first two or three days, and disappearing after four or five days. On May 7th he was so much better that he was to be discharged to his home in a week. To the casual observer there would appear to be little the matter with him.

## CASE III.

Aged 24; army service three years. Previous occupation, bolt-maker. Health not good as a boy; he had scarlet fever, diphtheria, and measles before the age of 8. He has never had rheumatic fever, chorea, or growing pains. He never played games at school. Since 16 years of age he has had occasional precordial pain, dizziness, and faintness. Was refused admission into the army twice. He enlisted on November 14th, 1914, and had four months' training, riding and driving, and felt quite fit. He went to France in May, 1915, and to the front with 18-pounder gun. For one year he was free from trouble, then symptoms appeared without apparent cause, but he carried



on till November, 1917. For six months he has had tender spots occurring on various finger-tips, lasting two to four days. He had no other illness while in France, and was not wounded, gassed, or buried.

He was admitted into this hospital, under Captain R. Jamieson, J.A.M.C., on December 12th, 1917. He looked pale and ill, and complained of palpitation, dyspnoea, and sharp stabbing precordial pains. Pulse at rest 116.

**Heart.**—Apex beat: very diffuse rolling pulsation in fifth and sixth spaces, 12 cm. from mid-line. Area of dullness definitely enlarged, extended 4 cm. to right and 12 cm. to left of mid-sternal line. No submanubrial dullness. A systolic bruit at apex and also in aortic area, full diastolic mumble at apex, soft diastolic bruit in aortic area. Marked pistol shot and good Duroziez's sign on auscultation over femoral artery.

January 3rd. The spleen was enlarged, but varied in size, and synchronously with the enlargement some increase of pyrexia occurred. Tips of fingers showed clubbing. He woke up yesterday with loss of vision in left eye. The optic disc was normal, but just outside it, in one of the divisions of a main artery, a small node could be seen; external to this was a large area of anaemia through which ran the artery in question. Vision was lost in the upper nasal quadrant of the field. On February 20th the retinal condition cleared up entirely, and sight was restored, but the patient has been going downhill from heart failure. A general oedema has set in, beginning in the face and extending to the pleural cavities, back, abdomen, and legs. Liver and spleen much enlarged. Multiple petechiae over chest and abdomen. There was albumin in the urine, and the urinary output was only one-half the fluid intake. Diuretin and digitalis had no effect on excretion. A presystolic bruit could be heard in addition to those mentioned.

A blood culture on December 31st, 1917, was sterile.

Blood count:

Total red cells	4,920,000 per c.mm.
Haemoglobin	60 per cent.
Colour index	0.67 "
Red cells are normal in size and shape.	
Differential count:	
White cells	14,200 per c.mm.
Polymorphonuclear neutrophils	50 per cent.
Polymorphonuclear eosinophiles	1 "
Large and small lymphocytes	47 "
Transitionals	2 "

The patient became more and more water-logged, and died on February 23rd, 1918. No autopsy was allowed.

#### CASE IV.

Aged 33; service nine and a half years. As a child was fit, and played all games; he worked as a shoemaker till he joined the army, nine and a half years ago. He served in India and Malta and has led an active life, taking part in boxing, running, and football. He has never had rheumatism, chorea, or tonsillitis, and denied venereal disease. There was no tuberculous family history. He went to France on November 4th, 1914, worked as a shoemaker in the trenches for over three years, and was in excellent health till four months ago. He then had "rheumatism" in the legs, which swelled; he had medicine and carried on for three months longer. He then complained of pains in the chest with dyspnoea, and reported sick.

He was admitted to this hospital, under Lieutenant S. A. Levine, M.O., U.S.R., on January 10th, 1918. He complained of precordial pain and dyspnoea, and looked pale and fatigued.

**Heart.**—Apex beat in nipple line, a definite presystolic thrill at apex. Blowing systolic murmur at apex, also diastolic and presystolic murmurs ending in sharp first sound.

**Urine.**—Albumin slight trace, frequent granular and cellular casts, many red and white blood corpuscles.

**Spleen** enlarged and palpable. A few petechiae on abdomen and neck.

February 1st. On flexor surface of right wrist is a red patch of inflammation, tender on pressure, through the centre of which passes the radial artery. Pulsation can be felt in the artery above and below the swelling. Its size is about 2 in. in diameter. February 5th. The swelling has disappeared except for a small nodular lump definitely surrounding the radial artery. February 18th. Mild pyrexia has been present since the last entry. Two days ago there was pain in both popliteal spaces. To-day an area of inflammation is present over the left popliteal artery rather larger than, but otherwise similar to, that observed over the left radial artery. Pulsation cannot be felt in the arteries of the leg or foot, but there is no appearance of circulatory occlusion in the limb. Two successive crops of petechiae on abdomen were observed during the past week, lasting about forty-eight hours.

**Blood Culture.**—Very fine Gram-positive coccus found in pairs, a few showing signs of short chain formation.

Blood count, February 10th, 1918:

Total red cells	3,801,000 per c.mm.
Total white cells	9,000 "
Haemoglobin	50 per cent.
Differential count:	
Polymorphonuclear leucocytes	57 per cent.
Large and small lymphocytes	36 "
Transitional forms	3 "
Eosinophiles	3 "
Mast cells	1 "

February 20th. Acute pain over the left scapula and an inflammatory swelling about 2 in. in diameter, very tender on pressure, can be seen.

March 9th. All local tenderness has now disappeared from the scapula and the popliteal space. The left popliteal artery, however, as well as the right radial are appreciably thickened and quite incompressible, and feel like a piece of pipe stem about  $\frac{3}{4}$  in. to 1 in. in length. The temperature now ranges between 98° and 99°, and the patient appears to be improving greatly.

April 9th. About two weeks ago the patient had a short but sharp attack of left lobar pneumonia lasting some six days. The temperature came down very rapidly and since then has been normal for ten days. His condition is very fair and he gets up daily for two hours.

May 7th. Condition still very fair, but he has not been allowed to get up for the last two weeks owing to mild pyrexia and troublesome cough.

#### CASE V.

Aged 21; service four and three-quarter years. Previous occupation drill finisher. Had one serious illness at 5 years of age (quinsy or diphtheria), but otherwise had always been fit and active; he had one or two sore throats, but never went sick with them. Played football and cricket up to joining the army. He was called up for service in August, 1914, stood the training well, went to France in June, 1915, and was quite fit all the time. In May, 1917, after a long period in the trenches unrelieved, he felt a pain in his chest and palpitation; he reported sick, but went back to duty. He had another similar attack in October, 1917, but got better. At Christmas, 1917, he had a sudden acute pain in the left thigh while asleep, and was admitted to a casualty clearing station for sciatica; the pain then occurred in the calf of the same leg and afterwards got better. He was transferred to a base hospital, and on January 14th, 1918, had a similar sudden pain in the right axilla, with swelling of hand and forearm. He said that during the past six months he had had five or six attacks of local tenderness in the palmar surface of the tip of the right forefinger. The pain lasted two or three days and subsequently a minute particle of skin flaked off. He was admitted to this hospital on January 18th, 1918. He was a fine tall lad; the face was flushed and he was sweating profusely, but, apart from the pain in the arm, was in no discomfort.

**Heart.**—Apex beat internal to nipple line in fifth space. At apex a blowing systolic murmur with a rough late diastolic murmur preceding it. At left border of sternum, at level of third costal cartilage, a blowing to-and-fro murmur. At the edge of the right axilla a painful swelling was present over the site of the upper end of the brachial artery, about 2 in. in diameter. The lower brachial and radial pulses were present, but much diminished in volume. The hand and forearm were slightly swollen.

January 27th. All obvious swelling has disappeared, and the brachial artery can be felt thickened for about 1 in. in length. Strong pulsation is present in the lower end of axillary artery, but suddenly ceases at the lower edge of the pectoral muscle. Pulsation is then felt feebly in the brachial artery at the lower third of the arm. Wassermann reaction negative. On January 27th he complained of pain in the sternum, radiating down the left arm, and on January 29th, at 3 p.m., a spasmodic and uncontrollable cough commenced, and continued without cessation. The inspiratory murmur was high-pitched all over the lungs, but there were no other adventitious sounds; morphine gr.  $\frac{1}{4}$  was given at 6 p.m. and again at 8 p.m. The patient became drowsy, but extremely restless, and appeared to be struggling for breath. At 9 p.m. the lungs were full of secretion, and at 9.30 he began to cough up frothy blood. He died at 10.30 p.m.

#### Post-mortem Examination.

The lungs were almost black in colour and completely filled with blood and mucus. No ante-mortem thrombi or emboli could be found in the pulmonary vessels.

**Heart.**—Aortic valves crumpled, with shrunken, calcareous, and thickened edges to the cusps. Hanging on to these were multiple stalactitic vegetations,  $\frac{1}{4}$  to  $\frac{3}{4}$  in. long, in parts calcareous. The edges of the mitral valve showed slight old thickening. Recent small infarcts in the spleen. Kidneys very lobulated and showed glomerular inflammation on section.

The brachial artery on section was much thickened and its channel was narrowed at one place—the site of the recent embolus—and definite ulceration could be seen here on the lining membrane of the artery. Microscopical examination of the kidney showed a glomerular nephritis, but also a considerable degree of cloudy swelling of the tubular epithelium. The condition was one of general parenchymatous and glomerular nephritis. In this case, as far as investigation has proceeded, no typical lesion, such as described by Geo. Baehr, was found.

Particular attention should be given to certain of the foregoing symptoms.

1. *Ephemeral spots of painful nodular erythema.* This lesion was first described concisely by Sir William Osler<sup>1</sup> and subsequently at some length by Parkes Weber.<sup>2</sup> I cannot do better than quote from the latter article.

Osler's spots vary considerably in size—from about the size of a pin's head to that of a small pea—and may or may not be raised above the general level of the skin. They also vary in colour. . . . The smaller and redder of the spots, which are, I think, generally seen on the fingers, probably arise when the



inflammatory focus is very superficial, whereas the larger and less highly coloured tender lumps occur when the inflammatory focus is rather more deeply seated, and are more decidedly felt as distinct nodules in and under the skin. . . . When the first appear they are tender and associated with slight diffuse redness and swelling, but in two or three days the pain, together with the surrounding flush and swelling, passes off, leaving a small erythematous point behind, which is not necessarily raised above the general level of the skin about it.

In such cases the infective agent (whatever microbe it may be), though pyogenic in nature, seems unable to excite actual suppuration in any (or in most) of the embolic infarctions which result in the skin or elsewhere.

Parkes Weber considers these tender spots practically diagnostic of the condition which he terms "endocarditis maligna lenta." The spots themselves last some four to five days, the tenderness only about two days. These spots were recorded in Cases II and III (and with some doubt in Case V) and had recurred for some months (at least six months in Case II) before admission to the hospital. The patients paid less attention to the spots than to the fact that their finger-tips were on occasions tender when handling anything. Cases II and III stated that some days after all the tenderness and swelling had disappeared they were able to pick the so-called scab off the fingers. The usual site of these nodes is on the finger-tips or palmar surface thereof. They have been noted on the thenar and hypothenar eminences. In Case II a node appeared on the pinna of the left ear.

2. *Petechiae* were seen in all the cases in varying degrees and at different times. In Cases I and III they occurred in showers, being scattered freely over the chest, abdomen, and thighs. In Case IV they have been infrequent, only one or two occurring at a time. They vary in size from the minutest puncture to a pin's head and last from two to four days. They are not necessarily observed by the patient.

3. *Splenic enlargement* was present in all the cases on or soon after admission to this hospital. The degree of enlargement varied with and in each case. At one period the spleen could be felt one or more fingerbreadths below the costal margin, at another the spleen might no longer be palpable. The patients complained of a good deal of pain over this organ, and a rub could sometimes be heard on auscultation.

4. *Fever*.—In no case was the pyrexia severe. In Case I the temperature reached 102° on three occasions only and chiefly varied between normal and 100°. In other cases, except for short periods of mild pyrexia apparently due to a recent embolic process, there were long periods of apyrexia, so that without daily, preferably four-hourly, observation, it would be quite easy to overlook the presence of these occasional elevations of temperature.

5. *Emboli*.—Cases I, III, IV, and V have demonstrated the occurrence of arterial embolism in a degree which is most unusual and worthy of record. It should be noted that neither in the organs nor in the vascular system do these emboli give rise to any suppurative process, although considerable inflammatory reaction ensues in the vessel itself and in the surrounding structures, including the skin. The minute embolus appears to lodge in the lumen of a small branch of the main vessel, and the subsequent inflammation may or may not lead to occlusion of the artery. If occlusion occurs, it is at a period of seven to ten days after the original injury, when all the surrounding inflammatory process has subsided and the vessel wall can again be felt. The terminal result is to leave the whole of the damaged vessel much thickened and as hard as a pipe-stem. The following is a summary of the various arterial emboli that have occurred in these cases:

CASE I: At the bifurcation of the left brachial artery.

CASE III: At a branch of one of the left retinal arteries.

CASE IV: (a) In the right radial artery at the wrist; (b) in the left popliteal artery in the bend of the knee-joint; (c) in a branch of the left suprascapular artery.

CASE V: (a) In the left femoral artery; (b) in the left posterior tibial artery, in both instances before admission to this hospital; (c) at the junction of the right axillary and brachial arteries.

It is interesting to note that pulsation is often felt distally to the site of injury subsequent to a period of complete occlusion. This may be due to collateral circulation being well established, or else to a canalization of the thrombus, which process has been described.

6. *Haematuria*.—This has not been marked in any of these cases. It is essential first to centrifugalize the

urine, and even then the number of red blood corpuscles in the field may only amount to three or four, or may be greater in number.

7. *Colour of Face*.—Cases I to IV all exhibited a considerable appearance of anaemia; even Cases II and IV, who are doing very well, are still anaemic in appearance. Cases I and III were of a café-au-lait colour for a considerable period before death ensued. A remarkable feature is the sense of well-being which these patients possess, even in the fatal cases, up to a short period before the end. Cases II and IV state that they feel quite well. There was noticeable, however, a condition of progressive weakness unperceived by the patients themselves.

Special attention should be given to the extraordinary length of time during which these patients were leading strenuous lives at the front after the first manifestations of the disease appeared.

Cases II and III noticed the tender finger-tips occasioned by Osler's nodes six months before reporting sick. Case V began to be short of breath on exertion seven months before he had to give up his duties in the front-line trenches. Previous to this he had been perfectly fit. In each of these three cases the disease, although manifestly present, did not prevent the patient from carrying on his full military duty at the front.

#### Blood Cultures.

Unfortunately only one case (IV) gave any cultural reaction. The growth was a coccus, Gram-positive, occurring in pairs, but also showing a tendency to short chain formations of 5 to 16. The growth was not subjected to tests—for example, the bile and sugar test, etc.—which might have fixed the identity more accurately. The coccus, when in pairs, appeared to have a surrounding halo, but no definite capsule, but here again the special capsular stains, such as those described by Buerger, were not used. Negative results in the other cases may have been due to faulty technique or to the cases being bacteria free. In Case I scrapings from the valve vegetations showed a Gram-positive coccus, which should have been capable of growth from a blood culture during life. Apparently the organism, being of a very low pathogenicity, is difficult to grow and requires certain media and other special measures of technique for its development and recognition. It will be understood that such minute, extensive, and frequent investigation as is necessary is almost impossible at this time, especially in a hospital not supplied with a pathological laboratory of its own.

Parkes Weber, in the article quoted, describes those cases of endocarditis which show Osler's nodes as endocarditis maligna lenta. Some similar cases have also been described by Horder.<sup>3</sup> But Libman<sup>4</sup> of New York states that these spots or nodes of Osler are pathognomonic of a particular type of endocarditis which he terms "subacute bacterial endocarditis." He made a special study of this type of endocarditis and separated it as a definite entity from all other forms due to pneumococcus, influenza bacillus, gonococcus, etc. Down to May, 1912, he had collected 171 cases, in all of which were found the characteristic coccus, which he calls *Streptococcus mitis*. Further, in subsequent papers, he described three different stages of the disease—namely, (1) the bacterial, (2) the bacteria-free, and (3) the healing. The second and third conditions often co-exist. Brief mention should be made of the last two stages. The disease is of a chronic character and shows a tendency to recovery so far as the bacteriaemia is concerned, so that at a certain stage the particular coccus is no longer to be found in the blood stream. The patient then only suffers from what might be termed the sequelae of the disease, progressive anaemia, embolic infarction of greater or less degree, and their consequences. According to Libman, however, an important condition present in all these cases, is a particular form of glomerular nephritis, originally described by Loehrlein and Gaskell and subsequently by Geo. Baehr.<sup>5</sup> This condition was present in 23 out of 25 cases of this disease diagnosed during life. It was absent in 54 cases of endocarditis due to other organisms. The lesion, shortly described, is minute embolic infarction of the glomeruli, with subsequent swelling and hyaline change. The lesion may involve either a part or the whole of a glomerulus and the condition may be present in 2 per cent. to 75 per cent. of the total number of the glomeruli. Rarely, it may happen that



H. J. STARLING: SUBACUTE BACTERIAL ENDOCARDITIS.

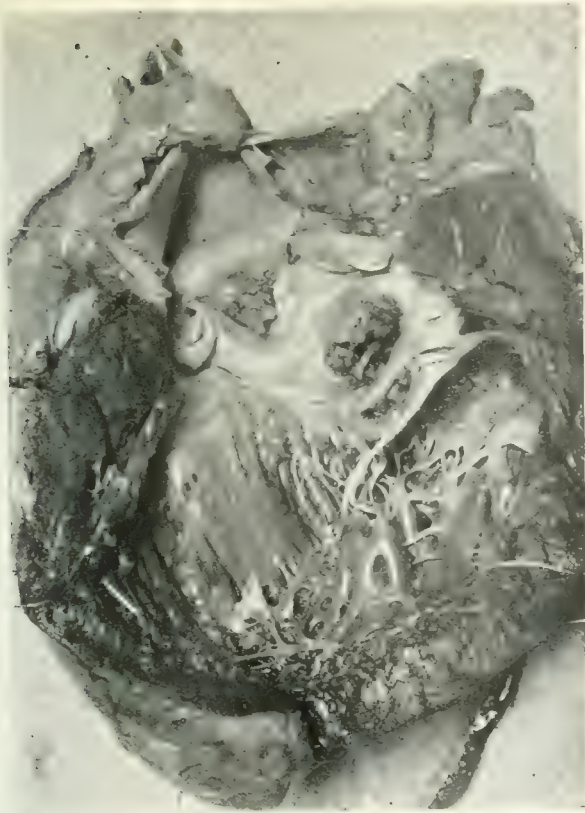


FIG. 1. Case I. Aortic valves and ventricular aspect of mitral valve.



FIG. 2. Case I. Mitral valve and wall of left auricle.



FIG. 3.—Case IV: Aortic valves and ventricular aspect of mitral valve.

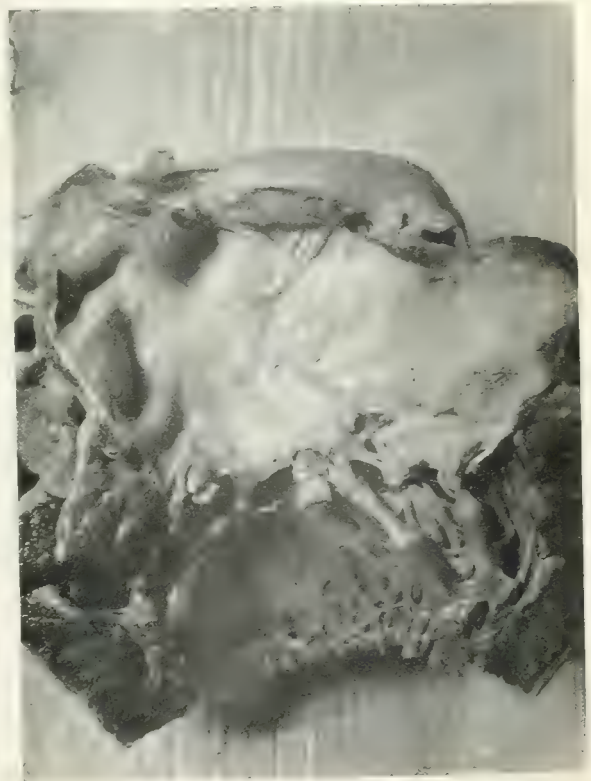


FIG. 4. —Case IV: Mitral valve and wall of left auricle.



(See p. 151.)



FIG. 1. Ischaemic myositis of 10 months' duration, showing contracture of flexor muscles of wrist and fingers, with wasting in their lower two-thirds.

FIG. 3. — Ischaemic myositis of 53 years' duration, showing inability to extend wrist or fingers, also wasting of muscles in lower two-thirds of forearm.

W. A. CHAPPLE: A MODIFIED STOKES GRITTI AMPUTATION.

(See p. 158.)



FIG. 1.—A Stokes Gritti in which the quadriceps had been cut and the edges stitched with catgut only.

FIG. 2.—A Stokes Gritti in which the quadriceps had not been cut.

(See p. 155.)



FIG. 1.



FIG. 2.



the embolic lesions are not found and the patient then has an atypical glomerular nephritis.

In the cases I have recorded, the seven outstanding features noted are those described by Libman as being peculiarly associated with this type of endocarditis. The *post-mortem* appearances of Case I were identical with Libman's description. The type of the vegetations, the involvement of chordae tendineae, the growth of fine vegetations on the wall of the ventricle, the particular features of the splenic infarcts, all are in complete agreement.

Those on the staff of this hospital, who have seen many cases of this type of endocarditis, are convinced of the identity of Cases I to IV. Case V must remain in doubt unless further investigation proves more conclusive. No one case has been proved up to the hilt. Case I lacks the discovery of the particular organism in the blood during life. In all other symptoms and in *post-mortem* appearances it is conclusive. Case II, from its course and from the extraordinary improvement, almost recovery, present to-day, is probably a bacteria-free case with healing processes going on. Case III might have been either bacterial or bacteria-free. Unfortunately no autopsy was permitted. Case IV gave no history of the occurrence of Osler's nodes; and he alone gave a blood culture of a coccus, of a type not specified; subsequent investigation of the blood proved negative. Case V is doubtful. Sections of the kidneys show extensive glomerular nephritis, and in one or two glomeruli suggestive but not conclusive lesions have been found. The same condition was also found in the kidneys of Case I. It will be understood that when a low percentage of glomeruli is involved the necessary examination must be very extensive.

But the main object of this account is to put on record five cases of endocarditis of unusual form and of great interest. It is impossible to affirm that these cases do or do not belong to the group described by Libman, but the evidence, though not conclusive, greatly supports this view.

#### Postscript.

This report was completed and about to be sent to press when Case IV died very suddenly.

He had recovered from his attack of pneumonia, but on May 5th was attacked by a brief but sharp epidemic which had invaded this ward. For twenty-four hours he had a temperature of 102° to 104°, with increasing dyspnoea and pulse-rate, but died quite suddenly of heart failure.

A partial *post-mortem* examination was made. The heart was slightly larger than normal. The mitral valve was contracted and only just admitted the passage of the forefinger through it. On laying open the mitral valve it was seen to be affected in its whole extent. Its fringes were thickened and contracted and covered with minute vegetations with little calcareous granules interspersed. There were four larger nodules, the size of a large pea, quite hard and calcareous. The vegetations had spread down the chordae tendineae, which were also very shrunken and in many cases broken, the ends lying free. On the wall of the auricle was a sessile patch of what appeared to be a healed ulcerative process. On opening up the ventricle and aorta, the ulcerative process can be seen to have extended to the ventricular aspect of the mitral valve, which appears eaten away, and a small vegetation can be seen on each cusp of the aortic valves. (See special plate, Figs. 3 and 4.)

The spleen was very large, measuring 6 in. by 4 in., but containing only one recent infarct. The kidneys were larger than normal, the surface scattered over with fine petechiae. The capsule, however, stripped easily and there was little sign of acute inflammatory change. The left kidney contained one old infarct, yellow ochre in colour, cheesy in consistency, and about half an inch in diameter, with an appearance very similar to the old infarct in the spleen of Case I.

The right radial artery was dissected out at the site of the old lesion; it was much thickened and stood widely open on section. It was found to be completely occluded for a length of about half an inch.

Cultures were taken from the blood of the heart before it was opened. A Gram-positive coccus was grown therefrom on legumen glucose agar. This coccus was identical to that found in the blood of this case during lifetime. It was Gram-positive, occurred in pairs or in short chains of 6 to 14, but, like its forerunner, all attempts to grow subcultures from it failed, so that any further identification was impossible.

Microscopical sections of the kidney failed to reveal any definite alteration in the glomeruli, nor was there any evidences of inflammatory change save for some cloudy swelling of the cells of the tubules.

In this case the *post-mortem* appearance of the mitral and aortic valves and of the distribution of the vegetations

over the chordae tendineae and the wall of the auricle confirm the diagnosis previously made.

My thanks are due to Captain W. Scott, R.A.M.C., of the Pathological Department, Colchester Military Hospital, for his invaluable assistance in the investigation of Case IV, and also to my colleagues on the staff of the Military Heart Hospital under whose care these cases came on admission and to whose skill the credit of the original diagnosis should be ascribed.

#### REFERENCES.

- <sup>1</sup> Osler, *Quart. Journ. Med.*, vol. vi, 1912-13. <sup>2</sup> Parkes Weber, *Quart. Journ. Med.*, vol. vi, 1912-13, p. 251. <sup>3</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>4</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>5</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>6</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>7</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>8</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>9</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>10</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>11</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>12</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>13</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>14</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>15</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>16</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>17</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>18</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>19</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>20</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>21</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>22</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>23</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>24</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>25</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>26</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>27</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>28</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>29</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>30</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>31</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>32</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>33</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>34</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>35</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>36</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>37</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>38</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>39</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>40</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>41</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>42</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>43</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>44</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>45</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>46</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>47</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>48</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>49</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>50</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>51</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>52</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>53</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>54</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>55</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>56</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>57</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>58</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>59</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>60</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>61</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>62</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>63</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>64</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>65</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>66</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>67</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>68</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>69</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>70</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>71</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>72</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>73</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>74</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>75</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>76</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>77</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>78</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>79</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>80</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>81</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>82</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>83</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>84</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>85</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>86</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>87</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>88</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>89</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>90</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>91</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>92</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>93</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>94</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>95</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>96</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>97</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>98</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>99</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259. <sup>100</sup> H. J. H. J., *Quart. Journ. Med.*, vol. vi, p. 259.

## AN ATTEMPT TO BREED TUBERCLE-IMMUNE CATTLE.

BY

LIONEL JAMES PICTON, M.A., M.B.,

B.CH.OXON.,

MEDICAL OFFICER OF HEALTH, WINSFORD, CHESHIRE.

(With Special Plate.)

THE best way to get tubercle-free milk is to get it from animals which are not suffering from, and are not prone to suffer from, tuberculosis. If there were, or could be, bred a race of cattle as immune as goats appear to be, that ideal would be realized. The shorthorn cattle, which form the bulk of the beef and milk-producing stock in these islands, are probably about as prone to tuberculosis as are human beings. The proverb "Every one has a little bit of tuberculosis" is as true of the shorthorn cattle as of man.

Kerry cattle are far less prone to the disease. Possibly the conditions of their housing in Ireland have for generations been such that every cow that could die of tuberculosis died of it long ago. Possibly the opposite is true, and it is their hardy life in the mountains that has conferred the relative immunity they enjoy. It is a relative immunity only; but they are believed to be more resistant than any other of our domestic breeds. They are good milkers. The milk, having a finer cream emulsion than the shorthorn's milk, far finer than the Jersey's milk, is very suitable for children. The percentage of cream is usually very good. But the Kerry could never supplant the shorthorn for the double purpose of producing beef and milk. They have not the requisite qualities for conversion into a "big lump of beef," when turned off and fattened for the butcher after several lactations.

The question arose whether these tubercle-resisting Kerrys could be bred with any other race of cattle which would confer the desired qualities of size and beef production, and could that be done in such a way that the type created by the cross could be perpetuated as constant—as a new and permanent breed? Above all, could that be done without weakening their powers of resisting tuberculosis?

The problem is so to mate and cross the Kerry as to produce a tubercle-immune animal of the shorthorn type.

The domestic cattle of this country from which the shorthorns came are believed to have been derived from two primitive breeds—a smaller, black or dark brown kind, and a larger rough-coated white kind. The Kerrys represent the former more closely than any surviving race. The few remaining herds of white park cattle represent the latter; indeed, they are the primitive indigenous white cattle, modified only by the results of inbreeding through many centuries.

These English white park cattle were once of great size. They roamed wild in the forests in the centre of the island from the highlands to Sherwood. The Cadzow herd survives at Hamilton, and the famous Chillingham herd in the border country. The Blackburn herd has been extinct for three centuries, though white wild bulls still support the family coat-of-arms. The Lyme herd forty years ago was reduced to four. The Charley herd was decimated a little later, by tuberculosis it is said. The Guntton herd in Norfolk was once famous for its enormous bulls. There is a Cadzow bull and also a Chillingham bull at present in the Zoological Gardens. Both are small—about 4 ft. to the chine—useful beef-producing animals, but not big enough to mate with the Kerry to bring that race up the shorthorn standard.



Probably the largest surviving type is the herd at Somerford Park. That place lies in Cheshire, about midway between Lyme in the same county to the north and Chartley in Staffordshire to the south; each is a few miles westward from the foothills of the Pennine chain. Though such near neighbours of the Chartley herd, the Somerford cattle appear to be highly immune from tuberculosis. The family of butchers which has dealt with the offcasts of this herd for the last sixty years has never known tuberculous disease to be found in the carcass of a slaughtered Somerford beast. Tuberculosis abounds in the shorthorn cattle of the neighbourhood. A further instance of their natural immunity may be mentioned. At the time of the cattle plague (rinderpest) some half-century ago, a farmer near Somerford had acquired a white park cow from his landlord, which stood in the cowsheds amongst forty-seven shorthorns. The plague carried off all the forty-seven shorthorns but left the Somerford cow in their midst unaffected. No cases of the plague occurred in the white park herd itself.

Deep-chested, large, handsome cattle, better milkers than any other known white park herd, the Somerford breed is particularly suitable to mate with the Kerry in the suggested attempt to obtain a type of animal which will show the milk and beef qualities of the shorthorn without its liability to tuberculous disease.

The experiment is being made. The first photograph (Plate, Fig. 1) shows the ingredients of the proposed new breed, Kerry heifers running with a young white park bull from the Somerford herd. The black ears and muzzle of the latter will be noted, and also that he is hornless, a characteristic of this herd. The Hamilton herd once was hornless, but now has acquired horns. Otherwise white park cattle are horned. The second photograph (Plate, Fig. 2) shows a fine bull of the crossed breeds, Somerford-Kerry, aged 2 years and 5 months.

The proposal is to establish the breed by interbreeding first-cross bulls and heifers. The reality or otherwise of their claims to immunity from tuberculosis can only be tested by much experience with great numbers of animals so produced. Meanwhile, this preliminary record of the experimental work which is being attempted may be of interest. The enthusiasm and great stockbreeding experience of Mr. Charles Sproston and the loan of the Somerford bull by Sir Walter Shakerley have made the experiment possible.

On June 26th I heard that the bull of the crossed Somerford-Kerry breed reacts to the tuberculin test. His temperature rose to 104.4°. The test was carefully conducted, the animal having been tied up for two days previously to get him contented in captivity. There is not the slightest other sign of disease; on the contrary, the animal is in magnificent condition.

The following is the view to which I incline as to the difficult fact that the tuberculin reaction is positive sometimes in animals which are otherwise apparently sound, or which, as Mr. Robert Mond has shown, continue in sound health for their full span of life subsequently. Assuming that the test accurately reveals the existence of a tuberculous infection, immunity is shown by the fact that the animal does not succumb to the attack. No animal is immune from attack. What must be sought is a type of animal which shows successful resistance to attack.

## A MODIFICATION OF THE STOKES-GRITTI AMPUTATION.

BY

W. A. CHAPPLE, M.D., CH.B., M.R.C.S., D.P.H.,

MAJOR R.A.M.C.,

ORTHOPAEDIC SPECIALIST, JAVILION ORTHOPAEDIC HOSPITAL

(With Special Plate.)

THE human heel is Nature's stamp. Every surgeon doing an amputation or a reamputation on the lower limb should try to reproduce it.

Syme's amputation is the nearest reproduction, and the Stokes-Grritti operation comes next.

Every stump should be fashioned where possible in the hope that it will bear upon its end some amount of the body weight; and every stump should be asked by the limb-maker to bear what share it can—it may be the whole weight, as after a Syme or a Stokes-Grritti operation,

or it may be one-half, one-quarter, or one-eighth. As time goes on the share will probably progressively increase. This gives a sense of compactness and stability to the limb, as well as a wider distribution of the burden. But so many failures have attended the Stokes-Grritti operation that it is not much in favour. I have the x-ray plates of five failures before me as I write.

One cause of failure is the displacement of the patella upwards by the pull of the quadriceps extensor. Another is the presence of pegs and other means to fix the patella down in order to resist this pull.

In recent cases I have cut the quadriceps attachment to the upper edge of the patella completely across, and then stitched the margins of the patella with catgut to the edge of the periosteum round the end of the femur. One or two additional deep catgut sutures will usually be sufficient, and a firm "button suture" through the skin flaps will make assurance doubly sure. This course was followed in the case illustrated in Fig. 1 (special plate), while the ordinary method was followed in that shown in Fig. 2.

## AN ACID-FAST BACILLUS OBTAINED FROM A PUSTULAR ERUPTION.

BY

LOUIS COBBETT, M.D., F.R.C.S.,

PATHOLOGICAL LABORATORY, CAMBRIDGE.

THE bacillus was cultivated from chronic intractable pustules covering the back, buttocks, and thighs of a soldier returned from France. No micro-organisms were seen in the pus, and none could, at first, be cultivated from it. But subsequently there was grown, on more than one occasion, the acid-fast bacillus which is the subject of this note.

The patient, aged 24, was wounded in the foot; he returned home on a boat which was torpedoed and sunk in the early part of 1917. After being in the sea nearly an hour he was picked up and brought to England. The wound in the foot at first healed, but subsequently broke down again, and two operations had to be performed. For a fortnight he was treated in the 1st Eastern Hospital, Cambridge, by continuous immersion in the bath. It was about a month after this that the eruption was first noticed.

On February 27th, 1918, when first seen by me, the eruption had already been in progress for about eight months. During this period the man had been at a convalescent hospital, for the most part up and about. But he had been far from well, and at times confined to bed with sickness and giddiness. He appeared to me to be in good general condition, but had a somewhat dejected air, and moved slowly.

Back and buttocks were covered with swellings of various sizes and different stages of development; some were simply old red scars, others were just pointing and were much raised and indurated, measuring perhaps as much as an inch at their bases. From one of these was obtained a stringy pus, in quantity larger than one would have expected. What particularly struck me was the exceedingly chronic character of the inflammation and the deep-seated position of some of the lesions; for the most active pustules, though somewhat painful and tender to the touch, caused far less trouble than an ordinary boil, and spots which were watched from time to time seemed to make little appreciable progress. Moreover, there were a few swellings, distinctly fluctuating, which were completely subcutaneous, and over which the skin could be freely picked up.

The patient was sent to me because the pus contained no bacteria visible under the microscope, and no micro-organisms—except a few staphylococci and once a diphtheroid bacillus, thought to be adventitious—could be cultivated from it. It was obvious, therefore, from the first that I had to do with lesions which were not those of ordinary suppuration, and a Wassermann test was carried out to clear the ground. The result was negative.

The pus was examined by me on several occasions, and various methods of staining were used, but no bacteria were ever seen in it, even when the stain was that used



for acid-fast bacilli. The pus differed entirely from tuberculous pus, the cells being well formed, and showing little sign of degeneration, being unusually clearly defined, but containing, I thought, more nuclear fragments than usual.

Cultures were attempted on various media. No visible growth appeared on egg or blood agar, or on ordinary agar cultivated anaerobically; but on agar in the presence of air five rather large cream-coloured colonies appeared, and these were found to consist of long slender bacilli. Subsequently the same bacillus was obtained in impure culture from an aerobic egg tube.

The bacilli stained well by Gram's method. When so coloured they were further treated with 5 per cent. acetic acid to see whether they possessed polar bodies. The only effect of this treatment was to bring out an irregular segmentation of stainable material, like that seen in bacilli of the diphtheroid group. Polar bodies were probably present, but they were not definitely revealed.

The resistance of the Gram-stained bacilli to decolorization with 5 per cent. acetic acid, their segmentation like diphtheria bacilli, and the fact that they were but feebly coloured with methylene blue, led me to try their acid-fastness, with the result that when stained with carbol-fuchsin, after the manner used for phthisical sputum, they were found to resist decolorization just like tubercle bacilli.

It has already been mentioned that the colonies grown from the pus were few in number. It is probable, therefore, that the bacilli were not numerous in the pus, and it is for this reason, we may suppose, that they were not detected by microscopic examination.

The small number of colonies which grew on the original tubes, coupled with the failure to render the bacillus visible in the pus itself, and, I must add, a superficial resemblance of the cultivations to those of the fish-tubercle bacillus (which I happened to have growing among my stock cultures), raised at first a suspicion that the new cultures might after all be nothing but the above-named species, got by some extraordinary accident into my plate cultures. The suspicion, however, proved unfounded, for the cultivation was repeated on more than one occasion from different pustules, and each time the same acid-fast bacillus was grown as on the first occasion.

Moreover, grown side by side with the fish-tubercle bacillus certain differences became apparent. For while both organisms grew well at 22° F., the new bacillus grew even better at 37°, at which temperature the fish-tubercle bacillus refused to grow at all; and at the temperature of the cupboard—say, 12° to 16° C.—the fish-tubercle bacillus grew well, but the new bacillus scarcely at all.

The early colonies of the new bacillus were not quite the same as they subsequently appeared after time had allowed for the adaptation of the micro-organism to the conditions of artificial culture. At first on glycerin-potato or glycerin-agar they were large, raised, and nodular. In colour they resembled cream, like tubercle bacilli. Their sides were steep, and their consistence crumbly, for when touched with the platinum needle they broke into fragments which refused to stick to the wire, and on agar slipped about the surface and eluded capture. In subcultures, however, the colonies were soft and no longer tended to break into elusive crumbs, and the colour became whiter. On potato the bacillus formed a continuous, finely-nodular, thick, whitish layer, which was never seen to become wrinkled, as so often happens with cultures of the fish-tubercle bacillus; moreover, it showed no tendency to develop in old cultures the blackish-purple colour sometimes produced on potato by the latter bacillus. But, like this microbe and many others of the acid-fast group, our new bacillus grew freely on potato which had been coloured with methylene-blue, and like them again it built up the blue colour into its colonies.

The bacillus itself, like its colonies, changed somewhat as cultivation proceeded. At first it was a long, slender, slightly curved rod which showed some trace of segmentation of its stainable substance, just as tubercle bacilli and other acid-fast bacilli are apt, in common with the diphtheria group, to do. But subsequently it became shorter and plumper, and usually appeared as a bacillus with a somewhat indefinite outline which stained badly (with carbol-fuchsin) except for a dark-red spot in the middle. This form is not uncommon with many acid-fast bacilli, and has been described by Theobald Smith as occurring in the bovine type of tubercle bacillus after long artificial

cultivation.<sup>1</sup> In both forms the bacillus was strongly acid-fast, resisting, after five minutes' staining in hot carbol-fuchsin, decolorization in 25 per cent. sulphuric acid and 70 per cent. alcohol. This decolorization could be pushed, as with other acid-fast bacilli, without danger of decolorization, but after acid the colour could slowly be washed out with absolute alcohol.

The pathogenic power of the bacillus for the guinea-pig seems to have been low. A drop of the pus from the patient was injected intraperitoneally into one of this species without producing any lesions visible when the animal was killed two months later. The results of injecting the culture itself are not yet known.

Cultivated on glycerin broth it formed a superficial film which remained flat and thin, and never became wrinkled or climbed up the sides of the flask like the tubercle bacilli in like circumstances. The fluid remained clear, but a somewhat dense deposit of growth accumulated at the bottom. Growth on various media was somewhat deliberate, but considerably more rapid than that of tubercle bacilli. It required several days to reach its maximum development.

#### REFERENCES.

<sup>1</sup>Theobald Smith: Note on the Specificity of the Cultural Characters of Tubercle Bacilli, etc. Reprinted from the *Transactions* of the First Annual Meeting of the National Association for the Prevention of Tuberculosis, U.S.A. See Figs. 2 and 4, opposite page 6.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### THE INFLUENZAL EPIDEMIC IN GENERAL PRACTICE.

CAPTAIN BURNFORD's article in the *BRITISH MEDICAL JOURNAL* of July 20th raises a number of points of interest, but his suggestion that the epidemic is of the nature of a glandular fever is not in accordance with experience here. After an experience of perhaps 1,000 cases, I may say that glandular enlargements, whilst they occurred in moderate numbers, were not a predominant feature of the whole range of cases seen. With rubella and mumps there were, indeed, certain points of contact where glandular enlargements were prominent, but in no case did I see a rash, and in no case did the question of differential diagnosis seriously arise.

Swabs from the nasopharynx and tonsils were examined bacteriologically in twelve cases. The results were practically negative. No organism was found common to all cases, though an unidentified micrococcus was detected in several instances. The blood from these patients was also negative. There were distinctive differences in type between cases I saw at first and those seen later. At first cases were comparatively mild, and recovery was as prompt as onset was sudden. One heard of people taken ill at work or in the streets, and after a couple of days or more in bed, if freed of their pains, still extremely weak. The leading signs and symptoms were of the familiar type dealt with in your editorial of July 13th. Afterwards meningeal symptoms became a serious preoccupation, especially in children. Headaches have been intense, nose bleedings, and even ear bleedings, and symptoms referable to pressure within the ear have been common enough to justify a warning to the relatives that they were to be expected.

As a sequel to the severe head symptoms, complaint was frequently made of lumbo-sacral pains. Most of these meningeal cases were dangerously ill, though none died. Severe vomiting has been not uncommon, more especially in adults; recovery has been delayed, and mental symptoms were frequent.

In certain cases pneumonia was suspected, and in some occurred; but, as a rule, I think bronchiolitis is probably a good description of the actual lung condition. In some instances both head symptoms and pneumonic troubles were present, but usually the former ultimately became dominant in these cases.

Prophylaxis may be summed up in the words "free ventilation" and "fortify the power of resistance" in every possible way. The fact that the majority of our cases occurred in panel practice suggests overcrowding as a prime factor in the dissemination of the disease, as, of course, one would anticipate.



As to treatment, quinine probably lowered resistance and was frequently taken by patients on their own initiative, and, therefore, ignorantly. Hexamine was given in all head cases, but with doubtful benefits. Bromides, on the other hand, distinctly controlled the vomiting. Aspirin appeared to relieve the pains, and the salicylates were useful.

I am indebted to Dr. E. Bruce Wilson and Captain A. A. Bisset, R.A.F., for permission to refer to cases occurring in their practice, and for valued assistance.

Sheffield.

G. HOLLIDAY, M.B., C.M.Édin.

### COLLOSOL MANGANESE IN FURUNCULOSIS.

I HAVE used the treatment for furunculosis recommended by Sir Malcolm Morris<sup>1</sup> with great success in a man who had been under my care with "boils" for the last five years. He had never been completely free from them. His life was a misery, and he was frequently too ill to work. On May 5th I gave an injection of collosol manganese (0.5 c.cm.), and each week following for the next five weeks I gave injections of 1 c.cm. After the second injection the boils (five in number) rapidly cleared up. He has since been absolutely clear, and feels better in general health.

Luton.

W. E. LEVINSON, M.R.C.S., L.R.C.P.

## Reviews.

### UTERINE FIBROIDS.

DR. CUTHBERT LOCKYER has long been known for his active interest in gynaecological pathology, and he has collected his special knowledge and observations regarding myoma and adenomyoma into a volume entitled *Fibroids and Allied Tumours*.<sup>2</sup>

Author, artists, and publishers are to be congratulated on a very fine production. The whole appearance and printing of the book are worthy of the best traditions of the great house of Macmillan. The numerous illustrations, both coloured and plain, are superb; merely to turn over the pages and look at them is as good as a demonstration on the subject.

The text is obviously from the pen of one who has made a prolonged study of his subject from all aspects, and has handled the tumours both in the theatre and in the laboratory. It is to the latter aspect of the subject that the reader will turn first, because the number of good books on gynaecological pathology is about as small as the number on the operative aspect of the subject is large. The pathology of fibroid tumours is discussed from A to Z, and every point is illustrated by drawings or paintings, mostly from the author's own specimens. All the little that is known as to the etiology of fibroids is discussed, and the histogenesis and histology described in the light of Mallory's work. An account of the anatomy of the subject is followed by a chapter on the changes in neighbouring organs produced by the presence of the tumours. This is succeeded by a very able and full discussion of the secondary changes or degenerations to which fibroids are so liable. The ordinary hyaline and cystic and the rarer fatty changes are very fully explained and illustrated. In connexion with the last named a clear account is given of the very unusual lipomyoma or lipomatosis of a myoma. Red degeneration necessarily claims considerable space for discussion of the numerous unsolved problems it presents. Finally, in this section the author gives a clear lead on the subject of malignant changes occurring in myomata, which may be commended to any sceptics still holding out in the London schools.

In the section on the treatment of myoma the writer gives a useful summary of the generally accepted values which are now to be placed upon x rays, radium, and mesothorium. The different methods of employing the rays are described, as well as the dangers and contraindications. Wise insistence is laid upon the necessity that the decision as to whether or not a particular fibroid is suitable for treatment by radiotherapy should remain entirely in the

hands of the gynaecologist. But the gynaecologist who essays to express an opinion to the radiologist had better first fortify himself by the perusal of this chapter. Lastly, in this part of the volume comes an interesting summary of the history of operative treatment, and a discussion of the different operations which have been practised.

The second part of the volume is concerned solely with that interesting tumour, the adenomyoma, a subject on which Dr. Lockyer has made himself an acknowledged authority. Considerable space is given to a historical account of the different views held as to the etiology and histogenesis of this tumour. The reader is guided very clearly from the view of von Recklinghausen that adenomyomata were essentially of Wolfian origin, to that of Cullen, who first described the glandular elements as originating in all cases from the endometrium, and on to the further modification of the latter view put forward by von Franqué—namely, that pre-existing inflammation explains the origin of most of these growths. Iwanoff's views as to the origin of some such tumours from the peritoneum by a process of what Meyer calls "heterotopy," are explained. The author regards this as the explanation of the existence of epithelial spaces and cysts in most extrauterine swellings found, for example, in the recto-vaginal septum. This general discussion is followed by a full description of adenomyomata as they have been found to affect the different parts of the genital tract. The author believes that the tumour may become malignant, but that this rarely happens.

The third and last part of the book is devoted to a fully illustrated description of the operations for myoma, including chapters on the after-treatment and possible complications. Several appendices on special points of interest conclude the volume.

We have only one complaint, and that is, that the references to literature and authorities quoted are not numerous enough. Authors who have by their own exertions made themselves familiar with a subject need not hesitate to make the path easier for those who follow by mapping it as fully as possible.

British gynaecology has every reason to be satisfied with this book, and the author's own school in particular may be proud of it. It is a mine of information which will reward the attention of all gynaecologists, particularly those engaged in teaching. It may be commended to all interested in the subject as a masterly and exhaustive exposition, clearly and interestingly written, and profusely, beautifully, and instructively illustrated.

### THE ELECTRICIAN AS PHYSIOLOGIST.

It is difficult to understand precisely what is the intention of Mr. BAINES'S *Studies in Electro-Physiology*.<sup>3</sup> If, as the title suggests, it is an account of the author's own work, it would have been much improved by the omission of the quotations from elementary, and sometimes antiquated, textbooks of physiology and the extremely superficial resemblances between histological structures and electrical apparatus. Moreover, no attempt is made to meet the most serious objections that have been brought against Mr. Baines's experimental methods. The activity of the sweat glands, always associated with changes of electrical potential, is dismissed in a few lines which do not meet the case at all. Physiologists will not accept the conclusions of the book until the same phenomena have been demonstrated by the use of non-polarizable electrodes. If metallic electrodes are used—and Mr. Baines will have no others—it is imperatively necessary that their equipotentiality and freedom from polarization should be tested in every experiment by previous immersion in a salt solution. The question is not one between the physiologist and the physicist (see p. 68), but a pure matter of physical chemistry. The objections taken to the use of non-polarizable electrodes arise from the fundamental misconception at the base of the whole of the theoretical treatment. No one denies that living organisms possess an electrostatic capacity, nor that they conduct currents, and, when forming part of a circuit, that induced currents might be produced in them. These properties are also possessed by dead organisms, if moist. But physiologists

<sup>1</sup> BRITISH MEDICAL JOURNAL, April 20th, p. 446.

<sup>2</sup> *Fibroids and Allied Tumours (Myoma and Adenomyoma): Their Pathology, Clinical Features, and Surgical Treatment*. By Cuthbert Lockyer, M.D., B.S., F.R.C.P., F.R.C.S. With an introductory notice by Alban Doran, F.R.C.S. London: Macmillan and Co. 1918. Roy. 8vo, pp. xix + 605; 316 figures, 37 coloured plates. 65s. net.)

<sup>3</sup> *Studies in Electro-Physiology (Animal and Vegetable)*. By Arthur F. Baines, Consulting Electrician. London: G. Routledge and Sons, Ltd. 1918. Denay 8vo, pp. xxix + 291; 146 figures, including 51 drawings in colour. 12s. 6d. net.)



require much better evidence than is brought in this work to make them believe in the importance of these facts in regard to any vital activity. The misconception alluded to above is the neglect of the fact that the electrical processes occurring in active tissues are connected with the movement of ions and that the conductivity of these tissues is of the kind called electrolytic.

The account of the author's own work would have been much more valuable if the essential details of certain experiments had been described in such a way that other observers could repeat them. As an instance, on p. 40 we are told that a potato was boiled and then joined up by steel needles to a dry cell ("zinc to unprolific, carbon to prolific, eye"). The connexion was broken after twenty-four hours, and thereafter the potato "began to sprout in a quite remarkable manner." Our hunger is excited, and, like Oliver Twist, we ask for more.

But the book appears to be intended as a general account of vital functions from the electrical standpoint. If this be so, the omission of a description of the Einthoven galvanometer and the electro-cardiogram, not to speak of the changes in secreting glands, is somewhat surprising. The author is so convinced that no one devoid of the training of a submarine cable engineer is capable of electro-physiological work that he does not seem to have thought it worth while to find out what has been done in recent years. A physiologist would hesitate to claim the ability to give a detailed description of the manner in which the eye and the ear operate; but the task is not beyond the powers of the submarine telegraph engineer, as we are told on p. 217.

Mr. Baines is rather troubled with the problem of the galvanic cell, whether the electrical current is the cause of the chemical changes or vice versa. This is of some importance in connexion with his views as to the production of "neuro-electricity" in the body. He appears rather to favour the former theory, but are we not reminded of the old discussion as to the priority in time of the hen or the egg? We are told, however, that there is in the body a "generator of neuro-electricity" and that an electrical discharge is continually being given off to the air. There must be a source of this supply of energy at high potential, and Mr. Baines might do well to consider the laws of thermodynamics in this connexion. But "neuro-electricity" is a very elusive form of energy.

A large part of the book is occupied by lengthy quotations from other works, some of questionable authority. When Mr. Baines declaims against the ignorance of physiologists, one may fairly ask why, in respect of the nature of the nerve impulse, he makes no reference to the work of Keith Lucas, who did more than any one else to elucidate it.

The coloured pictures of apples and onions are very well done and reproduced; but the same cannot be said for most of the figures in black and white. That of the protoplasmic movements in the *Tradescantia* hair, on p. 134, can hardly be excused, when the accurate representation given by Kühne was available. Fig. 80, on p. 151, is altogether misleading.

The reviewer would not desire to attach blame to Mr. Baines for his failure to appreciate well-established physiological facts. Physiology is a very difficult science, including an enormous range of phenomena and requiring a lifetime of study. Huxley, in referring to its value as a mental discipline, gives as one of its valuable qualities "the exactness of knowledge which it requires on the part of those among its votaries who desire to extend its boundaries."

W. M. B.

## CERTIFYING FACTORY SURGEONS.

### *The Sixpenny Fee.*

THE Incorporated Association of Certifying Factory Surgeons recently forwarded a memorial to the Home Office on the subject of fees payable for duties performed under the Factory Act and the Workmen's Compensation Act, drawing attention to the particular need for some revision at the present time of increased expenditure for everyday necessities. It was stated that surgeons who are solely or mainly dependent upon their factory appointments, and who consequently have suffered correspondingly through the abolition of accident investigations, are very hardly placed at a time when money is so plentiful among those engaged in manufacturing industries. It was also

pointed out that under an instruction of December 31st, 1916, increased care in the physical examination of children and young persons is now required. The following recommendations were made:

1. The sixpenny basis for examinations for certificates of fitness, where there is no arrangement with the occupier, and for work done under special instructions should be raised to one shilling. It is therefore recommended that the fixed rate should be one shilling per person examined, the minimum fee per visit to a factory or workshop to be two shillings and sixpence, plus mileage at the present rate.

2. The fee for investigation and report in cases of septic poisoning should be raised to five shillings, and for industrial poisonings and disease to seven shillings and sixpence, with mileage as at present.

3. The fee for examination and certifying under the Workmen's Compensation Act should be ten shillings, plus one shilling per mile or part of a mile travelled, and should be made a charge against insurance. When a report of the case has been made under the Factory Act the fee under the Compensation Act should be five shillings.

On July 24th the Chief Inspector of Factories, who was accompanied by Dr. T. M. Lerge, the principal Medical Inspector, received a deputation from the association for the purpose of discussing the points raised in the memorial. It was pointed out that the sixpenny basis of payment for certificates of fitness, with the minimum of two shillings and sixpence for a visit to the factory, had existed unaltered since the establishment of certifying by the Act of 1833, the reason for the smallness of the former being that the sixpence had to be paid by the child or young person, the employer's obligation being limited to making up the difference between the sixpences collected and the half-crown for a visit. With respect to the fee of sixpence for examination at the surgeon's rooms, it was mentioned that for this sum, apart from the examination, a form of certificate must be filled up, a visit may have to be made to the works, and, in case of refusal to certify, the parent can demand to have the reasons set out in writing.

Discussing a former refusal to revise the fee for examination at the surgeon's rooms, on the ground that the Home Secretary did not care to abolish by Order a privilege granted by Parliament to small employers, it was shown that this particular charge was first authorized, in connexion with works employing a limited number of children and young persons, by a Home Secretary's Order following the Act of 1867, and that no part of the fee was paid by the employer. Parliament did not originate the so-called privilege, but simply confirmed it in the Consolidating Factory Act of 1878, though modifying it to the extent of ordering the employer to pay half the sixpence. It was not until 1891 that the employer became responsible for the whole of the fee. It was urged that the establishment of a shilling basis would affect the small employer very little, would tend to diminish the number of visits to the surgeon, would act as a powerful factor in stopping the practice of illegal collection of five for presentation at one visit to the factory, and would tend to revive the excellent system of contracting for regular visits by the surgeon.

The Chief Inspector thanked the deputation and promised that the representations made would be duly laid before the Secretary of State.

## Medico-Legal.

### THE COVENTRY CASE.

*Pratt and Others v. the British Medical Association and Others.*

THE hearing of the evidence and speeches in this action was concluded on July 30th, when Mr. Justice McCardie reserved his judgement over the Long Vacation. The following is a continuation of the report of the case which was published in the BRITISH MEDICAL JOURNAL for August 3rd and 10th at pp. 123 and 135 et seq.:

Continuing his evidence in cross-examination by Mr. Schwabe, Dr. Cox said the local men were in the best position to judge of the local conditions.

Mr. Justice McCardie: The local men might wish that the dispensary should remain tainted, because so long as it is a thing of less repute than it might be, so long will they get the greater possibility of private practice.—Dr. Cox: I do not think it has ever been alleged against the medical profession that it has not been always willing to make full accommodation for contract practice of people who cannot afford fees.

With regard to the suggestion that Dr. Holmes was condemned without being heard, he could not say what happened at Coventry. While (apart from R. 9) there was no rule providing that notice should be given to a member of the Association, or non-member of the Association, of a charge made against



him in respect of his professional misconduct, it was the practice to require a notice to be sent. They had never ostracized any general hospital.

Mr. Justice McCardie: The fundamental distinction between the two is that the hospital is, in the eyes of all men and to the knowledge of all, a completely philanthropic institution?—Yes. Lay control there was a subordinate matter.

Continuing, witness said it was untrue to say that they tolerated consultations in urgent cases with medical officers of the dispensary in order to save their faces in the eyes of the public. It was done from the ordinary feelings of humanity. The Association had been asked to compile a list of doctors and chemists whose services were available to attend on dependants of soldiers. The secretaries of the Divisions and Branches were invited to assist in preparing a local list. The card index kept in London contained the names of all practitioners on the *Register*, and would include the names of the plaintiffs. He had not inquired whether the request to lend their services had been sent to the plaintiffs by the local Division. In his opinion it should have been sent. The ostracism would certainly not be a sufficient ground for not sending it.

Re-examined by Mr. McCall: The Coventry Division was very representative of the doctors in the area. Whether the rule expressly said so or not, it was the practice to give notice to any one about whom a complaint was made to attend before the committee. Again, whether it came about by rule or by practice, there was an appeal from a Division to a Branch, and from a Branch to the Central Ethical Committee.

Mr. Justice McCardie: Is it necessary to get the consent of the Central Ethical Committee before Rule Z is circulated?—Yes. Witness explained that when a Division came to a conclusion that the conduct of a particular medical man was detrimental to the honour and interests of the profession, it reported the facts to the Central Ethical Committee. The decision of the Division was accepted as a decision on a question of fact, and the Central Ethical Committee considered whether all the facts laid before it were sufficient to justify the circulation of the name with any attendant risk which might follow. In a good many cases it had not been allowed. Judged by the standard he had already described, a man who accepted office at the Coventry Dispensary was guilty of conduct detrimental to the honour and interest of the profession.

Mr. McCall: In your opinion were the men in the Coventry Division professional brethren of good repute and competency?

Mr. Schwabe: I object to the question. It is irrelevant.

Mr. Justice McCardie: I allow the question. The issue of malice having been raised, the question as to the nature, position, and character of the persons who lay the facts before the British Medical Association may be of great importance.

Dr. Cox (answering the question): Certainly, seeing that the Coventry Division consists of practically all the medical men in the neighbourhood and the Coventry Division has always held its own in the medical world. Continuing, he said that the Central Ethical Committee had never surrendered to the Division the right to apply the ethical rules to the facts of a case. Dr. Pratt had never, within his recollection, made any complaint to him of not having been heard. With regard to the warning notices, it was his experience that they had been of great service to young practitioners. The notices had been altered in October, 1914, and the alteration stood. The committee which had reported on Medical Aid Institutions considered about 150 of those bodies.

Dr. James Neal, Deputy Medical Secretary of the British Medical Association, examined by Mr. McCall, said that in all his dealings with the Coventry Dispensary he was never animated by any motives of personal ill will towards the plaintiffs or any of them. Neither Dr. Pratt, Dr. Holmes, nor Dr. Cairns had complained to him of not having been heard. With regard to the warning, he had had experience of the effect upon young practitioners.

Mr. Schwabe objected to the evidence, but it was admitted.

Witness said that the warning notices were beneficial to the profession.

In cross-examination by Mr. Schwabe, he said that the fact that a man took an appointment, the holders of which had been ostracized after notice, was sufficient ground for expelling him from the British Medical Association. It was true that by one of the model rules a non-member was to be ostracized if he acted in contravention of any rule of the British Medical Association if he had had notice, but it was a practice invariably safeguarded. The rule must have been passed after due notice and by a fixed procedure. Again, the issue of any notice which would bring about professional ostracism must be first sanctioned by the Central Ethical Committee—not by the Division only. Every effort was made to give notice of the procedure to non-members. The model or "Bradford" rules were adopted in Coventry in 1907, and Rule Z was definitely adopted by the Coventry Division on January 21st in that year. It was never understood that ostracism would commence before the Central Ethical Committee had permitted the sending of this resolution under Rule Z. He did not think it correct to say that Dr. Holmes was ostracized without the circularization of the rule.

Having given evidence about the circulation of the *JOURNAL*, the witness was re-examined by Mr. McCall. He said that, as a matter of practice, there was no ostracism before circularization, and even after the Ethical Committee had decided the matter the solicitor was always consulted before it was put in force.

The witness having withdrawn,

Mr. Justice McCardie observed that it was difficult to see how ostracism could be prevented beginning as soon as the

resolution was passed. From that moment onwards what was the position between the single practitioner and the great body of men who had practically said that he was not a person they ought to associate with?

Mr. McCall replied that it was as immaterial as it would be in the case of a club where some of the committee, whose decision required to be ratified by the members, declared, "I will not speak to that man again until the matter is cleared up."

Mr. Justice McCardie: But the Division cannot rescind a resolution, even if the Central Ethical Committee do not sanction it. It stands. But perhaps the local practitioner, if he finds that the Central Committee disapproved of the resolution, can say: "That resolution has been condemned by the higher authority." If he can say that, I suppose you may rightly urge that the resolution is not, possibly, effective.

The signed proof of Dr. Davidson having been read.

Major John Orton, R.A.M.C., M.R.C.S., L.R.C.P., J.P., who had been a member of the Coventry Division since 1896, examined by Mr. Hollis Walker, said the constant complaint against the dispensary was its being used by persons who should not avail themselves of such an institution. He said that in 1903 Dr. Fletcher, who was on the dispensary staff, resigned because he was asked to see a patient living in a large house. Dr. Davidson resigned at the same time for the same reason. When the Coventry Division started in 1903 it adopted certain rules. In 1904 it adopted the Bradford rules, and, in 1907, Rule Z. The Division had been approached in 1905 by Dr. Pickup with a view to getting things altered at the dispensary. He had lived at Coventry all his life, and had no ill will towards any of the plaintiffs. The dispensary really concerned him personally very little, because he practised in the suburbs.

In cross-examination, he said that a proposal which was made that all the Coventry practitioners should become doctors of the dispensary was made to check abuses. He objected, amongst other things, to lay control.

Dr. Pickup, M.D. Lond., examined by Mr. Hollis Walker, said he joined the staff of the dispensary in 1882 and remained until June, 1907. When he joined it was managed by a lay committee consisting of the leading citizens, who were subscribers. He and his colleagues tried to get reforms; they wanted a wage limit and more medical control. Eventually they did get a wage limit of £2; they finally consulted the Coventry Division. His principal objection to the institution was that it kept as members numbers of people who improved their position. He never heard of a member being called on to resign. He also thought the dispensary should be open to all doctors.

Cross-examined by Sir Hugh Fraser, he said that at first he did not think there was anything derogatory in being connected with the dispensary, but during the last ten years it was being abused because of the members who ought not to remain in it. He never told Mr. Farren that he was forced to resign by the action of the British Medical Association. It was because he and his colleagues could not get reforms.

Dr. Lowman having been called,

Dr. Thomas Webb-Fowler, examined by Mr. Hollis Walker, said he had been a member of the Coventry Division since 1903. In April, 1913, he had a message from Dr. Burke on the telephone. After ascertaining from Dr. Orton that the ban was still on, he said he could not meet Dr. Burke in consultation, and could not attend a patient (Mrs. Turton) while he was in attendance. As well as he could recollect, he suggested that Dr. Burke should retire from the case, and Dr. Burke said, "Probably, yes." The result was that Dr. Burke lost, possibly, two guineas. Patients were received at the Coventry Hospital whether they belonged to the dispensary or not.

Cross-examined, he said he only knew of one doctor at the dispensary who was refused admission to the hospital. There was no definite arrangement that they should be refused. During the house-surgeoncy of certain men none of the plaintiffs would have been refused admission to the hospital, but at other times there might have been trouble. He had seen Mrs. Turton since. He desired to explain that when a patient was attended by one practitioner, and desired to see another, either there was a consultation or a change of doctor. Here there was a change of doctor. What happened in this case did not seem to him different from other cases.

Dr. Kenderdine and Dr. Hawley having been called,

Dr. Squire Sprigge, editor of the *Lancet*, examined by Mr. McCall, said that he was familiar with what had happened in this case. He had written a book, entitled *Medicine and the Public*, in which he had dealt with medical aid societies.

Mr. McCall: Do you agree with the objections which the Coventry doctors take to the dispensary? Sir Hugh Fraser objected to the question on the ground that justification had not been pleaded. Mr. McCall submitted that he was entitled to an expert opinion. Again, upon the issue of conspiracy, the question arose whether the defendants were not entitled to take reasonable steps to protect their own interests. His Lordship allowed the question.

In reply, witness said he thought the action of the British Medical Association and its Ethical Committee was entirely justified and directed towards the maintenance of a high professional standard. He was referred to his book, pp. 54, 55. That represented his views. There was not, in his opinion, any ground for saying that the Association were usurping the functions of the General Medical Council.

In cross-examination, he said that in his opinion, inside professional relations, it was dishonourable not to support the standards which the leaders of the profession made for the honour of the profession. He objected to lay control where



professional questions were involved, and when the National Insurance Act was passed the abolition of lay control was an argument used to persuade the medical profession. The appointment of the medical staff, for instance, should be made by a committee at which the medical voice was clearly heard without the lay voice. When a professional question was at issue the people who had the right to allot blame or take action on it ought to be a committee on which there was no question of lay control. With reference to the passage in his book as to the insufficient payment of medical men at dispensaries, he said that he would be surprised to hear that salaries at Coventry were £600 when the book was written. The salaries during the last few years had not, so far as he knew, been too small. Shortly after his book was written he published articles in the *Lancet* relating to the Coventry Dispensary. When he spoke of bad management he meant from the medical point of view. The conditions of dispensary practice did not conduce to the maintenance of professional standards. He considered that the British Medical Association had a perfect right to order their members not to associate with the officers of the dispensary. They were wrong in taking the posts. Although the refusal to consult with an officer of the dispensary might be bad for an individual patient, if such things led to better medical attendance on the public, then, although it would not be in the interests of that individual patient, it might be in the interest of the public in the end.

Dr. M. G. Biggs, in giving evidence, said he had been a member of the British Medical Association for thirty years and Chairman of the Central Ethical Committee for five and a half. He had heard the evidence of Dr. Sprigge on the general aspect of the case and agreed with it.

In cross examination, he said that in his opinion the plaintiffs had acted contrary to the honour of the profession in breaking the rules of the Association and in not acting with their professional brethren in the matter of the dispensary. A man who thought he was accepting a post contrary to the rules of the Association ought to be, and was, allowed to resign, but not while there was an inquiry pending. He thought it was right that the rule as to ostracism should be applied to non-members, but no such case had occurred.

Mr. Justice McCardie: Is it your view that a non-member who has broken the rules of the local Division of the British Medical Association should be ostracized by the medical profession?—Yes.

Sir John Tweedy, examined by Mr. McCall, said that he was a passive member of the Association.

Mr. McCall: Having heard the evidence and the objections raised to the dispensary, was being on the staff contrary to the honour and interests of the profession?

Mr. Schwabe: I object.

Mr. Justice McCardie: You have suggested that the Coventry gentlemen could not fairly believe that the acceptance of the post was "contrary, etc." I think it is admissible.

The witness, in his reply, referred to Allinson's case, and maintained that if an organization like the British Medical Association, representing a large body of the profession, held that a particular line of conduct was discreditable or dishonourable, then there was *prima facie* evidence that the members of the Association should be influenced and governed by it.

Mr. Justice McCardie: You would give no effect to the rights of minorities?

Witness was asked as to the meaning of the phrase "honour of the medical profession," but Mr. Schwabe objected on the ground that the innuendo put upon the words had not been denied.

Continuing, witness said that the opinion he had expressed did not impute any personal dishonour to the plaintiffs or any of them. They had not been guilty of dishonourable conduct in the ordinary sense of the term. The Association, which had not in any way usurped the functions of the General Medical Council, had done work essential to the well-being of the profession. If it and its Ethical Committee were swept away something similar and on stronger lines would have to be started. This was the more so because there was now no apprenticeship in the profession; mere tyros had no insight into its mysteries. The necessity was for a central body to control the customs, behaviour, and professional conduct of the medical profession.

In cross-examination, Sir John said that he did not conceive that an Act of Parliament could achieve the purpose. Ethical jurisdiction was personal. He would leave administration to the local Division. If the rule was passed by a body of men of good repute and competency, anyhow, so far as that locality was concerned, he would regard it as sound, provided it was reasonable.

Dr. Langley Browne having been called, the defendants' case was closed.

Mr. Hollis Walker, K.C., in addressing the Judge for the defendants, said that the difficulties and complications began with the statement of claim, the numerous paragraphs of which disclosed several causes of action. For instance, Dr. Burke's claims arose partly in respect of matters earlier in date than in the case of the other plaintiffs, who came into the proceedings later. It was alleged that the defendants were acting for one another, making each liable for the others' acts. The Association accepted responsibility for some acts of the individual defendants, but not for all; for instance, the Association denied agency in the matter of the warning notice. Again, in *par. 9a* certain defendants were accused of slander and libel, and in that respect the Association was not a principal. As regarded Dr. Cox, the Association accepted responsibility.

[Counsel having gone through the statement of claim saying in what respects the Association accepted responsibility for the acts of the other defendants, said the claim in conspiracy for libel and slander added nothing to the claim for separate libels and slanders (Thomas v. Moore (1918) 1 K.B., 555). He contended further that a corporation *per se* could not be guilty of conspiracy.]

Mr. Justice McCardie: Can you suggest any ground for distinguishing "intention to injure" in conspiracy, from "malice" in libel? Mr. Hollis Walker: A corporation from its very nature cannot be a party to a conspiracy. As to conspiracy in general, the law is obscure. Mr. Justice McCardie: It is impossible to reconcile, not only the *dicta*, but the reasons given by various judges.

Continuing, Mr. Walker submitted that conspiracy was an agreement to do something lawful by unlawful means, or something unlawful by lawful means. The question was, What was meant by "illegal means"? Illegal, in his submission, meant something tortious or criminal. The real object in the present case was not to injure the plaintiffs, but to benefit the defendants. Malice was essential.

Mr. Justice McCardie: Suppose a man deliberately decides to ruin another—is there not malice? It was admitted by Dr. Cox that it was meant that these men should be ruined. That appears to involve malice in law.

Continuing, counsel said that what might incidentally happen to the plaintiffs was not material. The object of the defendants was to benefit the profession.

Mr. Justice McCardie: The defendants have not pleaded any just cause for the alleged conspiracy. No just cause for the threats to Dr. Holmes has been pleaded.

Mr. Walker said that the question whether the rules were *ultra vires* was now raised for the first time. Mr. Schwabe: Rule 26, which is "F" in the Coventry rules, is unlawful, as being in restraint of trade. It begins: "Subject as herein contained," etc. "Just cause and excuse" has not been pleaded in justification of the conspiracy. Mr. McCall: The defendants in all that they did were acting honestly for the protection of the honour and interests of the profession.

Mr. Justice McCardie: If that is your proposition, you will have to consider the cases like *Lumley v. Gye*, which apparently go to show that that is no justification.

Continuing, Mr. Hollis Walker said that, as to the libels, they had pleaded privilege where the defendants were discussing amongst themselves a matter of common interest. As to the warning notices, it was clear that a certain number of copies of the JOURNAL got into the hands of the public. The plaintiffs were not mentioned by name. It was not a libel.

Mr. McCall, K.C., continuing by leave of the court, said that the Association was founded for the protection of the interests and honour of the profession. The absence of any charter was immaterial, as any trade can form such an association. The Coventry Division was merely a branch of the Association. The defendants formed the honest conclusion that the dispensary was prejudicial to the honour of the profession. They therefore said that it should be barred from intercourse with the Association, and the bar should be made as effective as possible. No legal right of the plaintiffs was violated. The defendants were perfectly entitled to say, "Dissociate yourself from the dispensary, or non-intercourse will drive you away." In *Giblan's case* (supra) *Romer L.J.* (at p. 619) admitted that such conduct was justifiable. If the purposes for which the alleged libels were published were justifiable, the publication was justified. It is said that *R. 27 Z.* was in restraint of trade, but it did not come within any definition of the same (see the note to *Mitchell v. Reynolds*, 1 P. Wms., 181). The most important question was this: Are the defendants to be convicted of conspiracy and malice when the leaders of the profession say that all that the defendants did was essential to the interest of the profession?

Mr. Schwabe, K.C., in addressing the Judge for the plaintiffs in reply, said that an action lay for any invasion of legal rights involving damage. The plaintiffs' rights were to carry on their business unmolested. Where one person invaded the legal rights of another he must show that he only used reasonable means, but libel and slander, coercion and intimidation were not reasonable means. He referred to *Quinn v. Leatham* (1901), A.C. 495, at pp. 500, 520, 536, and 537. You may protect trade rights, but you may not interfere with another's right to carry on his business. The defendants here used threats, though it was unnecessary to define precisely what a threat was. *Larkin v. Long* (1915), A.C. 814, was an authority for the proposition that the belief that you are acting for your own benefit does not justify you in invading another's rights, and you may not induce another to break a contract for your own benefit. He referred to *South Wales Miners' Federation v. Glamorgan Coal Company* (1903), 2 K.B., 545; *Giblan's case* (1903), 2 K.B., 600; *Allen v. Flood* (1898), A.C., 1; and the *National Phonograph Company case* (1908), 1 Ch., 335. It was clear that the Association was acting as agents for the Coventry Division, who caused the publication of the warning notice. The Association, in its capacity as agents, was responsible for all the acts of the individuals who carried out the ostracism of the defendants, the individuals merely doing what the Association wanted by their isolated acts, which were within the scope of the authority committed to the individual defendants by the Association. The isolated slanders and libels were in pursuance of the scheme of ostracism, and so also were the speeches at meetings. Once a common design was shown, evidence against one defendant was evidence against all. The libel of April 6th, 1914, in the BRITISH MEDICAL JOURNAL was part



of the general conspiracy. There was coercion by compelling other members to refuse consultations, etc., by threats of ostracism. What Mr. McCall called "persuasion with a sanction" was in fact coercion. Dr. Suckling was coerced and intimidated. The defendants being guilty of conspiracy could not rely on the defence of common interest. The defendants' publications of libels and slanders were not privileged, and even if they were, malice was proved against them, destroying the privilege. There was publication of defamatory matter to Dr. Suckling, who was not a member, and probably to all practitioners in the district, or at any rate to members of the Association, also to Turtou, Busby and Holman.

Continuing, Mr. Schwabe said that as to malice, there was no bona fide belief in any one that the plaintiffs had done anything detrimental to the honour of the profession; all that could be said was that the plaintiffs broke the rules of the Association. In truth, a breach of the rules was intended to be followed by ostracism. The defendants knew perfectly well that the plaintiffs were doing nothing detrimental to the honour of the profession. They abused the breach of a rule to publish a libel. The whole scheme was skilfully devised to put into operation a trade union rule. Instances of malice were that when Birmingham acquitted Dr. Suckling of any offence, Coventry was not satisfied; that the defendants refused to remove the boycott, however much the rules were altered, because it would leave the plaintiffs in possession. There was malice in preventing the plaintiffs helping their country in the time of her stress. To call the defendants' procedure "ethical" was ridiculous; it was financial in its essence. Their habit of holding trials of their members and of non-members was farcical.

The plaintiffs were not necessarily entitled to the same amount of damages—for example, Dr. Burke suffered from the persecution longer than the others. The case of the defendants, however, was different, as they were all parties to the conspiracy throughout, and the doctrine of *O'Keefe v. Walsh* (1903, 2, L. R., 681) need not be applied. The plaintiffs were entitled, *inter alia*, to heavy damages for the gross libel in the JOURNAL in 1914 against the Association alone, and against all the defendants for boycott and ostracism.

Mr. Justice McCardie said that in view of the legal importance of the case, involving, as it did, the whole law of conspiracy, and of its importance to the parties, he would not deliver judgement until next term (October 14th).

## THE FUTURE OF THE WESTMINSTER HOSPITAL.

It is now a good many years since it was recognized by every one interested in the matter that the distribution of general hospitals in London had become unsatisfactory, owing to the huge centrifugal growth of that province of houses. The subject was keenly discussed in 1903, a fact to which our columns at that time bore witness. It was no doubt a result of opinions then very strongly expressed that King's College Hospital was removed to Denmark Hill in South London, for indeed no better illustration of the faulty distribution of general hospitals could have been given than the fact that on the northern side of the Thames, from Westminster to the boundary of the city—a matter of less than a couple of miles—there were three general hospitals—King's College, Charing Cross, and Westminster—and that opposite the last named on the southern bank was the great hospital of St. Thomas. On the southern bank was Guy's Hospital also, but in the farther parts of south-east London there was no large general hospital, and the decision to move King's College Hospital into that area was universally approved. But the hospital on its new site has been hampered by lack of money. Most of its beds are being used for military patients, and are extremely valuable, but when they have served that purpose there can be little hope that during the years of stringency that must follow the war the hospital will receive from the benevolent public, burdened by income tax and high prices for all necessities, the financial support which would enable it to complete and maintain all its wards for civilian patients.

An opportunity is now presented for bringing about an amalgamation which would afford a solution beneficial to the population of South London, and, we would add, to medical education.

The advisability of removing Westminster Hospital from its present extravagant site in the centre of official London has for some years past become increasingly evident; the principle of removal was adopted at a meeting of the governors in 1912. Subsequently a scheme was started to build a hospital of 300 beds on the verge of Clapham Common, and land was bought with borrowed

money to the amount of £23,000. The sale of the Westminster site, we understand, is now imminent, if not already completed.

A memorandum has recently been prepared by the active medical staff calling for a reconsideration of the proposal to build a new hospital at Clapham, and strongly expressing the opinion that the interests of the hospital, the public, and the medical school will all best be served by amalgamation with King's College Hospital, in conformity with the principles laid down by King Edward's Hospital Fund for London. Westminster Hospital has not funds enough to establish a really first-class hospital with all the departments, appliances, and laboratories required for scientific treatment and medical training. The recent story of King's College Hospital is a warning against ambition not backed by adequate financial resources. It has been unable to build accommodation for more than 360 of its projected 600 beds, and of the 360 only a certain number can now be maintained for civilian patients. Local requirements do not call for another hospital at Clapham; the Bolingbroke Hospital is close at hand and conveniently situated; moreover, two other hospitals, the Women's Hospital and the Weir Hospital, are already built, or about to be built, close at hand.

The site is unsuitable, but, even were it suitable, no practical business man to-day could say that there was reasonable prospect of obtaining from the benevolent public financial support adequate to the building, equipment, and maintenance of a medical school hospital. The time has passed when there need be any hesitation in putting forward this aspect of the matter. The discussions which have taken place during the last five or six years, culminating in the demand for a Ministry of Health, have convinced the public that doctors do not grow on hedges, like blackberries, and that good practitioners of medicine can only be formed by a long and elaborate education in which clinical instruction in a large general hospital forms an essential part. As Sir Clifford Allbutt said in commenting on the recent Board of Education report on medical education, "The student there observes Nature for himself; he is counselled and supervised, but is himself the workman."

We find in the report itself assumptions as to the better organization of clinical teaching which involve the necessity of a hospital of not less than 500 or 600 beds. This, as the Westminster memorandum says, is the smallest economical unit. The teachers must have ample laboratory accommodation, in immediate proximity to the wards, for research, clinical pathology including cardio-respiratory work, bacteriology, microscopy, *x* ray, and electrical work, to say nothing of the special departments, such as those for diseases of the eye, of the ear, nose and throat, of nervous and incipient mental disease, of skin disease, and so on. Amalgamation of the two hospitals would not only have the effect of forming one large and well-equipped medical school hospital, but, incidentally, owing to the proximity of the Maudsley Hospital, would afford opportunities for study and teaching in the incipient mental diseases referred to above. The attempt to maintain a dozen independent medical schools in London has failed, owing not to any fault of the staffs, but because, with the progress of scientific medicine, the task of teaching the preliminary subjects of the curriculum in a dozen different centres has become not only impossible to accomplish but impolitic to attempt.

The two medical schools, King's College and Westminster Hospital, have already been associated for the teaching of the preliminary subjects for a number of years. Their amalgamation on the clinical side will result in the immediate transformation of two small struggling institutions into a first-rate modern teaching hospital, no time will be lost and no unnecessary capital expended. There is no question of the extinction of Westminster Hospital, or of its being swallowed up by a rival institution. The new institute would be a combined one, in which the traditions of both constituent partners would be equally maintained. Doubtless this will necessitate a new name for the combined hospitals, but this should not be difficult to devise.

BRILL is sending a medical unit to the French Army. It will consist of fifty medical men with a number of medical students and orderlies.



# British Medical Journal.

SATURDAY, AUGUST 17TH, 1918.

## MEDICAL LITERATURE AND THE PROGRESS OF MEDICINE.

AT various times and in divers places Professor Rignano, editor of the Italian periodical *Scientia*, has sought to induce the men of science in the allied countries to give attention to the parlous state into which scientific literature had fallen before the war. That cataclysm, he assumes, must have convinced the nations of the Entente of the danger that they had run of becoming victims of German hegemony in all fields of human activity—economic, technical, and scientific.<sup>1</sup> The fact has been realized on the industrial side in all the Entente countries; that it applies also on the scientific side is beginning to be understood in this country, and some steps have been taken, especially through the Department of Scientific and Industrial Research—which we hope may develop into a Ministry of Science—to bring about that co-operation between science and technology which has achieved such remarkable results in Germany. But the advance of science is largely conditioned by the manner in which the results obtained in any country are published for the information of all. The future of scientific literature is therefore a matter of no little national and international importance.

It is essential that the work done in any department of science should be brought to the knowledge of all workers in that department, and this can only be done by the systematic periodical publication, not only of the full text of papers, but of abstracts properly classified to ensure that the information shall be made readily available. The number of German periodicals purporting to do this kind of work had been steadily increasing for a good many years before the war. The effect—whether that was the deliberate aim, as some believe, or not—was that Germany was gradually monopolizing the scientific production of the world, by gathering widely, and by demanding the collaboration of learned men of all countries. Scientific organs were thus built up which purported to be international, but became in reality German instruments of control and monopoly in science. The system was rapidly placing in German hands the power to make or mar the international reputation of scientific workers in other countries, for it was easy to magnify everything German and to depreciate or ignore anything not German. Complaints of this nature have frequently been made by French men of science, and they and others made the more sinister accusation that the results obtained elsewhere were kept back until the investigation had been repeated in Germany, when the whole credit would be given to that country.

Professor Rignano urges that the time has come to create and develop in the principal branches of science and under the aegis and direction of the Entente nations, international scientific publications and reviews, in order to break up a monopoly which, he contends, foments sentiments that militate against the establishment of international relations founded on mutual esteem. We need not stay to consider the

details of Professor Rignano's proposals for the publication of international periodicals conducted by representatives of Great Britain, France, and Italy, we may also add America, with the moral and material support of the ministers of public instruction and the most important scientific societies in the several countries. There are objections to such a course, which have been well put by Professor Meek of Newcastle, but even he agrees that the opportunity should be taken to discuss whether we should be content with pre-war conditions or whether the matter should not be carefully looked into now both from the national and international points of view.

The mere bulk of the literature in any department of science obstructs advance by making it difficult, if not impossible, for a worker even in a comparatively small department to avoid giving time to matters which have already been investigated by workers in other countries. In no department is this difficulty greater than in medicine, which includes so many sub-departments, ranging from clinical practice to the most complicated and abstruse questions in chemistry, bacteriology, and parasitology. The work was always too large to be satisfactorily accomplished by the ordinary medical journals, either in this country or abroad, although a gallant attempt was made by the British Medical Association to meet the need to some extent by the publication of an *Epitome of Current Medical Literature*, which was mainly concerned with foreign publications. The scheme found imitators both in Germany and America; some of them had perhaps already bettered the instruction before the restrictions imposed by the Paper Controller not only prevented any extension to meet present conditions, but rendered the continuance of the *Epitome* practically impossible. The need, however, has never been greater than at the present time, and this fact was recognized at the end of last year by the Medical Research Committee, which undertook the preparation of abstracts of foreign papers. These have been issued since the beginning of the year in a monthly pamphlet bearing the inadequate but in the circumstances of publication the obligatory title of *The Medical Supplement to the Daily Review of the Foreign Press*. It was at first issued officially to officers of the medical departments of the military forces, but with the number for June it was considerably enlarged and placed on sale;<sup>2</sup> its publication will, we understand, be continued monthly. The June number contained, roughly, about twice as much matter as was published monthly in the *Epitome*, and space and opportunity has been afforded for the reproduction of photographs on plate paper, a commodity specially difficult to obtain by journals not published by His Majesty's Stationery Office. The July number is of much the same size. Each consists of abstracts classified under several heads—surgery, medicine, neurology, pathology, radiology, and so on—but there have been published also articles in which some particular subject is discussed on the basis of a series of abstracts arranged in logical order. In the June number there was such an article on prosthetic appliances, signed with the initials "E. M. L.", which will be recognized as those of a surgeon who has given particular attention to the subject. The article was illustrated by a large number of drawings and photographs. It was founded largely on German articles and devices, but contained a certain number of references to French papers and inventions. The abstracts in other sections seem to be derived mainly

<sup>1</sup> *Nature*, vol. xcviii, p. 408.

<sup>2</sup> H.M. Stationery Office. To be obtained through any bookseller. Price 1s.



from German sources, although French and Italian periodicals are also placed under contribution, especially in the section dealing with neurology. We do not question the wisdom of this course at the present time, for German medical literature is not easily available in this country or with the British armies abroad; but even to-day it would seem advisable to attempt to maintain a just international balance in the articles selected for abstract, otherwise there is a risk of conveying the erroneous impression that the greater part of the valuable work that is being done even during the war, and partly in consequence of the war, hails from Germany.

The *Medical Supplement* has come into existence as a temporary expedient to meet the particular want of the day, but though now fathered by the War Office, we hope that its publication may be taken as an indication that the British Government recognizes the existence of a national obligation to help in the systematic dissemination of scientific information. Experience, both here and even in America, seems to show that periodical publications of the scope and volume necessary cannot be produced on a purely commercial basis.

## THE PROBLEMS OF TUBERCULOSIS.

THE clinical features and the pathological conditions in ordinary cases of tuberculosis are fairly well known, but much remains to be explained before their true significance can be regarded as settled. The death-rate up to the last few years has been steadily falling, but very unequally so, even in districts where the conditions of life are much alike. It has been assumed that a gradual process of immunization is going on, and that the almost universal infection during early childhood is becoming to some extent protective. But this process must be effective under all conditions, and other influences must be at work to account for the irregular distribution.

Sir Robert Philip, in his inaugural address from the newly established Chair of Tuberculosis in the University of Edinburgh, brought forward statistics which he held proved that the fascinating theory of communal immunization on natural lines failed when tested by facts. An abstract of his address containing the statistics on which his conclusions are founded was published in the *JOURNAL* of April 27th, p. 492, and the full text has now been printed in a pamphlet.<sup>1</sup> The admitted imperfection in the present system of notification may be in part responsible for apparent irregularities in distribution. Recent correspondence in our columns has shown that doctors and patients alike are often unwilling that cases should be notified until the diagnosis and the fatal prognosis are equally positive; but there are other sources of fallacy, to one of which the tuberculosis officer for Southwark called attention in a letter published in the *JOURNAL* of July 13th (p. 46). The tuberculosis notification rate in London was 7.39 in 1912, 5.01 in 1913, 3.64 in 1914, 3.41 in 1915, 3.19 in 1916, and 3.69 in 1917. This correspondent's suggestion that the old cases of the previous year or two were notified during 1912—the first year of general notification—will, there is no doubt, account for some of the decline the rates appear to show, and if this view is accepted the rate would appear to have been fairly steady during the last four years. Whether the rates for the whole of England and Wales, which show only a small

excess in 1912, are susceptible of the same explanation, it is not easy to say. The subject undoubtedly requires much more study, and we may hope that with the establishment of a special chair for the study of tuberculosis in the University of Edinburgh, an example which other universities would do well to follow, many knotty points as to the prevalence, the treatment, and the prognosis of pulmonary tuberculosis may in time be unravelled.

To one of these points Dr. A. K. Krause has recently called attention.<sup>2</sup> What, he asks, do we really mean by predisposition? He would regard it as amounting to massive infection of the individual, apart from any special aptitude for its development, and holds that the influence of family history has not been sufficiently studied in relation to actual family contact. It must be admitted, however, that infection with tubercle may take place without any positive evidence of the fact, and that its presence may only become manifest in response to some outside stimulus in later years. Lymphatic structures are often the first to indicate that infection has taken place, but it has not as yet been proved that such tissues have any special relation to tubercle, or that the bacilli are detained mechanically in their passage through them. That they can pass through certain other tissues without leaving any trace has been long recognized.

The problems of hypersensitiveness and of increased resistance, both of which may follow the development of a tubercle, are still far from solved.

## THE EVOLUTION OF SCIENTIFIC MEDICINE IN AMERICA.

At the Summer School, Cambridge, which this year has been devoted to America, Professor Osler sketched the growth of scientific medicine, marking periods of British (to 1820), French (1820-60), and German influences (1860-90). After a brief reference to colonial medicine, the rise of the schools was described, and the dominant influences were shown to be the Edinburgh professors and John Hunter. Descriptions were given of the Pennsylvania Hospital, founded by Benjamin Franklin, of the New England School, as represented by Jacob Bigelow and James Jackson, and of the frontier physicians in McDowell and Drake. The rise of clinical medicine in France attracted American students to Paris, where Broussais, Laënnec, and Louis were the leading spirits. Modern experimental physiology started with Magendie, whose great pupil Bernard controlled American physiology as represented in the Sixties and Seventies by Dalton and Austin Flint, jun. Specialism was fostered by the Vienna school, particularly in diseases of the eye, skin, and larynx. Gynaecology and dentistry were home-grown. After 1860 Virchow and his pupils dominated American medicine, while experimental work in connexion with the clinic was inaugurated by Traube. Koch and the new school of German bacteriologists found among Americans their most ardent pupils. The medical schools of the United States grew up without university or state control, and were proprietary institutions competing freely with each other. The revolution began when President Eliot, of Harvard, took the chair at the meetings of the medical faculty, and to him and Dr. William Pepper, of Philadelphia, are due the change of heart and practice that gradually came over the schools. The Johns Hopkins foundations were a great stimulus, and to President Gilman and Dr. John Billings the American profession owes a debt of gratitude. The reorganization of the hospitals, as parts of the university, changed the whole outlook, and the lecturer described briefly the clinics of Halsted, of Cushing, and of the Mayo brothers. The greatest

<sup>1</sup> *Present-day Outlook on Tuberculosis*. Being the Inaugural Address delivered on the Institution of the Chair of Tuberculosis in the University of Edinburgh, April 16th, 1918. By Professor Sir Robert W. Philip, M.D., F.R.C.P., F.R.S.E. Edinburgh: W. Green and Son. (1p. 20.)

<sup>2</sup> *The American Review of Tuberculosis*, February, March, and April, 1918.



contribution of the United States to practical medicine was the introduction of surgical anaesthesia on October 16th, 1846, at the Massachusetts General Hospital. The development of scientific medicine during the past twenty years had been largely autogenous. To Government workers could be credited the great work of Reed and his colleagues which rendered it possible to control yellow fever; the studies of Theobald Smith on Texas fever, on anaphylaxis, and tuberculosis; the peaceful victory at Panama; the remarkable contributions of Erwin Smith on the diseases of plants, and the study of Stiles on the hookworm disease. A tribute was paid to the powerful influence of the great library of the Surgeon-General's Library and its Index-Catalogue. Two great private foundations have, so to speak, set the pace. The Carnegie Foundations have stimulated an extraordinary interest in medical education through the reports of Mr. Abraham Flexner; and the work of the Nutrition Laboratory has led the way in a series of valuable contributions in metabolism. The Rockefeller Foundations have endowed preventive medicine in a right royal way. The lecturer referred to the researches of Dr. Flexner and his associates in meningitis, poliomyelitis, and pneumonia; to the world-wide activities of the International Health Board; to the foundation of the medical schools in China; to the dispensary work in the Philippines; to the endowment of the Johns Hopkins School of Hygiene and Public Health, and to the tuberculosis work in France and Italy. He then referred to the numerous institutes for research that had been started within the past fifteen years, and to the remarkable growth of scientific journals; and, lastly, he spoke with enthusiasm of those great favourites with the profession all over the world—the *American Journal of the Medical Sciences* and the *Journal of the American Medical Association*.

#### THE BRITISH SCIENTIFIC PRODUCTS EXHIBITION.

A COMPREHENSIVE exhibition of scientific products and processes, organized by the British Science Guild with the object of stimulating public confidence in the scientific and industrial capacity and adaptability of this country, was opened at King's College, London, on August 12th, and will remain on view for a month. It is divided into fourteen sections; to the largest, which is concerned with chemistry, more than sixty firms have contributed. The section covers, in the first place, the work which has been done recently on heavy chemicals, principally the mineral acids; secondly, on fine chemicals, including the numerous artificial dyes derived from coal-tar extracts, and the intermediates, to which belong a large number of substances used as medicinal agents and antiseptics; and, thirdly, other applications of chemistry to arts and manufactures, as, for instance, to agriculture and metallurgy. Here may be studied graphic demonstrations of what has been done during the war to render the empire self-supporting in its drug supplies. Messrs. Burroughs, Wellcome, and Co. show the steps in the synthesis of their equivalents for salvarsan and neo-salvarsan, as well as the researches which have issued in erlutin and other synthetic products. Other sections of the exhibition are concerned with physical and electrical appliances, optical and photographic apparatus (where the revived glass industry of this country is very much to the fore), measuring and mechanical instruments, including an extensive exhibit from the National Physical Laboratory, and examples of such industries as paper and textile manufactures. There is a display to which the Food Ministry contributes, illustrating food production and conservation. The results of recent experiments in the replacement of petrol by gas, a subject which the Gas Traction Committee has been investigating for almost a year, are shown. A section, comparatively small, is devoted to surgical and bacteriological appliances, with which is grouped x-ray apparatus. Here is laboratory ware of British-made hard porcelain,

recent refinements in surgical instrumentation, and appliances such as splints and surgical boots and gloves used at the military orthopaedic hospitals; the various stages in the production of typical serums, vaccines, and tuberculins are illustrated by the graphic method. It would be tedious to name all the exhibitors and invidious to name only a few. The exhibition as a whole is one not only to be seen but to be studied, ranging as it does from aircraft and standard ships to rare earths and refractory sands. It is all the more remarkable owing to the limitations under which obviously it has been got together; it is in itself a demonstration of that progressive union of British science and industry which, through the full development of our national resources, both intellectual and material, it is intended to promote.

#### GUNSHOT WOUNDS OF THE HEAD.

THE treatment of gunshot wounds of the head is a subject which has greatly exercised the minds of surgeons for the last three years, as papers published in our own columns during that time have witnessed. The Medical Research Committee has now issued a report by Captains W. J. Adie and W. W. Wagstaffe, containing statistics of 656 such cases, with considerations arising therefrom. In the spring of 1916 it was arranged that cases of gunshot wounds of the head which occurred in an Army area should be evacuated to a special hospital centre. The cases sent for operation were selected at the casualty clearing station as being able to stand the journey, the criterion being the condition of the pulse, anything below 100—no matter what the severity of the wound—being considered to justify the journey. The cases were of a varying degree of severity, from a small punctured wound, to a large gash with brain matter exuding. A fairly large number of cases had been operated on before admission, and they also varied enormously in severity. The authors consider that the necessary journey of, on the average, two or three hours does not harm the great majority of the patients who have not been operated on, whereas patients who have been operated on show much more frequently a change for the worse. A comparison of the number of deaths from septic infection after gunshot wound of the head penetrating the dura is held to prove that the best time to operate is as soon after arrival as possible, an average of some four hours being probably the best. The results in the patients transferred to a special centre, where they can be operated on and kept till convalescent, are held to be better than in the case of those operated on at the front and subsequently transferred to the base. All cases with any injury to the scalp require operation. This should always be preceded by x-ray examination, except in the rare cases in which extreme restlessness renders this impossible. The patient in the interval between his arrival at the centre and operation is kept in a bed in a ward, where he is warmed up and made as comfortable as possible, restlessness being combated by morphine; three-quarters of an hour before his removal to the theatre he is given a hypodermic injection of morphine hydrochloride  $\frac{1}{4}$  gr., atropine sulphate  $\frac{1}{16}$  gr., and hyoscine hydrobromide  $\frac{1}{16}$  gr. This preliminary injection is regarded as invaluable, both because it renders the patient comparatively somnolent and tranquil when brought to the theatre, and because it keeps him quiet for some hours subsequent to the operation, diminishing greatly post-anaesthetic vomiting and excitement. When the operation is about to be performed the patient is anaesthetized with chloroform and ether, and the head shaved and cleansed. In compound depressed fracture without penetration of the dura, the depression is in all cases removed and a complete cleansing operation performed, but in no case is the dura incised. All scalp wounds are excised and the scalp carefully examined for fracture. The best access to the wound of the skull when the wound of the scalp is small is obtained by reflection of a flap. In all



penetrating wounds of the dura, when the wound of the scalp has been small, the wound has been incised down to the bone. Then, taking fresh instruments, a flap large enough to leave a considerable margin around the injured bone, has been turned down. The hole in the bone is then enlarged so as to leave at least a quarter of an inch of healthy dura all round the perforation. Bony and other fragments shown by the x rays are removed if easily accessible. A finger is usually inserted to a depth of one to one and a half inches to search for fragments. The authors believe that it will be by attention to small details that the results will be improved, and the Carrel syringe and catheter, to supersede the finger, as suggested by Major Harvey Cushing in a paper published in this JOURNAL last February (p. 221), may, it is acknowledged, prove one such small detail; but it is also said that the method needs a considerable amount of practice. The whole operation is done under a stream of warm saline, and the importance of rapidity in operation is mentioned. The time taken in the average complete operation from the first incision to the time the patient is ready to leave the theatre has been thirty minutes. The authors, however, take pains to point out that rapidity must not be sacrificed to deliberate and thorough cleansing of the wound. The most important point in after-treatment is absolute quiet in a special ward. Large and repeated doses of morphine are indicated if the patient is restless. In favourable cases the period in bed should be at least five weeks. Cases in which the dura is not penetrated are evacuated to England about a fortnight after the subsidence of all symptoms. Cerebral abscess was the most common cause of death after the thirtieth day. The chance of the formation of an abscess was found to be far greater if the wound was completely sealed than if a small drainage tube ( $\frac{1}{4}$  in. in diameter) was left in the excised wound extending down to the hole in the dura. The mortality in cases with penetration of the dura sent to the centre for operation was approximately 50 per cent. Three-quarters of the deaths occurred within the first ten days, and in 54 out of 81 cases so dying no septic changes were apparent. In the vast majority of cases dying after ten days the cause of death was some form of intracranial sepsis.

#### CONGENITAL DEFECTS OF THE SKIN.

CONGENITAL defects of the skin have but rarely been recorded in medical literature; usually the deficiency occurs on the scalp, and is circular or oval with clean-cut edges, varying in size from a pin-point upwards. The first case noted seems to have been Campbell's, in 1826; Dr. I. A. Abt of Chicago has recently collected<sup>1</sup> nearly forty instances recorded in the literature, adding one of his own. These defects are attributed either to errors in development or to inflammatory adhesions between the external layer of the skin and the amnion, and are usually visible at birth. They seem to bear no relation to trauma during parturition, and undoubtedly originate *in utero*. They present ulcerated areas not involving the subcutaneous tissues; the skin glands usually fail to develop in the denuded areas, and there is no microscopical evidence of degeneration or inflammation. The lesions usually cicatrize in a short time. Dr. Abt's own patient presented a defective skin area over the front of both knees; each measured about one by one and a quarter inches, and had drawn and puckered edges, a punched-out appearance, and a beefy red base. In five or six weeks the ulcers skinned over satisfactorily. The father and mother were in good health, and the mother had previously borne four normal children. It is to be noted that these skin defects have been found in stillborn children as well as those born alive; and, unless they are very extensive, there is no apparent reason why so slight a malformation should be incompatible with the life or good general health of the infant.

<sup>1</sup> Trans. Amer. Pediatric Society, 1918, xxix, 67

#### THE USE OF ASPHYXIATING GAS.

THE Ministry of Information recently issued a communication relating to a statement sent out by the official German wireless on July 17th to the effect that the idea of using poison gas in warfare originated with the British admiral Lord Dundonald, better known to fame as Lord Cochrane. It is a matter of history that in 1812 Dundonald submitted to the Prince Regent, afterwards George IV, secret war plans which included the use of an asphyxiating gas. A committee of experts to whom this proposal was referred expressed the opinion that the mode of attack was "infallible and irresistible," but it was not sanctioned. In 1840, when there was a threat of war with France, Dundonald again submitted his plan to the British Government and offered by means of it to annihilate the French fleet. The Duke of Wellington thought well of the idea, but with his practical good sense pointed out that "two could play at that game," a fact which the Germans have learnt to their cost. In 1846 the plans were again referred to a committee, which reported that it was not desirable that any experiment should be made on the ground that part of the plans "would not accord with the principles of civilized warfare." Later, when again there was talk of war, Dundonald was asked about his plan, but once more it was rejected, the only objection to it being that it was "too terrible for use by a civilized community." Dundonald's account of the plan is given in the correspondence of Lord Panmure, who was War Minister during the Crimean War.<sup>1</sup> In a memorial dated August 7th, 1855, he states that when viewing some sulphur kilns in 1811 he observed that the fumes which escaped in the rude process of extracting the material, though first elevated by heat, soon fell to the ground, destroying all vegetation and endangering animal life to a great distance. With reference to the materials required for the expulsion of the Russians from Sebastopol, experimental trials had, he said, shown that about five parts of coke effectually vaporize one part of sulphur. Four or five hundred tons of sulphur and two thousand tons of coke would be sufficient. Besides these materials it would be necessary to have as much bituminous coal and a couple of thousand barrels of gas or other tar for the purpose of masking the fortifications to be attacked, with dry firewood to kindle the fires, which ought to be kept in readiness for the first favourable and steady breeze. Dundonald offered to direct the application of the plan himself, but the proposal was rejected. The use of asphyxiating gas is a very ancient device. Smoking out the enemy was one of the regular manoeuvres of war in antiquity. Polybius relates that at the siege of Ambracia by the Romans under Marius Fulvius Nobilior (B.C. 189) the Aetolians filled jars with feathers which they set on fire, blowing the smoke with bellows into the face of the Romans in the countermines. At the great naval battle fought in the waters of Ponza between Alfonso of Aragon and Genoa in 1435 the Genoese carried vessels filled with quicklime and red-hot cinders, the smoke from which was blown by the wind against the enemy. Leonardo da Vinci, who among his many other accomplishments was a notable military engineer, suggested the use of poisonous powders, such as yellow arsenic and verdigris, to be thrown from the topmasts of ships so as to choke the enemy. This formed a part of the war instructions given by Leonardo to the Republic of Venice in 1499, when the Turks had passed the Isonzo and threatened St. Mark's. In Thévet's *Singularitez de la France Antarctique, autrement nommée Amérique*, published in 1558, it is stated that the Canadian savages fortified their cabins and huts with faggots of wood and feathers smeared with the grease of the sea wolf or other poison. They set fire to these on the approach of the enemy and thus produced a thick black smoke with a stench so foul that it killed all who smelt it. It may be added that asphyxiating bombs

<sup>1</sup> The Panmure Papers Vol. i. London, 1867



have been used in France for the arrest of criminals and dangerous lunatics, but only as a means of temporary disablement.<sup>1</sup> The use of poison gases, which had been rejected several times by the British Government on the score of inhumanity, was expressly forbidden by the Hague Convention of 1899, to which Germany was a party. The deliberate violation of this agreement by the Germans in 1915 is a particularly flagrant addition to the lengthening tale of their acts of barbarism. Their attempt to throw the blame for the first use of poison gases in the present war on the British is a conspicuous example of the singular union of mendacity and stupidity which is a part of the national character.

#### THE EDUCATIONAL VALUE OF SANATORIUM LIFE.

THE curative influence of sanatorium life does not vary very greatly between one institution and another. Reports of tuberculosis officers in various towns and districts all tell of a high proportion of improvement, if not actual arrest, of the disease, and all emphasize the advantage of early recognition and treatment. After-care committees and post-card inquiries have served to prove that the improvement is maintained in a considerable number of the first stage cases, but that many relapse on returning to home conditions or unsuitable employment. In the annual report of the Newcastle-upon-Tyne and Northumberland Sanatorium for 1917 this matter is specially referred to, and it would appear that all patients on discharge after treatment are fully instructed as to the need for future care. The period of sanatorium treatment is only "a short phase in a consumptive's life," and the need for special care is greater after discharge than during the time of residence. This is especially true of the first twelve or eighteen months after the cessation of treatment in a sanatorium; it happens too often that the patient who feels that he is quite well fails to realize the need for any further precaution. At Ventnor it has long been the practice to hold regular classes for instruction of new patients, and a similar arrangement might well be adopted at all sanatoriums, either at the beginning or towards the end of the stay, and such instruction should be compulsory and oft repeated. Great care is exercised at the Northumberland Sanatorium to deter any form of graduated exercise until temperature has quite subsided. Walking in short stages, up to a maximum of six miles a day, leads on to various forms of outdoor work. Full diet, but not over-stuffing, was found to give the best results, without regard to actual weight accretion. Tuberculin in the form of B.E. was used in a certain number of cases that were improving on the ordinary lines of treatment, and no special effect could be recorded as regards rate of improvement. Additional resistance to later attacks may or may not have been acquired. As in many other special hospitals, the effect of artificial pneumothorax in advanced cases has been found to be satisfactory as regards immediate relief of distressing symptoms, but unsatisfactory cases also have to be recorded. The report makes due acknowledgement of the services rendered by the late Sir George Hare Philipson in organizing and starting the work in Newcastle and the county, and contains, among other illustrations, an admirable portrait of him.

#### CANADIAN MEDICAL WAR COLLECTION.

SIR ROBERT BORDEN, Prime Minister of Canada, paid a visit to the Royal College of Surgeons of England on August 14th to see the part of the Canadian medical war collection at present displayed there. Since 1914 the Canadian Army Medical Service has co-operated with the R.A.M.C. in the endeavour to obtain adequate medical records of the war, and has been steadily working to obtain material of all kinds worthily to illustrate the medical aspects of the great struggle. In 1915 the Royal College of Surgeons of England came to the assistance of Canada and the other

Dominions by offering to receive and care for material—to be, in fact, a clearing house in which this material could be collected, and then forwarded to the different Dominions. The collection comprises specimens of wounds, of dried bones including a remarkable series of head wounds, drawings, photographs and models. The specimens have been prepared and mounted at the College under the supervision of Professor Keith, Professor Shattock, and Mr. Beadles. Already a large number have been sent to Canada, and excited much interest at the medical gathering at Hamilton, Ontario, at the end of May, at which five of the most important medical associations of Canada met together. Sir George Makins, in receiving Sir Robert Borden, said that the specimens collected from earlier wars were few in number, owing largely, no doubt, to the difficulty of transport from distant theatres. Full opportunity had been taken of the nearness of the chief fields of operations in this war, and of the improved organization of hospitals and pathological departments. Surgeons in any future campaign would therefore not suffer from the disadvantages experienced by those engaged in the early days of this war, for the collections formed would not only be interesting as records, but a means of instruction of great permanent value. Sir Robert Borden expressed his interest in the collection and his gratification that the appropriation made by his Government to defray the expense of forming it had been so well applied. Colonel Adami expressed the thanks of the C.A.M.C. to the Canadian Government and to the College of Surgeons. The exhibition displayed was, he said, far from representing the sum total of Canadian war specimens, but included some of the most interesting; among others, the wax and plaster casts of war injuries, made at Orpington by Major Lessore and his staff; bird's-eye views and drawings by Captain Mathews, C.A.M.C., the well-known Canadian artist, of the different buildings in Great Britain and overseas occupied as Canadian war hospitals; pathological specimens, photographs and x rays, of war wounds and diseases, the whole affording some idea of the strikingly human interest there is in such records of the sufferings undergone by the Canadian troops, and the endeavours made by the medical service to counteract those sufferings, and to restore and preserve the health of Canadian soldiers.

#### THE FUTURE OF MEDICAL TEACHING IN PARIS.

THE Council of the Paris Medical Faculty has drawn up a report setting forth a number of reforms and extensions which it is proposed to make in the scope and methods of its teaching work. For the teaching of pathology cinematographic apparatus will be installed in the lecture theatres and collections of films are to be made. One of the two chairs of internal pathology is to be transformed into a clinic of infectious diseases. The practical curriculum is to be completed and supplemented by a large scheme of free clinical teaching in which all the members of hospital staffs who wish to do so will take part. With the object of ensuring almost full autonomy to the services of the Faculty by securing the most favourable organization for the treatment of patients and the instruction of students a commission of studies has been set up which includes representatives of the Ministries of Public Instruction and of the Interior, the Prefecture of the Seine, the Municipal Council, the University, the Faculty, and the medical staffs of the hospitals. Arrangements will be made for the purpose of attracting to Paris men of science, doctors, and students from foreign countries. The Government has favourably received a request that it should provide funds for the improvement of existing services and for the creation of others, particularly an institute of medical biology. Internal improvements have been made in the library and museums of the Faculty. A special committee has been engaged in elaborating the statutes of a society of friends of the Paris Medical Faculty.

<sup>1</sup> BRITISH MEDICAL JOURNAL, September 13th, 1915, p. 701.



# THE WAR.

## CASUALTIES IN THE MEDICAL SERVICES.

### ROYAL NAVY.

#### *Died on Service.*

#### SURGEON H. E. B. FINLAISON, R.N.

Surgeon Hilton Evans Bear Finlaison, R.N. (temporary), died at Letchworth Cottage Hospital on August 2nd, aged 33. He was the son of the late Mr. Thomas Bain Finlaison of Kensington, and was educated at St. Mary's Hospital, taking the diploma of L.M.S.S.A. in 1913.

#### SURGEON PROBATIONER H. E. BECKWITH, R.N.V.R.

Surgeon Probationer H. E. Beckwith, R.N.V.R., was reported as having died on service, in the casualty list published on August 9th.

### ARMY.

#### *Killed in Action.*

#### CAPTAIN K. W. JONES, D.S.O., R.A.M.C.(T.F.).

Captain Kingsmill William Jones, D.S.O., R.A.M.C.(T.F.), has been reported as recently killed in action. He was educated at Trinity College, Dublin, where he gained a scholarship in 1897, and graduated B.A. in 1898, M.B., B.Ch., and B.A.O. in 1901, and M.A., M.D., and D.P.H. in 1903. After filling the posts of resident medical officer at Cork Street Fever Hospital, Dublin, and of house-surgeon of the Swansea General and Eye Hospital, he went into practice at Ardwick, Manchester, and in 1913 was elected member of Manchester City Council for Ardwick Ward. He took a commission as lieutenant in the 3rd East Lancashire Field Ambulance on February 11th, 1912, and went to France in September, 1914, with the 16th Special Reserve Field Ambulance. He was wounded at Hooge in August, 1915, when he received the D.S.O., was again wounded in September, 1916, and later was severely gassed.

#### CAPTAIN W. H. LLOYD, R.A.M.C.(T.F.).

Captain Walter Henry Lloyd, R.A.M.C.(T.F.) was killed in action on August 4th, aged 27. He was the son of Mr. Walter Lloyd, J.P., of Carmarthen, was educated at the Middlesex Hospital, and took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1915, subsequently graduating M.B. and B.S.Lond. He took a commission as lieutenant in the 3rd London General Hospital in August, 1915, and in June, 1916, went to France, where he was serving as surgeon to a casualty clearing station.

#### CAPTAIN H. R. PARTRIDGE, M.C., R.A.M.C.(T.F.).

Captain Hugh Roger Partridge, M.C., R.A.M.C.(T.F.), was reported as killed in action, in the casualty list published on August 9th. He took the diploma of L.M.S.S.A. in 1914, received a commission as lieutenant in the 1st West Riding (Leeds) Field Ambulance on November 23rd, 1914, and was awarded the Military Cross on October 20th, 1916.

#### *Died of Wounds.*

#### MAJOR J. D. PROUD, M.C., R.A.M.C.

Major John Dover Proud, M.C., R.A.M.C., died of wounds on August 1st, aged 26. He was the only son of Dr. Proud of Maryport, and was educated at Charterhouse and at Durham University, where he graduated M.B. and B.S. in 1915, subsequently taking a commission as lieutenant in the Special Reserve of the R.A.M.C. and afterwards transferring to the permanent R.A.M.C. He was promoted to captain after a year's service, and recently to an acting majority. He went to France three years ago, and gained the Military Cross on June 18th, 1917, and a bar on September 26th, 1917.

#### CAPTAIN F. A. O'DONNELL, R.A.M.C.

Captain Frederick Albert O'Donnell, R.A.M.C., died of wounds on March 23rd. He was the youngest son of the late Mr. John O'Donnell, of Sligo, and took the diploma of L.R.C.P.I. and L.R.C.S.I. in 1912. He joined the R.A.M.C. as a temporary lieutenant early in 1916, and was promoted to captain after a year's service.

#### CAPTAIN R. C. ROGERS, R.A.M.C.

Captain Robert Carmichael Rogers, R.A.M.C., died at No. 14 General Hospital, in France, on August 2nd, of wounds received on September 30th, 1917. He was the eldest son of Dr. Rogers of Murthly, and was educated at

Perth Academy and at Edinburgh University, where he graduated M.A., M.B., and Ch.B. in 1914. After filling the post of house-physician at the Edinburgh Royal Infirmary, he went into practice at West Calder. He took a temporary commission as lieutenant in the R.A.M.C. in December, 1916, and was promoted to captain after a year's service.

#### *Died on Service.*

#### LIEUTENANT J. CROSS, R.A.M.C.

Lieutenant John Cross, R.A.M.C., who died recently in hospital in Allahabad, was the son of Mr. John Cross, of Hamilton. He graduated M.B., Ch.B.Glas. in 1903, and after serving as house-physician and house-surgeon to the Royal Victoria Infirmary, Glasgow, and as locum tenens in Shetland, he proceeded to London for a course of study in tropical disease, and subsequently accepted an appointment as medical officer at Lagos, Southern Nigeria. Five years later he returned to this country and commenced practice at Birkenhead. In June, 1917, he received a commission as temporary lieutenant in the R.A.M.C., and in view of his knowledge of tropical diseases was sent to Allahabad.

[Correction.—Captain E. Newton, R.A.M.C., reported as killed in the casualty list published on July 2nd (JOURNAL, July 13th, p. 43), is Captain Eric Newton, M.B., Ch.B.Aberd., and not Captain Edward Newton, an old student of St. George's Hospital, as we had supposed.]

#### *Wounded.*

#### Captain R. Anderson, R.A.M.C. (temporary).

#### Captain P. Ardagh, N.Z.M.C.

#### Captain W. Baxter, R.A.M.C. (temporary).

#### *Prisoners of War.*

#### Major G. Stiell, R.A.M.C. (temporary).

#### Captain T. Blackwood, R.A.M.C. (temporary).

#### Captain C. R. Crowther, R.A.M.C.(T.F.).

#### Captain G. F. P. Heathcote, M.C., R.A.M.C. (temporary).

#### Captain W. T. P. Meade-King, R.A.M.C.(T.F.).

#### Captain R. W. Pearson, M.C., R.A.M.C. (temporary).

#### Captain A. B. Simpson, R.A.M.C. (temporary).

#### Lieutenant F. W. M. Lamb, R.A.M.C. (temporary).

#### Lieutenant F. B. O'Dowd, R.A.M.C. (temporary).

#### Lieutenant and Quartermaster F. W. B. Carter, R.A.M.C.

### DEATHS OF SONS OF MEDICAL MEN.

Brewer, Charles E. W., Lieutenant R.N., youngest son of the late Dr. R. E. W. Brewer of Newport, Monmouth, killed at sea, August 2nd. He was educated at Llandaff College and at Osborne, joined H.M.S. *Indomitable* as a midshipman in 1913, and became sub-lieutenant in 1915 and lieutenant in 1917. He had served in the Dardanelles and in the battles of the Dogger Bank and Jutland.

Laurie, Thomas Helm, Second Lieutenant Royal Scots, younger son of Dr. T. Harcourt Laurie of Polmont, killed July 25th, aged 20. He was educated at Stewart's College, Edinburgh, and had passed the preliminary examination for entrance at the university as a medical student, when he enlisted in 1916, subsequently gaining a commission. He went to the front last April.

Magrath, Meyrick Myler, D.S.O., Major Royal Field Artillery, only son of Lieut.-Colonel C. W. S. Magrath, R.A.M.C. (retired), killed August 2nd, aged 29. He was born on May 24th, 1889, educated at Wellington, and got his first commission from Woolwich on December 18th, 1908. He was promoted to lieutenant on December 18th, 1911, to captain on December 18th, 1914, and had gained his majority during the war.

Moir, Douglas, M.C., Lieutenant Cameron Highlanders, attached King's African Rifles, died of wounds, July 22nd. He was the younger son of Lieut.-Colonel J. Munro Moir of Inverness, well known to all members of the British Medical Association in the north of Scotland. Lieutenant Douglas Moir, who was 24 years of age, was in Australia when the war broke out. He joined there and came to this country with the Australian contingents. He received a commission in the Cameron Highlanders and served in Gallipoli, and also in France, where he was twice wounded and received the M.C.; he afterwards transferred to the King's African Rifles, and was serving with them when he was killed in the action which took place on July 22nd in Portuguese East Africa, into which district the German forces have now been driven.

Muspratt, Terence Petty, M.C., Captain Worcestershire Regiment, second son of Dr. Charles D. Muspratt of Bournemouth, died in a French hospital, on May 30th, of wounds received the previous day, aged 22. He got his commission in August, 1914, became lieutenant in March, 1915, and was mentioned in dispatches on July 27th, 1916.

Wybrants, John Holman, Second Lieutenant London Regiment, only son of the late Dr. Wybrants of Wincanton; Somerset, died on July 30th, of wounds received July 23rd, aged 40.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]



## HONOURS.

A SPECIAL Supplement to the *London Gazette*, dated July 26th, contains long lists of awards in recognition of "gallantry and devotion to duty in the field." The list includes the following medical officers who receive the honours indicated:

(Continued from page 144)

*Military Cross.*

**Temporary Captain Edward Arthur Aldridge, R.A.M.C.**

He remained at the dressing station until the enemy were upon him, and having cleared his aid post, worked his way back, collected the wounded and attended to them, under heavy shell fire. His courage and self-sacrifice set a splendid example, and were worthy of the highest praise.

**Temporary Captain William Brodie Gurney Angus, R.A.M.C.**

He was the means of saving the lives of many soldiers and men, especially on one occasion when the brigade suffered severe casualties from shell fire. He was untiring in carrying out his duties and removing the wounded to a place of safety.

**Captain John Webster Archibald, R.A.M.C.**

The battery position of the brigade was subjected to an intense bombardment in connexion with the enemy attack, and although shell fire round his own head quarters was severe, he visited all the battery positions by himself, instead of having the casualties brought to him. His complete disregard for personal safety in order to save the wounded being brought through the enemy barrage undoubtedly resulted in the saving of life and of many casualties. His courage and cheerfulness under a heavy and continuous strain was of the greatest value and a fine example to all.

**Captain acting Major Charles Philip Brentnall, R.A.M.C.**

Although heavily shelled during two days at an advanced collecting post under conditions of great danger, he succeeded in keeping his post clear and getting away all the wounded. The collection and evacuation of wounded was rendered particularly difficult owing to the fact that the troops were executing a withdrawal.

**Captain Charles Herbert Budd, R.A.M.C.**

He attended to the wounded under fire. Under heavy shelling he went forward and dressed wounded, and dressed one man under full observation of the enemy.

**Temporary Captain George Milne Cameron, R.A.M.C.**

When in charge of bearers he worked incessantly for twelve hours collecting and evacuating the wounded under heavy shell and machine-gun fire. Many cases were successfully got away which, but for his determination and absolute disregard of danger, would have fallen into the hands of the enemy.

**Captain David Campbell, R.A.M.C.**

When on two occasions he was the only medical officer left with the brigade he organized regimental aid posts and established lines of evacuation, and during a long exposure to shell and machine-gun fire set an inspiring example to all.

**Temporary Captain Dugald Stewart Campbell, R.A.M.C.**

He worked without rest, and when it was necessary to retire successfully brought away all the wounded, in spite of the district being subjected to a heavy gas bombardment. He was undoubtedly the cause of saving the lives of many wounded.

**Temporary Captain Thomas Hay Campbell, R.A.M.C.**

When under shell fire and machine-gun fire he organized a forward aid post and evacuated over 500 wounded. No wounded man was allowed to pass without personal attention, in spite of the difficulties of doing so in an exposed position.

**Captain Louis Abel Celestin, R.A.M.C.**

He remained with a party which was covering the retirement, and attended to the wounded under heavy rifle and machine-gun fire. Later, he dressed a medical officer's wounds and carried him single-handed for a distance of over half a mile through heavy fire, when the officer he was carrying died of wounds.

**Temporary Captain Richard Collier Coatsworth, R.A.M.C.**

During an enemy attack he early led his regimental stretcher-bearers through very heavy shell fire to remove all wounded that could be found. He organized the removal of wounded, and by his perpetual cheerfulness and coolness set a fine example to his men, and effected the successful evacuation of many wounded.

**Temporary Captain Alan Gibb Cook, R.A.M.C.**

While clearing wounded under heavy machine-gun and shell fire during an enemy attack, and when the officer in charge of the bearers became a casualty, he carried on the evacuation of the wounded, though badly gassed himself. He frequently led squads to the front line in search of wounded, and showed great disregard of danger.

**Temporary Captain William Francis Cornwall, R.A.M.C.**

When the enemy carried out a heavy bombardment with large calibre shells and gas he established, on his own initiative, a dressing station, and continued to deal with cases of various units for five hours, during which time the shelling was intense. To evacuate the wounded he organized stretcher parties of prisoners, no other means being at the time available.

**Temporary Captain James Robert Craig, R.A.M.C.**

He kept in touch with the retiring troops, evacuating the wounded without relief for eight days and nights. While the advanced dressing station was under heavy fire, and all the other officers had been either killed or wounded, he continued to carry on his work.

**Temporary Lieutenant Gwilym Charles Montague Davies, R.A.M.C.**

When a neighbouring village was being heavily shelled, he went there to see if he could help. Finding that the field ambulance had withdrawn, he reopened the dressing station and remained there for hours, managing to evacuate a large number of wounded.

**Temporary Captain Llywelyn ap Ivan Davies, R.A.M.C.**

When all the R.A.M.C. in an area had been taken by the enemy, he was sent up to establish a system of evacuation. In spite of heavy shelling he kept his cars and bearers working for twenty-four

hours, only retiring when the infantry passed him, and by so doing prevented many of the wounded from falling into the hands of the enemy.

**Temporary Captain Edward Forbes, R.A.M.C.**

While the battalion was preparing to march off, three officers and thirteen men were wounded; this officer attended to them all under heavy fire. Later he was wounded while attending to his duties.

**Temporary Captain acting Major Charles Collier Forsyth, R.A.M.C.**

Hearing that help was urgently required at a certain point, he organized stretcher-bearers to clear away the wounded, of which there were over 100. He remained in the area, which was heavily shelled, during the whole afternoon and until all the wounded had been evacuated. His splendid courage and initiative in organizing this evacuation undoubtedly saved the lives of many of the wounded, who would otherwise have perished.

**Captain Charles Wainwright Fort, R.A.M.C.**

During several days, when acting as bearer officer, the conditions under which the wounded had to be collected and evacuated were particularly difficult, owing to the fact that the troops were executing a withdrawal. By his total disregard of danger and initiative in bringing forward his bearers, often under heavy shell fire, he succeeded in clearing large numbers of the wounded.

**Captain Frederick Gamm, R.A.M.C. (S.R.).**

For several days he was in charge of an advanced dressing station, until it was almost surrounded by the enemy. During this time, although under a continuous and heavy bombardment, he continued to dress casualties and organize stretcher squads, which he took out to search for wounded. By his courageous action many wounded were collected and evacuated, and his splendid example was a fine stimulus to all.

**Temporary Captain David Gillespie, R.A.M.C.**

During recent operations he did most useful work in tending wounded and arranging for their removal under fire. The work was often done under heavy machine-gun fire at medium range. His coolness and fine example greatly contributed to successful evacuation being carried out.

**Temporary Captain Morley Edward Gorman, R.A.M.C.**

He carried on his work when the dressing station was destroyed by shell fire and visited his posts and superintended the evacuation of the wounded under heavy shell fire. Throughout the operations he displayed the utmost coolness and contempt of danger; his cheery optimism and energetic personal example inspired confidence in all.

**Temporary Captain (acting Major) Howard Boyd Graham, D.S.O., R.A.M.C.**

He was in charge of over 300 bearers, always under heavy shell fire and often under machine-gun fire at close range. It was due to his judgement that the wounded were evacuated with a minimum possible loss in personnel. On one occasion, being cut off by the enemy, he led his party to safety by a wide detour. When his dressing station was heavily shelled, with the infliction of heavy casualties, he organized the rescue work, rallied the shaken bearers, selected the line of evacuation, and, with the aid of another officer, evacuated fifty-four casualties to a place of safety. His conduct through this fiery ordeal was magnificent.

**Temporary Captain Edward William Dacre Hardy, R.A.M.C.**

His dressing station was situated at cross roads, the only place available, and during a whole day was obviously a target for exceptionally intense bombardment. He displayed the greatest courage and supreme contempt of danger, remaining at his post and dressing wounded the entire day while everybody else was dug in.

**Temporary Captain George Francis Palmer Heathcote, R.A.M.C.**

He was throughout many days of active operations absolutely tireless in his work of rescuing and caring for the wounded, and freely exposed himself to heavy rifle and machine-gun fire in carrying out his duties. By his splendid courage and energy throughout the whole operations, he was instrumental in getting away most of the wounded.

**Temporary Lieutenant Robert John Helsby, R.A.M.C.**

When the battery area was being heavily shelled he dressed the wounded with complete disregard of personal safety, and in spite of being blown up in a house and badly shaken.

**Temporary Captain Francis Henderson, R.A.M.C.**

Throughout ten days' fighting this officer set a splendid example. On one day for twelve consecutive hours he was engaged in leading squads of bearers to and from the regimental aid posts. He frequently dressed men in the open when their condition needed it. He brought a wounded officer back in a car, several times stopping it under heavy fire to make the officer more comfortable.

**Captain (acting Major) Howard Henry, R.A.M.C.**

During several days, when acting as bearer officer, the conditions under which the wounded had to be collected and evacuated were particularly difficult, owing to the fact that the troops were executing a withdrawal. By his total disregard of personal danger and coolness, he set a brilliant example to the bearers under his command and undoubtedly was the means of saving many lives.

**Captain Robert Alexander Hepple, R.A.M.C. (S.R.).**

The advanced dressing station was hit by three shells simultaneously, when the building was demolished and several men killed or wounded. He at once set to work to recover the wounded from under the debris, and did not leave till all had been cleared, in spite of the continued intense shelling of the vicinity.

**Temporary Captain Stewart Hodgson, R.A.M.C.**

For a whole day, often under direct rifle and machine-gun fire, he attended the wounded and directed their evacuation. Although wounded he continued his duties with exceptional coolness and skill until the advancing enemy compelled withdrawal.

**Temporary Captain Hugh Llewellyn Glyn Hughes, D.S.O., R.A.M.C.**

He worked day and night in the open, in spite of the heaviest shell and machine-gun fire, tending the wounded and helping them back to safety, with a spirit of cheerfulness and self-sacrifice rarely seen. After being wounded he still continued to perform his duties, until the wound necessitated his evacuation.



**Temporary Captain Thomas William Jackson, R.A.M.C.**

During an enemy attack he was with two other medical officers in a dressing station when he was in front of the tank. The dressing station was full of wounded, and this officer continued with the others to tend the wounded, despite the close proximity of the enemy. His example and courage were an inspiration to every one who saw him. This was a fine act of courage and devotion to duty.

**Temporary Captain George William Bloomfield James, R.A.M.C.**

Throughout a retirement he remained behind with the remainder of the dressing and evacuating wounded under very heavy fire. His medical stores were exhausted and he was in danger of being cut off. It was due to his tireless energy that so few wounded fell into the hands of the enemy. His resource and cheerfulness throughout were a real encouragement to all.

**Captain Arthur Morrell Johnson, R.A.M.C.**

He tended and evacuated the wounded in the front line and under continual fire. When the order to withdraw was issued he remained till the last, and it was entirely due to his courage and energy that all the wounded were cleared.

**Temporary Captain Francis Esmond Keane, R.A.M.C.**

Throughout the operations he displayed the greatest courage and grit, working unceasingly without sleep, establishing aid posts, and evacuating wounded under heavy shell and machine-gun fire. His services to the battalion were most invaluable.

**Temporary Captain Richard Kenefick, R.A.M.C.**

While the regiment was consolidating its position he attended to the wounded quite in the open and under very heavy fire, and arranged for their evacuation. He undoubtedly saved many lives which would otherwise have been lost. He was wounded in the foot, but did not relax his energy, and continued to attend to all the wounded in the vicinity.

**Captain Joseph Hingworth Lawson, R.A.M.C.(S.R.).**

He brought in wounded under heavy shell fire, with no one between him and the enemy, thereby saving them from being made prisoners.

**Temporary Captain George Austen Lilly, R.A.M.C.**

In order to attend the wounded he frequently crossed an exposed piece of ground 300 yards in length. Later, when the horses had to be moved owing to heavy shelling, he rescued a badly wounded man, carrying him to safety.

**Captain Henry Guy Ludolf, R.A.M.C.**

For six days he worked under continuous fire, and during the last two days was the only doctor on the spot attending to the wounded of five different battalions. He was himself suffering from a severe attack of neuritis, but stuck to his work till assistance came. During these six days his personal heroism and abnegation of self were beyond all praise, and owing to his gallant conduct the lives of many were saved.

**Temporary Captain William Graeme Denroche McCall, R.A.M.C.**

During an afternoon when at a forward collecting post large numbers of wounded had to be dealt with, and the approaches to the station were subjected to intense shell and machine-gun fire, he maintained the position for many hours, dressing and evacuating all wounded, though later he was in imminent danger of being surrounded. When the post was quite untenable he successfully withdrew all personnel and stores. His gallantry under conditions of extreme danger saved many lives.

**Temporary Captain Roger McGrath, M.B., R.A.M.C.**

When in charge of the bearers of his field ambulance during the enemy's advance, and while exposed to heavy shell and machine-gun fire, he organized his bearers and evacuated many wounded who otherwise would have been captured. He set a fine example of energy and courage.

**Captain John Alexander Mackenzie, R.A.M.C.(S.R.).**

While at an advanced dressing station, under heavy shell fire, and during an enemy attack, he persisted in his work, and successfully evacuated all the wounded before withdrawing his personnel. At another advanced dressing station later he stuck to his duty for seventy-two hours without rest.

**Captain Kenneth Arthur McLean, A.A.M.C.**

Under heavy fire he personally conducted bearer squads, organized the forward work of evacuation, and exerted himself to the utmost in saving wounded. His fine example served to keep the men under him working at high pressure, and ensured the complete evacuation of the positions.

**Temporary Captain Alexander Church Brodie McMurtrie, R.A.M.C.**

On several occasions he brought in wounded himself under shell fire, and by his disregard of danger set a fine example to those under him. Owing to his arrangements and untiring efforts many lives were saved.

**Temporary Captain Alan Cowan Mann, R.A.M.C.**

Throughout eight days' operations this officer did fine work in tending and clearing the wounded. On one occasion, when the line fell back, he remained with the wounded and succeeded in clearing all that could be found before he withdrew. The splendid work done by the stretcher-bearers was due to this officer's organization and leading.

**Temporary Captain Harry Godfrey Massy-Miles, R.A.M.C.**

During several days of severe fighting he kept in close touch with the battalion, working unceasingly, without rest, during the whole period, dressing the wounded, including the French. He showed great initiative in establishing forward regimental aid posts, reconnoitring their sites beforehand under heavy hostile shell fire, thus greatly assisting the rapid evacuation of casualties. His courage and cheerfulness throughout a period of great strain were beyond praise.

**Captain Hamilton Stephen Moore, R.A.M.C.(S.R.).**

He constantly led stretcher parties through intense shell and machine-gun fire in order to evacuate the wounded. On one occasion the whole party, except himself, became casualties. He directed his men in the open, and invariably stayed till all had been got away. His cool and determined gallantry was a great inspiration to all the men working under him, and his efforts saved many wounded from being captured.

**Captain Frederick Cecil Nichols, R.A.M.C.**

When the front line was forced back he maintained his dressing station in the new position, and in spite of the heavy shell and machine-gun fire, in spite of a heavy loss of personnel, he continued to work, thus saving many lives.

**Temporary Captain Alger Roy Oram, R.A.M.C.**

In recent operations this officer under very heavy shell fire continued to attend to the wounded and evacuate cases until the most severe casualties. On several occasions, by his fine example and personal courage, he saved many wounded who otherwise would have fallen into the enemy's hands.

**Temporary Captain John Lindesay Pearce, R.A.M.C.**

While in charge of a forward post he repeatedly led squads of bearers to parts of the line where wounded were collected, and it was due to his fine example that so many wounded were saved during a period when communications with the front were extremely difficult. He showed courage under shell fire, and was incapacitated in his duties.

**Captain Allan Campbell Pearson, R.A.M.C.**

When acting as second in command of a casualty clearing station he on several occasions and on different days superintended the evacuation of wounded under heavy shell fire, and also, with the greatest courage and ability, superintended the salving of equipment during bombing and machine-gun fire from hostile aircraft.

**Temporary Captain Roland Wilfred Pearson, R.A.M.C.**

For the performance of his duties during lengthy operations. On one occasion two direct hits were obtained on his post, and a patient, who was being dressed, was killed. On another day he followed the battalion in a counter-attack, and rendered the most magnificent services to the wounded, under heavy machine-gun fire. By his courage, fine example, and great devotion, he has at all times inspired his stretcher-bearers, and it was mainly due to him that so many of the wounded were got away by the bearers. (Captain Pearson is at present a prisoner of war in Germany.)

**Temporary Captain James Potter, R.A.M.C.**

During lengthy operations he continuously attended the wounded under heavy shell, machine-gun, and rifle fire, maintaining his regimental aid post until the enemy had nearly reached it. His splendid example of courage and devotion to duty were beyond praise.

**Captain (acting Major) William James Purves, R.A.M.C.**

At a main dressing station, by his courage, untiring energy, and grasp of the situation, over 1,000 wounded were passed through the station without a hitch; and when, owing to continuous shelling, he had to retire, all cases were got safely away. This was especially difficult, as the troops were executing a withdrawal.

**Captain John Wootton Rammell, R.A.M.C.**

He dressed the wounded and carried out his duties under heavy rifle and machine-gun fire. Owing to his ceaseless endeavour and skill all the wounded were evacuated. All ranks speak with admiration of his courage and good work.

**Temporary Captain John King Rennie, R.A.M.C.**

An advanced dressing station having retired, he organized another in a village, which he only left when the enemy entered it, working all the time under a heavy fire. Subsequently he again organized the evacuation of the wounded under difficult conditions, and saved many from falling into the hands of the enemy.

**Captain Henry Whitterton Robinson, R.A.M.C.**

In spite of continuous shell fire, during which his aid post sustained two direct hits, this officer worked without ceasing, giving unremitting attention to the wounded and organizing bearer squads.

**Captain Peter John Ryan, R.A.M.C.**

During lengthy operations, while in charge of bearers and advanced dressing stations, he organized the whole forward work, and it was due to his individual efforts and energy that so large a number of casualties were prevented from falling into hostile hands. He worked continuously throughout the whole retreat, and his success was such that no wounded man fell into the enemy's hands after once having been put under the care of the field ambulance bearers. His work was carried out under extremely difficult conditions and often under heavy shell fire. His devotion to duty was quite beyond praise.

**Temporary Captain Cuthbert Scales, R.A.M.C.**

When in charge of stretcher-bearers he collected and evacuated many wounded under heavy fire, and remained at his post until forced by the advance of the enemy to withdraw his collecting post further back. There he continued collecting and evacuating as long as possible, showing a fine example to his men.

**Captain Hubert Shield, R.A.M.C.**

While under heavy fire at advanced dressing stations he managed to save all wounded from falling into the enemy's hands, and remained doing his duty till his stations were cleared. In one dressing station, which he alone ran for sixteen hours, he dressed and evacuated over 300 men.

**Captain William Smith, S.A.M.C.**

During active operations he displayed great courage in carrying on his duties, after being blown up by a shell, which wounded him and killed two of his orderlies, and he remained at duty until the battalion was relieved.

**Captain Thomas Copeland Storey, R.A.M.C.(S.R.).**

After the withdrawal from a wood, it was discovered that some of the wounded had been left behind. He went forward and spent an hour and a half in front of the line, searching the wood, and brought them all back, in spite of considerable hostile fire; otherwise they would undoubtedly have fallen into the hands of the enemy.

**Temporary Captain Raymond Brewitt Taylor, R.A.M.C.**

He searched for a missing stretcher-bearer for two hours under heavy shell fire, at last finding him in a shell-hole and assisting to carry him back. Throughout nine days' fighting he was constantly going forward, under fire, searching for and bringing in wounded.

**Captain William Walker, R.A.M.C.(S.R.).**

He proceeded to a village under heavy fire and succeeded in attending and evacuating several wounded. He only desisted when the enemy entered the village. Later, he succeeded in releasing a party of stretcher-bearers who had been cut off. Throughout the operations he has shown the utmost energy and courage.



**Captain Charles Eric Watson, A.A.M.C.**

Under very heavy artillery fire he continued to dress the wounded for two hours and a half. Though many of the bearers were killed and wounded, he stayed with the stretcher cases, and in the evening to his great courage and energy that many of the wounded were saved.

**Captain Harry Ernest Bantry White, R.A.M.C.(S.R.).**

He was medical officer attached to the battalion during recent operations, and for eight days worked continuously without rest and often without food, generally under heavy fire, attending to the wounded. His efforts were tireless, and his courage and devotion to duty were the means of saving many lives.

**Temporary Captain David Roberts Williams, R.A.M.C.**

On one occasion while in charge of bearers in evacuating wounded he went back and searched for wounded, and, in spite of darkness, barbed wire, and torn-up ground, brought away two men from an abandoned aid post, carrying one on his back. On another occasion it was largely due to his determination and grit that a strong party was being heavily shelled, was evacuated of all wounded, when he remained till the last and saw that all was clear.

**Temporary Captain Charles Edgar Wilson, R.A.M.C.**

During a rearguard action he worked untiringly in the interests of the wounded, who all were safely evacuated in spite of having to pass over a long stretch of open ground exposed to fire. Through all this trying time he was cool and cheerful, showing a complete disregard of personal danger. Captain Wilson was formerly a lieutenant in the Canadian Army Medical Corps.

**Captain Henry Wilson, R.A.M.C.**

For five days, under all kinds of enemy fire, he showed an utter contempt of danger and disregard of self. His energy and splendid behaviour undoubtedly saved many lives, and through his powers of organization no wounded were left behind when the battalion was relieved from the line.

The Military Cross has also been conferred upon Quartermaster and Hon. Captain James Harvey Bounds, and Quartermasters and Hon. Lieutenants Henry A. C. Cole and John Robinson, of the R.A.M.C.

**MENTIONED IN DISPATCHES.**

Surgeon James P. Shorten, D.S.C., R.N., is among the list of officers mentioned in dispatches in connexion with services in Mesopotamia and the Persian Gulf.

The list of officers and men mentioned in dispatches for services in the action between H.M. torpedo boat destroyers *Mary Rose* and *Strongbow* and three German light cruisers which attacked a convoy on October 17th, 1917, included the name of Surgeon Probationer Ivan C. C. Barclay, R.N.V.R. (killed in action).

**FOREIGN DECORATIONS.**

The King of Italy has conferred the following honours upon the British members of the Royal Italian Medical Commission, in recognition of valuable services rendered for about three years in conjunction with their Italian colleagues in examining Italian recruits. *Crown of Italy*.—To be officers: Dr. T. Vincent Dickinson and Dr. James Donelan. To be Cavaliers: Dr. Andrew Morton and Dr. Andrew Currie.

Dr. Melandri, president of the commission, has been recommended for the award of a special decoration at the earliest occasion.

## Scotland.

**INSTITUTIONAL TREATMENT OF TUBERCULOSIS.**

It appears from a statement by the Lord Advocate in the House of Commons, on August 5th, that institutions have been approved by the Local Government Board for Scotland, containing 2,570 beds for the treatment of pulmonary tuberculosis. In addition, there are some institutions approved for cases of non-pulmonary tuberculosis, but a specific number of beds is not set apart for this purpose. Information as to the total number of cases awaiting institutional treatment for Scotland as a whole is not available, but in Glasgow, on March 1st, nearly 400 cases of pulmonary tuberculosis were receiving institutional treatment. The Local Government Board is not in a position to express any opinion as to whether the duration of the period of treatment is limited by the amount of accommodation available, but it is a fact that accommodation provided by local authorities for the treatment of cases of tuberculosis has been taken over for other purposes, and the Board, after conference with the Scottish Insurance Commissioners on the subject, is about to institute an inquiry into the whole question of the sufficiency of the existing accommodation for tuberculosis cases, having regard to the number of such cases and the need for treatment.

**A MINISTRY OF HEALTH.**

The Corporation of Edinburgh has received a report from its town clerk on the need for the establishment of a central authority to reorganize and co-ordinate the public health services of the country. It is maintained that there should be a separate Ministry for Scotland with direct

representation in Parliament. Even should the Secretary for Scotland become the Minister of Health for Scotland the new Ministry should not form a department of the Scottish Office, but a separate department of State. To the new Ministry should be transferred duties relating to matters of public health at present administered by separate departments, but its duties should not necessarily be coincident with those administered locally by the public health authorities, and these authorities should be directly elected by the ratepayers. The area of administration of the local authorities should be reconsidered, as the smaller existing areas do not possess resources to deal effectively with the large questions of public health administration. The creation of larger areas of administration may be found necessary. Certain matters should be transferred to the local health authorities from the school board, the parish council, the District Board of Control, and the Insurance Committee, and new duties should be entrusted to them in connexion with the inspection of factories, the milk supply, and the care of the blind.

**CENTRAL CHILD WELFARE INSTITUTE.**

At a conference of representatives of Scottish local authorities, held recently under the presidency of the Lord Provost of Edinburgh, a committee was appointed, on the proposition of the Lord Provost of Aberdeen, to prepare a scheme for the organization of a central child welfare institute for Scotland which the Carnegie United Kingdom Trust has offered to establish in Edinburgh. Dr. Ross, in explaining the conditions of the offer, said that the scheme owed its inception to Dr. Leslie Mackenzie. Dr. Leslie Mackenzie said that the problems of maternity and childhood were various, difficult, and urgent. The institute would afford help and direction to all the public authorities concerned with the administration of the notification of births, the formulation of child welfare schemes, the preparation of maternity services and hospitals, the administration of the Children's Act, and of the Poor Law and Education Acts. The institute would be a place for study, research, and conference, and a promise of £2,000 for research work in connexion with it had already been received. The trustees will find the capital outlay to establish and equip the institute, and an appeal is made to local authorities to support the maintenance fund.

**ANTIVENEREAL ACTION IN EDINBURGH.**

A conference convened by the Edinburgh Branch of the National Council for Combating Venereal Disease, held recently in Edinburgh, was largely attended by representatives of the women's organizations and societies in the city. Mrs. Russell, M.D., who presided, said that it was desired to bring the need for combative effort before the public and to impress upon it that it was a moral as well as a medical question. Mrs. Gatto, O.B.E., general secretary of the National Council, appealed to all women to co-operate with that organization. After a discussion showing the keen interest the women's organizations are taking in the work, Mrs. Chalmers Watson, C.B.E., M.D., said that during the coming winter courses of lectures would be given for welfare workers.

**NOTIFICATION OF OPHTHALMIA NEONATORUM.**

By regulations,<sup>1</sup> dated July 31st, the Local Government Board for Scotland has made ophthalmia neonatorum compulsorily notifiable. In a circular letter accompanying the official regulations extracts are given from the report of the Departmental Committee on the Welfare of the Blind (1917) showing the extent of blindness caused by the disease, and emphasizing the necessity for the provision of efficient treatment to follow immediately on notification. The necessity for the notification of cases at the earliest possible moment, when the discharge is first detected, is noted, and it is insisted that there should be no waiting for the appearance of a purulent discharge. It has been observed by medical officers of health that many mild cases are left unnotified because, in the midwife's view, the discharge was not "purulent." By the time the discharge is markedly purulent the disease is already far advanced and dangerous. The Board intimates that the work of health visitors, under maternity service and child welfare schemes, might properly include the visiting of cases of ophthalmia neonatorum, and the child welfare

<sup>1</sup> Statutory Rules and Orders, 1918, No. 856, S. 23.



grant is available in respect of this work. One paragraph of the letter reads, "To prevent injury to the eye, no strong germicidal application should be used except under the supervision or special direction of a medical man." A very necessary warning, for the temerity of the partly informed may be as dangerous to the infant eyes as the most virulent microbe.

## Ireland.

### TYRONE COUNTY HOSPITAL.

IN the report of the Tyrone County Hospital Dr. E. C. Thompson, F.R.C.S., states that the expenditure has been heavy owing to the great increase in price of every commodity, but this is common to every similar institution in the country and will not decrease during the war. The number of soldiers treated in the hospital was 255, and they were accommodated without inconveniencing the other patients. The total number of patients treated in the hospital was 888, and 2,934 cases were given advice as externs. The total expenditure was £5,163 9s. 8d. and the income £4,340 17s. 3d., thus showing a debit balance of £822 12s. 5d. which, along with a debt, which has been gradually growing during the last seventeen years, of £908 8s. 3d., leaves a total indebtedness of £1,731 0s. 8d., which must be liquidated quickly if the hospital is to continue its useful and most necessary work. In this connexion Dr. Thompson writes:

I have frequently drawn attention to the strange anomaly that unlimited funds must be granted for the maintenance of asylums and workhouses, which house the useless and unfortunately worn out members of our civilized society, but very insufficient funds are provided for the treatment in hospital of the sane and useful members of the body politic, who, without institutions such as our county hospital, would suffer greatly in many ways if overtaken by severe illness requiring special hospital care or surgical attention.

Compared with the previous year the average number of patients daily in the hospital increased from 47.3 to 64.

The hospital is beautifully situated on a sheltered elevation, a short distance outside the town of Omagh. It possesses all the latest equipment of the most modern city hospital. Close on a thousand operations were performed during the year 1917; they included 21 for appendicitis, 14 for removal of bullets or shrapnel, and 25 for radical cure of hernia, 9 of which were strangulated.

## Correspondence.

### THE FUTURE OF THE MEDICAL PROFESSION.

SIR,—It would seem that some sort of a State medical service and some degree of State aid for hospitals are inevitable in the near future. One cannot view such a prospect with whole-hearted satisfaction. A State service reflects the mental attitude of its leaders, and one fears lest absence of competition combined with the moral support of a great Government department may tend to produce a condition of eminent respectability combined with an exasperating inertia, which is better imagined than understood. Of course, organization with financial strength behind it makes for efficiency, but, at the same time, there is a grave danger lest that individuality which has been the source of our strength for centuries may become lost. From a national point of view, too, disappearance of the voluntary system of support for our hospitals would be a misfortune. In many respects the State-aided hospital of Continental cities is more complete, but a spirit is absent from it that is of the very essence of our own hospital management, and reflects a corresponding difference in national attributes. While we rightly strive to become more efficient, let us be on our guard lest we become at the same time less sympathetic.

As a profession, doctors are all day long placing the benefit of their patients in front of their own benefit. Therein lies, however, the first stumbling-block; for occupation with a sick man forces consideration of the disease from which he suffers into the foreground or into the background, according to a number of circumstances of which the mental characteristics of the physician and the amount

of time at his disposal are the chief. Financial considerations occupy a necessary but a completely subordinate position. From this follows differentiation of the profession into the two great branches of practice and investigation. Considered in the abstract, there is no doubt that preventive measures against disease are more beneficial to a nation than curative measures, but recognition of this fact seems to require a special intellectual capacity. Even now, however, the attitude towards science of most laymen in His Majesty's dominions is about on a par with that in respect of their attitude towards education generally. Possibly this attitude is changing, but it must change far more rapidly and extensively among us if preventive medicine is to have a fair chance. It is dangerous in these days to see anything good in the Germans, but it is none the less true that their respect for science and their scientific organization in all branches are the real foundation of the power they exert in things military as in things medical. If the Americans and the Japanese thronged German universities, as they undoubtedly did before the war, it was because the scientific spirit in our allies, which lies behind the practice of medicine, was well nourished in Germany. Chemistry, physiology, pharmacology, pathology, must cease to be regarded as "ancillary" subjects; it must be recognized that radiology means vastly more than the taking of x-ray photographs; entomology must no longer be smiled upon if preventive medicine is to take that position in human affairs which Sir Bertrand Dawson contemplates. In France, in the United States, in Italy, in Japan, in Germany, in Austria, this emancipation took place long ago. Just as in the past the physician had to yield a portion of the dignity of medicine to the surgeon, and as both of these had to yield to the gynaecologist, the laryngologist, neurologist, oculist, so the art of medicine is being compelled to render just honour and recompense to the science of medicine, and cease to exploit that science for its own benefit. And in the same way, if progress is to be made, our non-medical and non-scientific legislators and business men, must be compelled to render just honour to that branch of knowledge whose duty and privilege it is to care for the health of mankind. It is scandalous that apathy and departmental obstruction should stand in the way of creating a Ministry of Health, but so long as the doctor is regarded as a subordinate, legislation will pool-pool what he says, and so long as the practising physician or surgeon regards the scientific basis of medicine as subordinate, he will not possess that knowledge which alone entitles his opinion to respect.

The suggestion that members of the junior staff of the teaching hospitals should largely devote themselves to research is admirable, but less easy of accomplishment than appears on the face of it. Those whose duties have lain in the research laboratory know that the investigator is born and not made. That a born investigator may be ruined by lack of training in methods and aims of exact research is undoubtedly true, but unless the spark be there, no amount of training will produce more than a machine. Germany has turned out thousands of such machines, and though they are useful in getting hackwork done, our British habit of mind is against their production. It would be far more profitable to present a man who wished to conduct investigation, and, after trial, was found capable of doing so, with opportunities to make a living independent of practice. There can be no doubt, in pathology at least, that our lack of investigators depends solely upon the fact that science does not pay a living wage. To regard research as a kind of finishing education for a young physician or surgeon who wishes to attain distinction in his profession is not the way in which real advance of medicine will be brought about.

Sir Bertrand Dawson recognizes a differentiation between practice and research in his suggestion that the clinical hospitals should be under the Minister of Health, and the teaching hospitals under the Minister of Education. Such a divorce appears undesirable for three reasons: (1) It would lead to lack of co-ordination; (2) it would place science under (probably) a non-science domination; and (3) the teaching and research carried out in hospitals under a Minister of Education would tend to become academic and purely theoretical, whereas under a Minister of Health this is less likely to occur. To my mind it is not divorce between practice and investigation, cure and prevention, science and art, that is required in



medicine; it is a closer co-operation. The scientific worker must cease to live entirely in his laboratory, and must be brought into the wards to meet the physician or surgeon on terms of equality in all respects.—I am, etc.,

W. S. LAZARUS-BARLOW.

The Middlesex Hospital, W. July 23rd

SIR,—That the industrial classes do not get, and have never had, adequate medical attention, except in the hospitals, is being recognized, owing to the present stress, but it is nothing fresh or new. The reasons are:

1. There is too much rush about working-class practice, too little time for laborious diagnosis, with frequent examination and reconsideration of patients; hence too little genuine medical interest.

2. There are not enough medical men (even in pre-war days) for industrial practice to be carried on in the manner indicated, and the "wages fund" for doctors is too small to pay the doctors, even if they existed.

3. Medical men are not keen enough on the problem of maintaining the health and working efficiency of the industrial classes. Seeing the way medical men are and have been sweated by workers relatively so much better paid than themselves, this is not surprising.

4. The workers themselves are not very interested in the wider aspects of the problem of their health. The workers have never organized a strike against bad housing conditions, bad factory conditions, dangers of industrial poisoning, or the laxity of local sanitary authorities.

The workers themselves are apparently content with things as they are; if by chance they really want the best brains of the rank and file of the medical profession to look after them, they must see to it that the doctor's life is one of medical practice, and not one of rushing through so many patients a day; hence, more doctors with more time. A State medical service for practice in industrial centres could be made very attractive. A post-graduate course every few years, constant working with research and other special centres, the requirement of a high standard of diagnosis and treatment, and the possibility of securing the latter for the patients, would be great inducements to young men to enter the service.

The service, like all services, would retain an element of competition, but would get rid of the type of competition which is a hindrance and not a help to the practice of medicine.—I am, etc.,

Folkestone, Aug. 8th.

T. M. PEARCE.

#### THE LABOUR PARTY AND THE MEDICAL PROFESSION.

SIR,—I notice references by members of the medical profession to the supposed attitude of the Labour party upon the future organization of the profession. In particular, it has been said that the Labour party is in favour of a State medical service. Will you permit me to say that no such statement is correct. The Labour party expresses its corporate views by the numerous resolutions of its party conferences, and by the publications founded on these resolutions issued by its Executive Committee. In none of these is there any countenance of what I understand to be objected to—namely, a whole-time, salaried, clinical service for the general population; least of all, such a service organized and directed by a State department.

What is true is that the Labour party is distinguished from the older political parties by its persistent concern about the health of the people, and the need for giving the medical profession more effective opportunities than it is now allowed for rendering its services to all who need them. At present, urge the delegates to the Labour party conferences, so far as vast numbers of labourers and their wives and children are concerned, the doctor, whether in the town slum or in the rural village, does not get a fair chance. Beyond general resolutions calling for reform, the Labour party has not yet committed itself in this matter to any plan. What it has done is (again unlike any other political party) to appoint a Standing Advisory Committee, made up of medical practitioners and such other competent persons as it can find among its supporters, to counsel the party on "public health and medical services."

What is being said is that the present defects of the National Insurance Acts must imperatively be remedied,

notably the exclusion from medical benefit of half the population, even of the wage-earning class; the limitation of the treatment afforded to such as is within the ordinary scope of the general practitioner; the lack of provision of the means of scientific diagnosis, consultants, specialists in medicine, and surgeons, wherever these are required; the cruel parsimony as regards drugs and appliances; the failure to provide the panel practitioner with suitable accommodation and assistance for his increased work; and the general insufficiency, in nearly all parts of the country, of the hospital and sanatorium provision, and of the domiciliary nursing service.

On the other hand, the Poor Law provision for the sick and infirm—soon to be merged, it must be assumed, in the public health work of the local authorities—and the growing development of the medical services of these authorities, whether as regards hospitals, sanatoriums, venereal disease clinics, schemes for maternity and infancy welfare, or the school medical service, necessarily call for an extensive reorganization of what may be termed the municipal medical service.

Some of the members of the Labour party are looking for a great development of the medical service under the Insurance Acts, making this the main organ of the Ministry of Health on the clinical side. Others expect the boundaries to be extended more, especially in connexion with the increased provision of hospitals, of what I have called the Municipal Medical Service. Few of us, I think suppose that either of these can cover the whole field without the aid of the other, or both together without the full and cordial co-operation of the independent medical practitioner dealing with his own clients. It must be plain that (even apart from other considerations) it would be quite impracticable, over the greater part of the United Kingdom—probably everywhere outside the towns—to engage the medical practitioners in a whole-time, salaried, clinical service; as such a service would leave no doctors available for the fee-paying part of the population. And I cannot imagine any practical politician dreaming that, as matters go in English politics, both the machinery of the National Insurance Acts and that of the all-powerful local governing bodies could simultaneously be superseded by any State army of salaried clinicians operating, like the R.A.M.C., from a central head quarters, and working in conjunction with an array of State hospitals and sanatoriums, administered, like the prisons, by a Government department in Whitehall.

What we in the Labour party are trying to discover is the best way of bringing into effective co-operation with the rest of the work of the medical profession both the system inaugurated by the National Insurance Acts, with all desirable improvements, and that of the local authorities, now being so rapidly extended under the Public Health Acts. The Ministry of Health Bill we regard as but the beginning of this indispensable co-operation of the whole profession.

We have been for some time basing our scheme on a more effective representation in the counsels of the nation of the medical profession itself; meaning by this the opinion of the general practitioner even more than that of the consultant, the official expert, or the professor of the medical college. We should heartily support the proposal just adopted by the British Medical Association of an Advisory Medical Council attached to the Ministry of Health, without executive powers, but authorized to report to the public, uncensored by the Government, upon anything done or undone in the realm of public health. And we are inclined to go further. We suggest that every town council should have a similar Advisory Medical Committee, made up from the practitioners of the town, and entitled to make its recommendations either privately to the Health Committee or to the town council, or whenever it thinks fit, also publicly to the citizens, uncensored by the town clerk or the town municipality.

In short, many of us in the Labour party who are thinking about this problem of the future organization of public health and the medical profession are disposed to place great faith in bringing constantly to bear on all such questions the organized opinion of the medical profession as a whole, both nationally and locally; and we should make a central feature of our plan the statutory constitution



of such Advisory Medical Councils as I have mentioned, both to the Ministry of Health and to the local health authority.—I am, etc.,

London, S.W., July 28th.

SIDNEY WEBB.

### THE SYSTEMATIC TESTING OF URINE IN THE EXAMINATION OF RECRUITS.

SIR,—In view of the fact that middle-aged men are now being pressed into military service, the majority of whom will have long since passed into the fixed groove of sedentary employment, a note on the importance of the systematic examination of the urine in these cases may not be out of place.

A tall and powerful young athlete, a champion runner, came to me some years ago in great alarm because his urine was "half full of a red sediment." His story was, that after a winter of comparative physical inactivity, in which he had devoted the majority of his time to violin practice, he had suddenly made up his mind to get into training for some coming races, and had accordingly gone out in the previous afternoon and sprinted violently for two hours, taking only short intervals of rest. On returning home and desiring to pass water, but feeling too tired to go up to the lavatory, he urinated into a glass jar. An hour or so later, remembering to empty the jar, he was horrified to find it half full of the "red sediment."

In this case it is interesting and instructive to reflect on what was taking place in the tissues, and especially in the kidneys, during that afternoon's sprinting. To consider, for instance, the rapidity of the tissue change, the furious katabolism, and the marvellous activity of the kidney cells in so quickly ridding the tissues of what must otherwise have been of infinite danger, had the kidneys from any cause been less active. And the question arises of what would have happened in this case had this sprinting taken place in the first full vigour of apparent health after a convalescence from fever; whether the kidneys, lowered in vitality by the toxins and high temperature, would have been equal to the task—the terrific work so suddenly thrust upon them—or whether a splendid young manhood would have been struck down in acute toxæmia, and the health for ever shattered in one or other of the chronic ailments or diseases—neural, cardiac, articular, or dermal—the etiology of which is sometimes so difficult to discover.

There are, perhaps, few people who have not noticed after a day's exercise, such as the first of a holiday, that the urine becomes cloudy, sometimes depositing a sediment; and if the specific gravity be taken it will often be found much in excess of normal. In the healthy this is as it should be. There are those, on the other hand, whose urine after exercise, vigorous or moderate, is clear as though drawn from the tap, and of specific gravity much below normal, sometimes falling to that of pure water. It is in such cases that a day's unusual exercise, especially in the middle-aged, will frequently be followed by vague rheumatic pains, headache, malaise, tachycardia, or its opposite, sometimes so acute as to necessitate remaining in bed. Such opportunity of recuperating is, however, not granted to the recruit until he becomes acutely ill, and the result is that the medical wards of our military hospitals are to-day crowded with patients with nothing more the matter with them than could be traced to defective eliminative power on the part of the kidneys. Men with kidneys of this type are absolutely unfit for military training and are proving, and will prove, little else but an expense and a burden to their country.

It was, of course, impossible in the early days of the war, and especially during the compulsory recruiting in the later months of 1915, to examine the urine in every case, but now that comparatively few are left out of the ranks between the specified ages who are physically fit, and that rejected men are being constantly re-examined, and, above all, that men of 50 are now to be included, it becomes of paramount importance that the urine in each case should be carefully tested. Medical boards would, therefore, do well to make it a routine part of the examination of every recruit, whose general condition appears to be satisfactory, to examine the urine immediately before and some hours after his being put through the stress of muscular exercise, moderate or vigorous according to his capacity, and if the urine does not show an increase in specific gravity corresponding to such exertion

—for little importance need be attached to the physiological albuminuria which will appear in some cases—it may be taken for granted that such recruit, though he may keep up for a time, will end in a military hospital a useless burden to his country.—I am, etc.,

Liverpool July 20th.

WILLIAM BRAMWELL.

### GENERAL PRACTITIONERS AND VENEREAL DISEASE.

SIR,—I read with great interest your remarks on the above-named subject in your issue of August 3rd. Perhaps it would not be amiss that I should attempt to put before you some of the difficulties which beset the general practitioner in this connexion:

1. The acquisition of the necessary knowledge and technique entails regular attendance at a clinic for months together; this a busy practitioner can ill afford in these strenuous days.
2. Equipment, even on a modest scale, means a considerable initial outlay, particularly when enhanced values are the order of the day.
3. Diagnosis and treatment cannot be satisfactorily carried out at the practitioner's surgery during his ordinary hours of attendance; the routine takes up a considerable amount of time, even if assistance is available, which usually is not the case.
4. Remuneration: Under present conditions the practitioner would receive no extra fees for the treatment of insured persons; nor would he from his poorer patients.

The practitioner is of necessity compelled to advise his panel and poorer patients to seek assistance elsewhere. For my own part, I have for nearly two years been attending the clinics at Rochester Row and the London Hospital, and, to my chagrin, I have discovered that I cannot undertake to treat in private the two classes of patients I have mentioned, chiefly for reasons (2) and (3).

What, then, is the solution of the problem? It seems to lie in the establishment of clinics to which practitioners may have free access. Such freedom of access sounds rather attractive, but it remains to be seen how it would work in practice; none the less, a good deal can be accomplished by co-ordination and co-operation.—I am, etc.,

London, W., Aug. 5th.

JOHN ALCINDOR, M.B.

### THE DANGER OF COAL RATIONING.

SIR,—The doctors of the country have not been invited to consider a matter which vitally affects the health of the nation, and, if the order as it now stands comes into force, irremediable and widespread damage will be done to the health of a large number of persons.

As the instance of which I have most knowledge I give my own case. We live in a house of twelve rooms under Schedule A, therefore we may receive up to twelve tons in the year. This means 73 lb. a day. An ordinary kitchen coal-scuttle holds 34 lb., therefore we can burn just over two scuttles of coal a day. This means that (1) the kitchen fire can only be burnt for sufficient time to cook one hot meal a day; (2) a small fire can be burnt in only one other room. Under these conditions the house will become so cold throughout that it will be dangerous to health in winter. Two members of the household are working long hours at work involving much exposure to cold, and a return home at, necessarily, different and irregular hours for meals.

The present food does not provide so high a heat value as formerly, and most people are working longer hours under harder conditions than formerly. The number of deaths from tuberculosis has already risen seriously. Presumably this is due to the harder conditions of life. If, in addition, cold houses and cold meals are to be the rule, the nation will be sowing the seeds of such a death-rate from tuberculosis as has not been known for years, and the increased amount of illness of every kind will subtract many hours from essential war work. The appalling increases of the tuberculosis death-rate in enemy countries should be a warning of what will come.—I am, etc.,

Malvern, Aug. 5th.

E. G. H. WILLIAMS.

As a result of the garden party given by the Royal Medical Benevolent Fund Guild at the Royal Botanic Gardens, on July 16th, a net sum of £1,350 has been paid over to the special fund for training girls to be self supporting or to assist their mothers. This very satisfactory result will probably encourage the Guild to repeat the experiment another year.



## Universities and Colleges.

## UNIVERSITY OF LONDON.

LONDON (ROYAL FREE HOSPITAL SCHOOL OF MEDICINE  
FOR WOMEN).

THE following awards of scholarships tenable at the Medical School have been made recently:

St. Dunstan's Medical Exhibitions: Miss M. E. Reynolds, £50; Miss M. E. Howard, £40 for five years each; Isabel H. the Scholarship £20; Miss E. A. Perrott. Sir Owen Roberts Memorial Scholarship £75 a year for four years; Miss L. G. Lint. Maud Sharnan (Crawford) Scholars ip (£20 a year for four years); Miss D. N. L. Leverkus. Agnes Gut rie Dental Bursary (£50); Miss Petronelle Jago. Ellen Walker Bursary (£25 a year for two years); Miss G. M. Watkinson. Fanny Butler Scholarship (£14 10s. a year for four years); Miss A. D. Symons.

## UNIVERSITY OF DUBLIN.

Trinity College.

THE Senate of the University of Dublin has passed a grace for the degree of LL.D. *honoris causa* for Lieut.-General Charles Henry Burtchall, C.M.G., C.B., Director-General Medical Services, B.E.F., France. It is hoped that the degree may be conferred at an early date.

The Board of Trinity College has invited Lieut.-Colonel Gordon Holmes, M.D., C.M.G., R.A.M.C., to deliver the Montgomery Lectures in Ophthalmology for the year 1918-19.

## Obituary.

MR. W. MORLEY WILLIS, who died in June last, aged 49, was a native of Bristol, and was educated at the Taunton Grammar School. After a few years in business he decided, on reaching the age of 21, to study for the medical profession. He studied at University College, Bristol, and St. Bartholomew's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P. in 1895 and the F.R.C.S. in 1906. After acting as house-surgeon to the Sunderland Royal Infirmary, he commenced practice in Nottingham in 1897. Shortly afterwards he became honorary surgeon to the Children's Hospital, and in 1901 was appointed assistant surgeon to the Nottingham General Hospital. Soon afterwards he abandoned general practice, and confined himself entirely to surgery. In addition to the work entailed by his public appointments, Mr. Willis undertook heavy duties in connexion with the various military hospitals in the Nottingham area. While in apparently good health he was struck down by an illness which proved fatal. He leaves a widow and two daughters. Mr. H. Bell Tawse, senior surgeon to the Nottingham Children's Hospital, assistant surgeon to the Nottingham General Hospital, writes: For many years I was associated with the late Morley Willis at the Children's Hospital and at the General Hospital. We all recognized him as a brilliant surgeon, a skilful diagnostician, and a most agreeable, kindly, and courteous colleague, always ready to give help and advice in difficult cases, and eager to assist the younger men in any way he could. He will be greatly missed by his colleagues and by his patients, who loved him for his cheery optimism and charming manner. He has gone at a time when his surgical talents and experience were invaluable to the army as well as to the civil population. He was reaping the reward of many years of strenuous hospital work, and had built up a large surgical practice when he was struck down at the early age of 49 by illness which proved fatal. British surgery has sustained a grievous loss, and his intimate friends mourn the death of a most affectionate, straightforward, and honourable man.

It is with regret that we have to record the death of Dr. FINGLAND, which took place somewhat suddenly on August 1st. Four years ago he had a serious attack of influenza followed by pneumonia. Nevertheless, he braced himself to continue in practice, and up to a week before death he was doing his work. He was the son of a well-known pharmaceutical chemist in Wavertree. He received his medical education at the Liverpool School, and took the diplomas of L.R.C.P. and S. Edin. in 1891. He devoted special attention to anaesthetics, and became honorary anaesthetist to the Royal Infirmary, which post he held for upwards of twenty years. Four years ago he retired with the honour of consulting anaesthetist to this institution. In 1912, at the Annual Meeting of the British Medical Association, Dr. Fingland was vice-president of the Section of Anaesthetics. He published

in the *Edinburgh Medical Journal* in 1893 a practical paper on the treatment of a patient before and after an anaesthetic. As an anaesthetist his services were in much demand, and many of his professional brethren are personally indebted to him for his careful conduct of anaesthesia. He was a member of the North of England Obstetrical Society, and at the time of his death held the post of treasurer. He had long been a member of the Liverpool Medical Institution, and was its librarian. Dr. Fingland in private life was most methodical, and was fond of old prints and books. As a colleague he was staunch and in his friendship true. A memorial service was held at St. Andrew's Church of Scotland on August 5th, and many friends and patients were present as a testimony of their respect. He leaves behind a widow and daughter and many professional brethren to mourn his loss and cherish his memory.

DR. GEORGE BLACKER MORGAN, of Sunderland, who died on July 25th, aged 84, received his medical education in Dublin and took the diploma of L.R.C.S.I. in 1856 and that of L.S.A. in the following year. He was appointed house-surgeon to the Sunderland Infirmary in 1857, and had since continued his connexion with that institution, latterly as senior surgeon and chairman of the medical board. He had held the office of chairman of the Sunderland Division and was twice president of the North of England Branch. He had also been president of the Northumberland and Durham Medical Society and of the Sunderland and North Durham Medical Society. He leaves a family of three sons and four daughters.

## Medical News.

THE Household Fuel and Lighting Order, 1918, contains a provision authorizing the local Fuel Overseers to make additional allowances for both fuel and light in the case of rooms used for a business or profession in a dwelling house or other building in connexion therewith.

THE London County Council has decided not to provide serum for the general use of medical practitioners in the treatment of cerebro-spinal fever and the examination of suspected cases and contacts, but to provide it for use exclusively in cases seen in consultation with its own medical staff.

DR. J. JOHNSTON, Medical Officer of Townleys Hospitals, Bolton, has received the long service silver medal of the Order of St. John in recognition of his twenty-seven years' service to the St. John Ambulance Association and Brigade.

THE report on the working of the tuberculosis department started at the Great Northern Central Hospital, by arrangement with the Islington Borough Council, shows that during the year ended April 30th last 841 cases from the northern half of the borough were treated, and that there were 3,472 attendances. In addition, 1,510 visits were made to patients' homes, and a considerable number of contacts examined.

AT the meeting of the Council of the Metropolitan Hospital Sunday Fund on August 9th it was announced that the total sum received was £85,652, an amount exceeding the previous best year by £15,000. The sum included a gift of £5,000 from the American Red Cross Society. The awards for the year amounted to £85,000.

IN connexion with the scheme for the employment of officers and men invalided from the army and navy it has been suggested that in cases of shell shock, gas poisoning, and general breakdown, such men as contemplate life in the Far Eastern colonies and dependencies would be well advised first of all to submit themselves to some medical expert from the tropics. By doing so, expense and disappointment would be avoided.

MR. WILLIAM MILLER CROWFOOT, M.B. Lond., F.R.C.S., who died at Beccles last April, at the age of 80, bequeathed his collection of exotic butterflies and moths to the Natural History Museum, University College, Nottingham; a collection of shells from the Paris basin, his crag shells, and other fossils, to the Norwich Museum; and a collection of shells from the Italian Pliocene basin, and a collection of marine, land, and fresh-water shells to Ipswich Museum.

THE London County Council has agreed to ask the governing bodies of one or two hospitals to admit as in-patients school children suffering from serious ear trouble.



The Education Committee reported that more than 12,000 children with discharging ears are in attendance at school. Some 7,000 children have easily appreciable deafness, and, in addition, 800 children attend deaf schools or "hard of hearing" classes. About 800 children of school age die in London annually from diseases closely associated with ear disease.

The twenty-seventh French Congress of Surgery will be held in Paris in October (7th to 10th). The following are the questions officially proposed for discussion: Extraction of intrathoracic projectiles; treatment of remote results of nerve lesions caused by war projectiles; removal of splinters and repair of losses of bone substance. There will be no introductory reports on these subjects. The general secretary of the Congress is Dr. J. L. Faure, 10, rue de Seine, Paris, from whom any further information can be obtained.

The Ministry of Munitions has made an order prohibiting the sale, except under licence, of radio-active substances, luminous bodies and ores. The order applies to all radio-active substances (including actinium, radium, uranium, thorium and their disintegration products and compounds), luminous bodies in the preparation of which any radio-active substance is used, and ores from which any radio-active substance is obtainable, except uranium nitrate and except radio-active substances at the date of the order forming an integral part of any instrument, including instruments of precision or for timekeeping.

A NEW edition of *The Nomenclature of Diseases* has been issued (H.M. Stationery Office; 2s. net). All the editions have been prepared by joint committees appointed by the Royal College of Physicians of London. The first was completed in 1869, the second was published in 1884, the third in 1896, and the fourth in 1906. The secretary and editor of the committee of the new edition was Dr. Leonard Guthrie. It had numerous subcommittees dealing with diseases of various systems. Among the changes introduced in the new edition is the substitution of the term "diseases caused by infection" for "infective diseases," and three new groups have been formed for diseases of the blood, and of the ductless or endocrine glands, and for disorders of nutrition or metabolism. The lists of tumours, parasites, and malformations have been rewritten and numerous additions made. A difficulty has been encountered in the nomenclature of diseases of the nervous system, which include a large and heterogeneous group at present only to be classified as "names of symptoms, groups of symptoms, diseases named with reference to their symptoms, and diseases of which the pathogenesis is not accurately known."

A REVISED version of the regulations under which grants are payable by the Board of Education to day nurseries in England and Wales has been issued (Cd. 9129. Price, 1d.). The revision provides for the payment of a grant at a rate not exceeding 50 per cent. of the net expenditure after deducting any payments made for the care of children, and other similar receipts. The increased grants payable during the current financial year will be based on the expenditure incurred during the twelve months ending on March 31st, 1918. In fixing the rate of grant the Board will have particular regard to the provision for the medical inspection and supervision of the infants and young children, the number and qualifications of the staff, the provisions for promoting physical welfare and the prevention of infectious diseases, the suitability of the premises and equipment, and the methods adopted for confining the benefits to infants and young children who, by reason of the necessary absence of the mother at work or other similar cause, cannot be adequately cared for at home.

The Royal Society has arranged a conference of representatives of the allied nations to meet on October 9th in London to discuss the future conduct of scientific work hitherto carried on by international organizations. It is expected that representatives from the academies of Paris, Rome, Tokyo, and Washington, and nominees of the Governments of Belgium, Portugal, and Serbia, will attend. The conference will chiefly be concerned with those departments of science in which international co-operation is most essential, such as mensuration and electric standards, geodesy and seismology, and the photographic chart of the heavens. Among other matters which will have attention are international meetings of mathematicians, geologists, and botanists, and the work of the International Association of Academies, which aims at co-ordinating the activities of international undertakings and organizing work for which special bodies do not exist or are not required. The main object of the conference will be to agree on a common policy with regard to matters which depend on Government support.

## Letters, Notes, and Answers.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR OF THE BRITISH MEDICAL JOURNAL, *Aitology*, Westrand, London; telephone, 2631, Gerrard.
2. FINANCIAL, SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra*, Westrand, London; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### QUERIES AND ANSWERS.

#### AUTO-WHEELS.

DR. T. RUELLE ATKINSON (Chadwell Heath) writes, in reply to "Aloin," to call attention to a note by himself in which he spoke well of the auto wheel (BRITISH MEDICAL JOURNAL, December 9th, 1916, p. 828). Wet weather, he adds, makes no difference provided one does not clean one's own machine; it picks up dirt. Against a strong wind a little foot pedalling helps, but requires really no effort. It takes moderate gradients easily enough, but help with the feet is needed on very steep hills.

#### DECLINE OF THE BIRTH-RATE.

CUSTOS wishes to know whether, apart from the subject of eugenics, there exists a society which interests itself in means for arresting the decline in the birth-rate, especially in the middle and upper classes, which could give him information capable of being worked into a lecture or pamphlet for the young officer class.

\* \* Our correspondent might write to the Secretary, National Council of Public Morals, 20, Bedford Square, W.C.1. This body has, we believe, collected much information of the kind desired. "Custos" must, however, use his own judgement as to the scientific value of the literature in question.

### LETTERS, NOTES, ETC.

#### LONDON'S MEDICAL SHERIFF.

DR. CLIPPINGDALE (London, W.) writes: The election of Dr. W. R. Smith, professor of toxicology in King's College, to the shrievalty of London exemplifies the rarity with which medical men have been elected to the highest civic posts within the City of London. Such elections in former times were always made by the twelve upper livery companies, which did not include the two semi-medical bodies—namely, the Apothecaries and the Barber Surgeons. The late Sir Thomas Crosby was the first and at present remains the only medical man to hold the office of Lord Mayor. Sheriff Smith in the honour he has accepted seems to have had only two medical predecessors—Thomas Horesbede (surgeon to King Henry V), who was sheriff in 1456, and Sir John Ayliffe (surgeon to King Henry VIII), who was sheriff in 1548.

#### THE BELL FUND.

DR. S. A. KINNIER WILSON asks us to acknowledge the following donations to the Dr. J. H. Bell Fund: Sir Hugh Rigby £10 10s., Lieut.-Colonel E. Farquhar Buzzard £5 5s., Dr. David Dinwoodie £1 1s., Captain Ralph R. Watts, R.A.M.C., £1 1s. Subscriptions should be sent to Dr. Wilson at 14, Harley Street, London, W. 1.

#### SEPTICAEMIA DUE TO MIXED INFECTION.

##### A Correction.

THE bacillus found in the blood of the case recorded by Dr. B. Henry Shaw (BRITISH MEDICAL JOURNAL, August 10th, p. 133), of a man suffering from septicaemia, was the *Bacillus septicus*, or *B. cereus* *segmentosus*, not, as printed, the *B. septicus*.

### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	...	...	0 0 0
Each additional line	...	...	0 0 9
Whole single column	...	...	4 0 0
Whole page	...	...	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager 429, Strand, London, not later than the first post on Wednesday morning, preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive post restante letters addressed either in initials or numbers.



## EDUCATION AND BRAIN DEVELOPMENT:

## A PSYCHOLOGICAL PROBLEM.

BY

WILLIAM AINSLIE HOLLIS, M.D., F.R.C.P.,

CONSULTING PHYSICIAN, SUSSEX COUNTY HOSPITAL, BRIGHTON;  
FORMERLY PRESIDENT OF THE BRITISH MEDICAL ASSOCIATION.

THE full advantages which the amended Education Bill will confer on the nation can only be realized during the next generation, when the present race of boys and girls will have arrived at maturity, and will have become capable of taking the governance into their own hands. Meanwhile much depends upon the method of teaching; and in that regard there seems to the writer to be a want of appreciation among some of those in authority of the great part the biological development of a child's brain must take in all such work. The need there must always be of suiting the crop to the soil; of eradicating the twining vetches of fancy, ever ready to sprout in the illiterate brain, and of substituting for them those "seedlings of observance," the grist of fact.

*A Developmental Quadrilogy.*

From Hesiod to Varro, from Lucretius to Shakespeare,\* poets have dabbled fondly with the various ages through which an elderly man must pass. More recently biologists have reverted to the same subject. The writer offers in the present article a further instalment. Ontogeny suggests that during embryonic and fetal life each one of us has passed through a brief replica of phylogenetic evolution from a simple life to the complexities of a modern existence. The change, clearly marked by the developmental phases of the nervous system, is mainly due to secretions from endocrine glands, and their action upon the growing tissues. After birth this process continues, and it may be traced to the need for information of the body's position in space, and for the further need of bringing that information under the control of the afferent nerves. The method adopted will be fully explained elsewhere. The developmental phases may be divided into four: (1) The automatic; organic, vegetative. (2) The instinctive; intuitive. (3) The emotional (due to "restrained impulse"). (4) The rational; reflective. Yet we must not suppose that the more recently formed elements tyrannously dominate and suppress the activities of the earlier ones, but that by a harmonious co-operation between them the best functional results are obtained.

*The Automatic Phase.*

Throughout our lives many of the most important functions of our bodies are carried on automatically—that is, unconsciously. It is not necessary to dwell upon this phase. The infant's nervous system for the first three or four months of life is apparently indifferent to any but hereditary influences. All his movements are automatic, and education can accomplish little to right what is wrong at this early age. All activities are under the joint control of a linked system of metameres, represented by the grey matter of the spinal cord, associated with the sympathetic nerves and ganglia, and also with the myenteric plexuses, those islets of ganglionic tissue which suggest "that thoughts may arise in a man's bowels as well as impulses suggesting ideas."<sup>1</sup>

*The Intuitive Phase.*

Palaeontologists can only conjecture how an anthropoid brain has seemingly been transferred from a position above the archenteric tube to a polar one more nearly in line with the metameric linkage above mentioned. The tube itself presumably before being scrapped was converted into a "spinal canal." In phylogeny obsolete organs by such conversion are occasionally offered a new lease of life, maybe one more in accord with an existing phase of development. We retain within our bodies many samples of this evolutionary (or is it "revolutionary"?) change—among others the pineal gland, the vermiform appendix, perhaps, too, the nasopharynx!

As regards its nervous equipment the twentieth century European infant for three or four months, in its relations to its surroundings, resembles one of the lower vertebrates (a

Dipnoan, for instance), whose nervous equipment for a life-long existence in this wicked world consists of these very ganglionic True volitional acts are absent. Perhaps the nearest approach to voluntary movement is to be found in the "purposive reflexes" of this period. Its movements if not automatic are still under the régime of a polar bulb (the medulla oblongata and its ganglia), in the metameric system of spinal nerves. The lip, palmar grip, and plantar (extensor) reflexes disappear, or change their significance as years roll on. The last two in so doing strengthen the evidence otherwise attainable from geology and anatomy, which points with no uncertain finger to man's quadrumanous ancestry in the far-distant past.<sup>2</sup> Education at this stage of an infant's life must be restricted to its mother and its welfare. Smell and taste are fairly well developed during the first few weeks of life; but the alimentary system is quite incapable of assimilating starch food until the eleventh month "owing to the absence of amylolytic power in the saliva and pancreas" (Still). Breast-fed babies start the race of life under the most favourable conditions.

At the age of 3 or 4 months the child usually holds up its head for the first time voluntarily, and the movement presumably marks the beginning of a régime of the basal ganglia in front of the pyramids. Babinski has shown how, in the adult, disease of the pyramidal tracts—the paths along which voluntary impulses pass to the spinal cord—effects changes in the plantar response. Loss of the normal dorsal flexion in that case means injury to nerve centres above the tracts; in other words, "the separation of the propriospinal apparatus from the ne-encephalic elements" (Astvazaturrof). In the baby's case the active intervention of the cerebral cortex to control the lower (propriospinal) nerve plexuses is at this stage of ontogenetic development most improbable, yet the extensor response is normal up to the sixth month; from that month onward to the eighteenth plantar and dorsal flexion are equally common. In the adult these results might presumably mean many esoteric lesions to the alienist. I must leave them at that. In our babies it simply means that the little fellow is striving to stimulate his bulbar ganglia to functionate efficiently. A healthy child does so during the next twelvemonth. The conjecture is strengthened when we remember that the funiculus and the tubercle of Rolando are greyish in colour, and are better marked in the child than in the adult.

During the first few months of automatic life the afferent nerve centres gradually assume their functions. The eyes and nose learn to differentiate between the varying waves of light and the many odour-bearing molecules. The skin, too, quickly recognizes the variations of temperature and the soft caress. Usually full functional efficiency is a gradual process. Each advance is made at a fairly definite date. Take the eyesight, for instance. Within a few weeks of birth most children are pleased at a bright light. "He is long in being able to distinguish colours." When twelve months old he may know red from yellow, but he will not recognize blue and green until he is two or three years old (J. Thomson, M.D.). If there are three groups of colour sensation—red-green, yellow-blue, and white-black—and if our perception of colour rests primarily on the metabolism of a special substance in the visual mechanism of each group (Mering), the katabolic effect of white, yellow, and red light on the visual (retinal?) tissues is evidently sooner noticed by the polar nerve centres of an infant's brain than are the slower anabolic results of the shorter (chemical) rays. If the fundamental difference of maleness and femaleness depends upon a difference "in the ratio of katabolic and anabolic processes," as seems probable, metabolism has much to answer for.<sup>3</sup>

*The Emotional Phase.*

If we exclude the cerebral hemispheres, the cerebellum with its appendages is the largest association-complex in man's central nervous system, yet until recently it has received scant attention from physiologists. Palaeontology clearly indicates that the vertebrate cerebellum was structurally differentiated long before the neopallium, and in the central nervous system a lobe must be fairly complete structurally before it can function efficiently. The cerebellum is usually considered to be an outgrowth from the oriented linkage of basospinal ganglia around the central endings of certain afferent nerves "which bring

\* Hesiod and Lucretius treat of the phylogeny of man for the most part; the others of his ontogenetic development.



into the nervous system special information" about the body's environment, and its functions are to co-ordinate and supervise that information before distributing it to those lower ganglia directly concerned in activating the peripheral neuro-muscular apparatus.<sup>4</sup> The exact period in the life of a growing child when its voluntary movements are mainly, if not entirely, dominated by the cerebellum has not yet been fully defined. On the other hand, the cerebellum of some of the lower vertebrates is the largest collection of neuro-muscular association areas in the brain, and it undoubtedly dominates and supervises their voluntary muscular activities. For these reasons the anatomy and, so far as is known, the psychology of two groups of vertebrates—namely, the large class of birds, and the armadillos (the digitigrade Dasypods of the so-called Edentate family), will be very briefly reviewed.

#### The Cerebellar "Worm" in Avian Life.

(a) The birds apparently became separated from the reptiles in early Mesozoic times. They are sharply differentiated from the latter by the possession of feathers, and by their high tissue metabolism. All birds are bipeds, and the majority (Carnivora) are fliers. The general shape, structure, and the functions of their bodies are in that case adapted for flight. The skeleton, lightened by many air cavities, is much ankylosed, and is strengthened by bony outgrowths for the support of the great central limb muscles. The joint movements, too, are in many cases definitely restricted in range and direction. The motions of the hand, for instance, are limited "to those of abduction and adduction necessary for the folding up and expansion of the wing; the hand is thus fixed in a state of pronation" (Owen).

(b) The organs of sight and hearing are as a rule well developed, but the senses of smell, touch, and taste are feeble. The central nervous system is highly oriented. The corpora striata, anterior commissure, and pedunculi cerebri are relatively large; but the pallium and corpus callosum are represented by thin white strips of tissue, mostly smooth, and containing little grey matter. In domestic fowls, and in some birds of prey, there is a slight depression upon the surface of the pallium marking the position of the Sylvian fissure of the primate brain. The organ which supervises and regulates the many voluntary neuro-muscular activities of a bird is the cerebellar "worm"; the appendages are not developed. In sagittal section the "worm" shows an *arbor citae*, produced by repeated transverse folding of the whole organ (F. Hans Gadow).

(c) Avian life is highly emotional. The young flier meets "thrills and shakes" that would nerve-shock any but the staidest human. Walking, hopping, running, diving, swimming, and even dancing are all within the scope of avian activities. As regards the higher mental attributes, birds in common with many vertebrates have "call notes." The avian notes are produced at the two extremities of the palato-tracheal tract. They vary from the in-drawn cluck of the broody hen to the operatic melody of the educated bullfinch. They represent the primitive wish of sentient beings to express their ideas to each other.\* Other phases of economic life, sanitation, education of their young, the use of tools and their making, and even the elements of surgery, have been shown by competent observers to have a place in a bird's life. Again, in the pugnacity developed by land-grege, the so-called "territorial aggressiveness" of some birds; in the right of the strong to eject and slay their weaker kinfolk and to occupy the latter's derelict homes, we perhaps have glimpses of *Kultur* that a cerebellar "worm," untrammelled and supreme, can achieve. Finally, as already stated, musical sounds are much in favour with birds; yet the "worm" has a far closer relationship to the end fibres of the optic lobes than it has with the nucleus of Deiters's or other otic ganglion, and we must expect optic impressions to exert greater influence upon avian emotions than do auditory ones. Birds are always strongly attracted by light reflex. Even if we exclude the "Jackdaw of Rheims" as unreliable, there are daily incidents in a bird's life that can only be explained thus. Even logic cannot be entirely withdrawn from the purview of avian mentality so long as a caged inmate by means of a suitable apparatus supplies itself with drinking water by drawing a bucketful—and an inference at the same time.

\* The following references deal with statements successively made in the present paragraph. "Clucks" are fully discussed in *Lancet*, 1911, i, p. 50; also in the *Journal of Anat. and Phys.*, same year. Many birds show an elementary knowledge of sanitation by the removal of the flagging's excreta from the nest. Major Hollis writes me from the near East that he has seen a kite teaching its young how to fly. The parent enticed its young from the nest on the roof to the edge by walking backwards the while with a choice morsel in its beak. When they arrived at the edge it flattered just beyond their reach until, overbalancing, they had flown to the ground. Mr. C. J. Carroll (*Irish Naturalist*, May, 1916) tells how ravens teach their young by a regular course of training to ward off the attacks of peregrines. Mr. Owen (*British Birds*, July, 1916) records how carefully parrot-hawks keep their nests sanitary while the chicks are very young. Miss N. F. Lazard (Linnean Society, April 19th, 1917) offers evidence that the African grey parrot is not only a tool-user but a tool-maker as well. J. H. Owen (*British Birds*, January, 1917), in a paper "On the breeding habits of the red-backed shrike," noticed that when a gluttonous youngster had swallowed a larger "cut" than it could conveniently digest, and was in danger of choking, the parent thrust its beak down the little one's throat, and so removed the offending morsel.

#### The Role of the Cerebellum in Dasypods and in Other Mammals.

The locomotory apparatus of birds differs essentially from that of mammals. A bird's movements are mainly effected by simultaneous motions in paired limbs (for example, flying, hopping, swimming, diving, etc.), and, furthermore, these movements are strictly limited in range and direction by bony outgrowths. Mammalian and, indeed, quadrupedal locomotion generally is effected by the alternate motions of paired limbs. Again, owing to the polarity of a highly oriented linkage of spinal metameres, the supervision and direction of a bird's actions by a centrally situated association area became feasible, and is consequently adopted. Mammals, mankind especially, perhaps owe their supremacy in the animal world to the fact that the mobility of peripheral limb-joints, particularly the manus, warrants the doing of delicate operations otherwise impossible. A less oriented central nervous system presumably requires a less centralized cerebellum. Hence the gradual evolution of the appendages.

(a) The armadillos are a survival of a bygone age when exoskeletons were fashionable. The harmless, well-protected creatures are found in South America. The genealogical tree of even a "middle class" dasypod may well date back to the Pleistocene era. If so, animals then lived whose activities were dominated by a cerebellar complex, for, although the latter organ is well represented, as are also the olfactory lobes, the pallium is almost smooth, and the corpus callosum, joining the two lateral halves, is barely observable. In the broad banded armadillo, three slight depressions on either side of the pallium foreshadow the chief fissures of the primate brain.<sup>5</sup> These anatomical details suggest that dasypods, like birds, are still dominated as regards their voluntary activities by the cerebellum.

(b) As regards their daily life, the armadillos (divided by naturalists into several species) have little to interest us. They are burrowing animals, and live mainly upon roots, decayed fruit, and carrion. They can quickly form a burrow in suitable soil, with their strongly-clawed forepaws and their long snouts. Some have been known to burrow into a recently formed grave. When hunted for their flesh in the open they can move rapidly upon the tips of their claws. When caught, some species roll themselves into a ball; but none seemingly show fight. Their eyesight and sense of smell are presumably good.

#### A Cerebellar Régime (?) in Childhood and Adolescence.

The evidence attainable from the biology of birds and dasypods suggests that the cerebellum (specially the *vermis*) is capable of supervising the voluntary activities of a neuro-muscular system up to a "point." The question we shall now consider is the effect of this doctrine on the brain-development and education of a child. We have already learnt that each of us during ontological development passes through a phase of automatic (involuntary) life ere we become intuitively volitional; and that these two stages of "life's highway" are fairly well defined in duration by—for the most part—an improved functional efficiency in certain sense organs being observable, on the one hand, and by a more rapid reflex arc response on the other. These heritable conditions ostensibly dominate childhood until the third year. Subsequently other expressive reactions to environmental change are noticeable in the child's mentality, reactions which cannot be ascribed to any purely intuitive phase, yet fit in well with the functions of a well-endowed cerebellum, such as we suppose a budding "homo sapiens" to be likely to possess. Among these emotional reactions the "call notes" take a prominent place; for in them we may perceive the inchoation of articulate speech, the ruling emotion of democratic governance. The only call note the broody hen makes is an in-drawn "cluck," produced probably by the tongue pressed against the opening in the split palate. Some Red Indians, Hottentots, and others, mainly dolichocephalic aborigines, still have their in-drawn "clicks" in their spoken languages. European children when they begin to talk often utter words with an intake of the breath. Perhaps they revive an inherited memory of some early ancestor, who used this form of utterance. Many cases of asphyxiation among tribal chieftains as a direct result of rhetorical vehemence at meal time doubtless contributed to check this custom. Again, the musical "call notes" of birds remind us of the significance of the words of the ancient preacher: "Curse not the rich in thy bedchamber, for a bird of the air shall carry the voice, and that which hath wings shall tell of the matter" (Eccles. x, 20). Specially is it the case if "that which hath wings" is a member of the R.A.F. upon scouting duty. Music is associated, as we know, with the soaring lark "that at heaven's gate sings," yet it has been left to an inquiring correspondent of a daily paper, after recounting the brilliant exploits of the R.F.C. men in the relatively early days of the war, to remark "that many of them are men



of great musical talent." Maybe the thrill of the lofty expanse appeals to the emotions of the musician more strongly than it does to others. And hence that predilection.

In childhood the fear of pain stimulates the dormant cerebellar cortex. A healthy baby cares little for a tumble when he begins to toddle. The growing child learns the need of balancing himself. Falls are hurtful, and many may be avoided with care. Other ancient parts of our brains are the basal ganglia in front of the cerebellum. By the middle peduncles the great receptacles of outside news can send the same at once to the cerebellum, there to be rearranged and sifted by suitable cortical synapses before its return to lower distributing centres for appropriate responsive movements; some peripheral cutaneous impulses pass directly to the cerebellum, a shorter route. Maybe habits of life and conduct mainly depend upon systems of interrelated synapses in the higher centres, which act as centres of resistance to nervous impulse. By distributing selective impulses, and by linking up one impression with another, these systems form habits.<sup>6</sup> The impulsive, not to say "thoughtless," acts of childhood are in that case the direct result of a cerebellar régime uncontrolled by the higher cerebral centres.

#### *Mainly about Noses.*

The neopallium seems to have grown around the olfactory lobes in the early vertebrate types much as the cerebellum grew around the central endings of other sensory nerves, and the correlation of cerebral development with the growth of the adrenalin cortex in human ontology may be accepted as consistent with known facts.<sup>7</sup> Man's progenitors with "herd instincts" and omnivorous appetites were probably among the first mammals to acquire this evolutionary arrangement for the closer co-operation and supervision of sensory impulses forwarded from the lower (sympathetic and other) centres. Palaeontology meanwhile offers us no reliable data in support of the above theory, and we must rely upon the biological facts which natural history supplies in its aid. The reason for this need is not far to seek. The oldest human fossil skull is presumably some thousands of millennia more modern than the Eocene epoch wherein the pallial changes happened. The recent discovery in Queensland of a fossil skull<sup>8</sup> definitely shows that man's brain first acquired its human status while his features still retained much of the grossness of the ape's. Owen divided the ape family into "three very natural groups," according to the shape of their noses. The seasonal variations in the duration of daylight over much of the land owing to the inclination of the earth's axis of rotation to the plane of the ecliptic must have greatly increased the functional value of the eoanthropic nose when artificial luminants were scarce and expensive. Ape-like men trusted to their noses and ears at night, when much of life's work was done. Night prowling begets stealthy movements and craftiness, in which the cat family delights. The need for slimmness in those far-off times was urgent, and that very urgency doubtless stimulated the adrenalin development of man's neopallium.

#### *The Reflective Phase and the Growth of Fancy.*

Andrew Lang once wrote: "Curiosity and credulity are the characteristics of the savage intellect." They are also the peculiar attributes of childhood.

Hitherto we have attempted—with what success it is for the reader to decide—to give a brief survey of man's phylogenetic evolution by following out, so far as facts permit us to do so, the main outlines of biogenic evolution generally and noticing any striking similarity between them all. When an inquirer draws nigh unto the stupendous brains of mankind generically, and of the civilized races in particular, he must tread with caution lest he rouse "the dogs of war" and they "cry havoc" much to his discomfort! It is all very well to repeat the wise saw of the Spartan ephor, Chilon. "Know thyself," indeed; why, no one has ever had that experience. Burns was nearer the truth when he wrote the tag, "To see ourselves as others see us." His great head has solved the problem. None of us really "know ourselves"; if we want a clear knowledge of ourselves we must needs ask our public to help us. Apologizing for this long although important digression, we shall now get on with the work before us.

Any theory respecting the gradual evolution of man's higher mentality will naturally tread upon the toes of a good many experts in these branches of science. I know my own limitations, and wish to offer the following suggestions as a provisional theory, leaving it to others, if they think fit, to elaborate it afterwards.

We have already learnt from the biology of the lower animals (including the birds) that the first depressions to appear upon the pallium are the depressions representing by their position the great fissures of the human brain. We also know that the Sylvian fissure was the earliest to appear; and that at the bottom of that fissure is Broca's convolution, which is specially concerned with speech. The next most important fissure is undoubtedly the Rolandic. Hedging this fissure are two important gyri—the ascending frontal and the ascending parietal. The functions of these gyri have been mapped out by both physiologists and pathologists. They seemingly co-ordinate and supervise the afferent impulses already retained in the great basal ganglia, after these impulses have run the gauntlet maybe of the linked synapses in the cerebellar cortex. By so doing their relations with such impulses are far closer than they otherwise would be. For instance, the fifth nerve, as it rises from the brain, is probably the only nerve of taste (Starling). While the nasopharyngeal mucosa is associated with word utterance, the ascending root of the fifth is placed in the pons between the roots of the auditory and facial nerves, three ganglia largely concerned with the production and apprehension of spoken words. Again, the olfactory lobe by two roots is closely connected with the gyrus fornicatus and the gyrus hippocampi. The point to be emphasized is not entirely anatomical. Speech, which depends upon voice sounds, requires at least two individuals for its comprehension, the speaker and the listener. Phylogeny has presumably found vocal inflexions an easy task, and many vertebrates are able to make known their urgent needs by voice sounds. Few, however, have elaborated a sufficiency of different sounds expressive of different ideas to name such a group of sounds a language.

The orientation of a series of linked metameres before alluded to gave the frontal (polar) end supreme authority over all the hinder ganglia. By implication the fore end was also the latest neuronic complex to be evolved, and man's neopallium was structurally completed from behind forwards like other parts of the system. The frontal lobes then would be the last part of the brain to acquire complete functional efficiency. War-time observations upon lesions of the prefrontal lobes suggest that young soldiers make little (if any) use of these comparatively recent evolutionary zones, and that in some cases men may feel "undue happiness" when some injury has placed the lobes permanently out of action.<sup>9</sup> On the other hand, we have anatomical evidence that the older (from an evolutionary standpoint) lobes—namely, the occipito-temporo-parietal—are well developed in men of great intellect.<sup>10</sup> European infants are born with posterior dolichocephaly, and their occiputs are relatively smaller than the rest of their skulls to suit the needs of bony outlet of the maternal pelvis. A secretion from the adrenalin cortex subsequently builds up the brain of a healthy child in accord with its heritable ontogenetic development. Maybe during this critical period of developmental growth the older cortical neurons of the cerebellum, with their many interrelated synapses, at times become unstable, and revive the fears and fancies of some bygone ancestor.<sup>11</sup> Small-headed peoples with posterior dolichocephaly (such as Papuans, Polynesians, Australians, and many negro tribes) are the most uncultured races of the present day. (a) Their languages, unwritten, consist of primitive vocal sounds; and (b) they have a widespread belief in the presence of little malignant demons.<sup>11</sup> As regards (a), although some cultured races of eolithic man may have decorated their caves with pictorial devices, an art subsequently lost at a later epoch, yet a permanent record of ideas by letter symbols was delayed for many millennia, doubtless owing to anatomical and psychological difficulties in attuning fingers to respond with precision to delicate psychomotor impulses. The oldest book extant comes from Egypt. Its author, Pthotep, broaches the perennial problem, the social position of woman. In his address

<sup>8</sup> So far as Scotsmen are concerned, the Report of the Registrar-General for Scotland, 1895, supports the view of the instability of the higher nerve centres throughout the period of adolescence.



to husbands he wrote: "Fill your wife's stomach and clothe her back, and her love shall reward you, as a well-filled estate rewards the cultivator." Even in those far-off days, six thousand years ago, woman looms large on the family horizon. While the sex of the little demons that harass the lives of the small-headed peoples is doubtful, the deities presiding over the fortunes of the bigger-headed races of the ancient Eastern world were as a rule both bisexual and anthropomorphous. The male element, Khéen-yang, of China and India, originating in a solar myth, ascribed to a god both generative and destructive powers; the recurrent dryness of summer often destroying the springtime fertility of the moist earth.<sup>13</sup> Yet it is around the female element that the main interest centres. Throughout the Eastern world for many centuries the goddess of love and fertility, Kwan Yin, the "Turanian Venus" of China and Japan, and her child, Zen-Zai, embodied the solar nymphaean myth above mentioned. The goddess has been identified at different times and by various nations as the Assyrian Semiramis, Astarte, and Ishtar, goddess of love and chase, the Persian Anaitis, and later in Europe as Aphrodite, Artemis, Juno, and Venus. She was subsequently associated with the cult of the Virgin Mary.

#### *The Birth of Altruism and the Development of Conscience, and Scapegoats.*

Love of offspring and preservation of racial characters are the bases upon which the attractive presentment of a spirit of universal altruism is built. Among the lower animals—and we must search the depths ere we exploit the shallows—parental love lasts so long as the offspring are unable to fend for themselves. When that event takes place the loving guardianship of the parent disappears and is replaced by callous indifference. The change shows the shallowness of altruism among the lower animals. Man is not exempt. The black Negro and the white Arab and Kabyle (specially when the last two are mixed with negro blood) are apparently incapable of realizing even parental love. While our troops were engaged in raiding hostile Arab camps in Mesopotamia, it was a common event for nursing mothers to throw their babies violently away among the sand dunes, and so to free themselves from an incumbrance to rapid flight. Many millennia ago in the Far East the brachycephalic races there dwelling found that this callous conduct did not "pay." Certain slim and sly individuals, calling themselves "prophets," "soothsayers," or what not, professed to exorcise devils, heal the sick, and act as medical missionaries to the community generally. These quacks, with the help of their kings and other great men, instituted an annual spring festival, the Socaea, lasting five days. At this feast, which was characterized in ancient Assyria by extreme lewdness and intemperance, a King-God, the "Zoganes," was elected for the five days. During his short reign he was seemingly allowed the run of the real king's harem, from which he selected a queen. At the end of his term of office he was either hung, crucified, or burnt on a funeral pyre. By so doing he carried away with him the sins of his people, so that they started a fresh year freed from sins and innocent of crime. The mythical founder of the Babylonian empire, Ninus, married Semiramis, the daughter of a fish goddess, and made her his empress. Semiramis, not satisfied with this dignity, persuaded Ninus to be the "Zoganes" at the next Socaea. He was therefore immolated on a funeral pyre so that his beautiful consort might be relieved for awhile from the burden of her many sins. Such was the scapegoat.

#### *The Futurist Superman and his Education.*

Few of us activate a tithe of our cortical brain cells during an average lifetime. Large tracts of association territory, such as the right cerebral hemispheres, are rendered useless by defective education.<sup>14</sup> Maybe the cortical areas in the "comparatively recent" evolutionary zones in the prefrontal lobes are still functionally inefficient, and are therefore rarely, if ever, called into activity. Wartime surgery shows that we only use a third of the fibres in a peripheral nerve trunk to carry on our life's work; in other words, we fail to use to its full extent the mechanism at our disposal to obtain a fuller and more complete knowledge of our surroundings than is otherwise possible. If the mentality of the coming race is to be

developed, and their outlook upon the world broadened, teachers must seek to stimulate some of these dormant brain cells into healthy activity, and meanwhile they might teach the young the cult of ambidexterity!

#### REFERENCES

- <sup>1</sup> The Hunterian Oration, by Sir J. Bland-Sutton, *BRITISH MEDICAL JOURNAL*, vol. i, p. 275. The anatomy was worked out by Gaskell.
- <sup>2</sup> *BRITISH MEDICAL JOURNAL*, 1916, vol. ii, p. 219.
- <sup>3</sup> *Evolution of Sex*, by Geddes and Thompson, 1889, *see Nature*, February 14th, 1918.
- <sup>4</sup> See an address by Professor G. Elliot Smith, Manchester Literary and Philosophical Society, 1916; also a lecture by Professor Sherrington, Royal Institution, January 23rd, 1917.
- <sup>5</sup> Description of *Xenurus macrinus*, broad-headed armadillo, Gairdner, *Proceedings of the Zoological Society*, 1875, p. 292.
- <sup>6</sup> See a paper by S. Ross Russell, *Psychological Review*, vol. xxiii, No. 3.
- <sup>7</sup> The researches of T. B. Elliott, mentioned by Sir John Bland-Sutton in the Bradshaw Lecture, *BRITISH MEDICAL JOURNAL*, 1917, ii, p. 699.
- <sup>8</sup> Dr. S. A. Smith: The Fossil Skull found at Felsai, Queensland; *Royal Society*, February 22nd, 1917.
- <sup>9</sup> L. Roncoroni, in a report to the Medical Society of Parma (*Il Morgagni*, July 9th, 1916). See *BRITISH MEDICAL JOURNAL*, vol. ii, Epitome, p. 9; also *The Clinic of John B. Murphy*, vol. viii, p. 811.
- <sup>10</sup> Euphoria (undue happiness) oftentimes comes with lesions of the frontal lobes.
- <sup>11</sup> *Luciani's Human Physiology*, translated by Miss Welby, 1915, vol. iii.
- <sup>12</sup> *The Scapgoat*, by Professor Frazer, D.C.L., 1913 (the Golden Bough Series), pp. 74, 80, 83, et aliter.
- <sup>13</sup> See Virgil's *Georgics*, ii, 324.
- <sup>14</sup> I referred to this subject many years ago, "On Lopsided Generation, or Right-handedness," *Proc. Camb. Philos. Soc.*, November 30th, 1874; also *Journ. Anat. and Physiol.*, vol. ix, p. 265.

## RESTORATION OF FUNCTION AFTER PENE- TRATING GUNSHOT WOUNDS OF THE KNEE-JOINT.

(Preliminary Communication.)

BY

MAJOR JOHN EVERIDGE, F.R.C.S.ENG., R.A.M.C.T.,

With Note by

COLONEL A. FULLERTON, C.M.G., A.M.S.,

CONSULTING SURGEON.

THOSE of us who are on service abroad have little opportunity of studying the advance in military orthopaedics which is becoming such an important element of our organization. In the vast majority of hospitals in France beds cannot be spared for retention of cases which have arrived at the stage where restorative measures are to be adopted. This, from a surgical point of view, is most unsatisfactory, but we must bow to the inevitable.

There are certain cases where, at any rate, the commencement of restitution of function is advisable before evacuation to England, for reasons which I shall give. These are penetrating wounds of joints, particularly knee-joints.

It is common knowledge how successful are the immediate results of the present-day operative methods carried out at clearing stations and base hospitals. We have been astounded by the way in which the knee recovers from the insults it has been subjected to, and we have learned to look upon the synovial membrane of a joint as being almost as good a friend as the peritoneum. To my mind, however, there is still something wanting.

It was my habit up till the end of last year to send cases which had healed by first intention after removal of foreign bodies, etc., from the knee-joint, to England about the tenth day after operation, when all doubt as to the presence of sepsis had dispersed. My custom was to ascertain on the day of departure if there was any movement of the knee-joint present, and to send Medical Research correspondence cards with the patients, for information of progress, especially of ultimate mobility. The information was, as a rule, forthcoming, but generally brought disappointment, for, according to these reports, restoration of function was not commensurate with the immediate success of the operation.

Several factors may account for this.

1. The patient may not arrive, or arrive too late, at a home hospital where orthopaedic measures are understood and practised. It would appear that each day's delay before the carrying out of efficient movements, etc., will add very considerably to the time of ultimate recovery.

2. The psychological factor must not be ignored. It is no evidence of poor morale, but a natural consequence that a man who has become accustomed to the comforts of a home hospital, perhaps near his native city, will not be over enthusiastic to get back to the trenches, probably to a new unit. His will to recover or not to recover, where



complete recovery means return to duty overseas, will have a large bearing on the completeness or otherwise of restoration of function. Want of co-operation is a severe hindrance in orthopaedic proceedings.

3. The personal interest of the surgeon who performs the operation is lacking when the patient is transferred. The overworked members of the profession in England can hardly be expected to put such vigour into the after-treatment of cases which are to them second, third, or fourth hand. Moreover, fear of a flare-up—more likely, I believe, to occur in late cases where fibrous adhesions in the joint have to be broken down—may deter some of those at home from actively interfering.

Restoration of function after "civil" operations on knee-joints (removal of cartilages, wiring of the patella, etc.) are nearly always accompanied by a full range of mobility. The three factors above mentioned may account for the lack of a corresponding result in those cases of gunshot wounds where no septic complications developed, or where there was no gross lesion of the articular surfaces. It might be suggested that organizing blood effusion is more likely after gunshot wounds, but since it is the universal practice to wash out the knee-joint when performing the operation, this objection does not hold.

To help to obviate the three above deterrent factors, I have come to the conclusion that early movements should be commenced before evacuation to England, beginning, as a rule, about the seventh day after operation. The movements are continued by easy steps until there is a range through at least 90 degrees. This range I make the necessary qualification for evacuation to England, and my patients have this explained to them very clearly, emphasis being laid on the fact that the sooner their knees can be bent to a right angle the sooner they will be sent home. As a rule, this range is obtained in seven to ten days—occasionally, but not often, longer.

I have devised an arrangement by which movements of the knee-joints may be carried out with the minimum amount of pain to the patient and trouble to the operator. The results achieved with it are most encouraging, and have justified the time spent in construction, and the carrying out of manipulation. The essential parts of the apparatus are as follows (Fig. 1):

1. *A Hinged Thomas Knee Splint.*—These hinges are inserted into an ordinary Thomas splint provided with extra stout side bars. A locking device on the hinges is necessary; it is controlled either by a bolt and thumb-screw, or by locking pins inserted through holes on large flat discs welded on to the side bars. This splint is slung, but not from its extreme upper and lower ends, as is the usual practice. The cords sustaining the weight of the upper part are fixed immediately above the hinges, while the lower part is supported by cords attached to the bars about 15 in. below the hinges. Tent "runners" are used on the suspending cords for adjustments.

2. *Two Overhead Rigid Bars* (comparable to a double Balkan bar, differing, however, in that the bars should be 5 ft. above the level of the bed; they should extend beyond the head and foot of it, and have a considerable inclination towards the foot end). These bars are 12 in. apart, and lie over the affected limb; they carry a system of pulleys, over which run cords suspending at one end part of the splint, at the other counterbalancing sand reservoirs.

3. *Sand Reservoirs.*—There are four of these (Fig. 1). They were made from conical topped oil drums, the three upper ones are fixed inverted to allow easy escape of sand. The reservoir A counterpoises the lower part of the splint, and B the upper. These reservoirs will have an up and down excursion according to the variation in position of the parts of the splint they counterbalance. C is a sand cistern, and is fixed, while D receives waste sand from B. Into the necks of the drums are fitted corks, perforated by three eighths inch glass tubing, connected on to which is a short length of rubber tubing. Sand will flow through these tubes, and can be controlled by paper clips, which by gripping a part of the circumference of the rubber tube will diminish the rate of flow, or will stop it altogether by complete compression.

#### Method of Procedure.

About the tenth day, or earlier in favourable cases, the leg to be fixed is put into the hinged splint, the joints of which have been locked, making the whole rigid. The leg extensions are tied to the crossbar of the splint in the ordinary way, and the foot suspended by gauze glued to the sole, from a metal frame. Enough sand is put into the reservoirs A and B to float the splint comfortably, and when the hinge locks are released to suspend the two limbs of the splint in their relative positions. The tap of the reservoir A is now released, and the sand runs into B, the result being that slowly the splint develops an angle and the knee bends.

During the first two or three days the sand is allowed to run very slowly and no great range of movement should be attempted, about 45 degrees being enough. After this the patient will have gained confidence, will realize the object aimed at, and will co-operate. The time taken is about half an hour; after this a return to the original position is obtained by allowing sand from B to run into the waste receiver D; thus the upper part of the splint descends; the lower part is raised by running sand from the cistern C into A. When a comfortable position and height of the limb is gained, the hinges are locked.

It is advisable, in refractory cases, where progress is slow, to lock the hinge at the limit position of flexion obtained at the end of the sitting. It may be so left for a few hours, and in this way it may be fixed at a slightly smaller angle each day.

As a rule, at the end of a week the patient is able, and often anxious, to begin active movements. These are to be encouraged, and if he can be sent home with a range of active movement through a right angle, and without a splint, he is unlikely ever to stiffen up again. At this stage walking appears to be unattended with harmful results. It is of great advantage to carry out a course of massage, faradism, and movements (active, passive, and resisted) when flexion through 90 degrees has been obtained, thereby hastening the time of full recovery.

When the man is evacuated to England it is clearly stated on his field card what range of movement was obtained when he left France, and an appeal is made for progressive treatment. This is, no doubt, superfluous in many cases, but not in all, for quite recently I have received reports in the following tone: "No sepsis, transferred to back splint, moved occasionally," and "Put on back splint, knee ankylosed." Some patients have written to me that they have had no

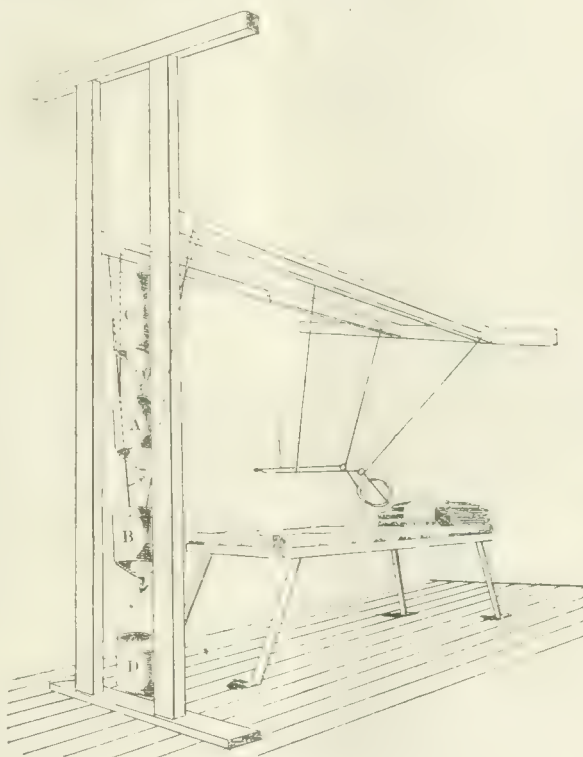


FIG. 1.—Diagram to show general arrangement of system. The two limbs of the splint are counterbalanced against the sand reservoirs A and B. These travel up or down according to the amount of sand contained. C is a sand cistern and D a waste; these are fixed.



movements carried out, and that their knees have become stiff.

Such were some of the ultimate results of cases which had healed by first intention, showed no signs of subsequent sepsis, and should have obtained good movable joints, before I instituted my present method of procedure. Of seven cases which healed by primary union after arthrotomy in October, 1917, the best results I have knowledge of are (1) 25 degrees of movement, (2) 10 to 15 degrees, (3) four-fifths of full mobility. The last is the only one of these seven who, apparently, has been returned to his *dépôt* for duty.

#### *Advantages Claimed for this Procedure.*

1. The movements, being so insidious, are nearly painless.
2. Painless movements do not set up reflex spasm.
3. Movements can be commenced early and prevent fixation due to intra-articular or extra-articular fibrosis.
4. Elimination of the danger of acute flare-up, as may happen when forcible movements are carried out under anaesthesia.
5. Where massouses are not available, a nurse or intelligent orderly may carry out the treatment. A number of cases may be treated at the same time.
6. The patients are informed that the qualification for England is that their knees shall bend to a right angle. This encourages their best endeavours—a factor of incalculable value in all orthopaedic measures.
7. The apparatus is cheap and can be set up by any one mechanically inclined. The necessary material may be collected in almost any camp hospital on the lines of communication or at the base.

I have been tempted to adopt the principles outlined above to prevent stiffness of knees occurring during the treatment of fractured femurs. With the present-day methods we can, as a rule, obtain good alignment and little or no shortening. Fractures of the lower and middle third, however, are nearly always followed by limitation of knee movement, especially where the usual method of leg extension is adopted. The stiffness has in most cases an extra-articular source; it results from cicatrization of the traumatic and operation wounds, and is accentuated in cases where there is prolonged suppuration. Can we not prevent this stiffness of the knee from becoming established?

When acute sepsis has subsided, good alignment procured, and the fractured ends are becoming "sticky," I have tried this method of knee flexion with encouraging results. Firm support at the seat of fracture in addition to extension is imperative.

*Example.*—Pte. C., comminuted fracture of lower third of left femur, December 5th, 1917. Two days later I removed a large piece of high explosive, one loose fragment of bone, and applied bipp to the exposed muscles. On January 22nd, 1918, the bones were "sticky" and movements commenced. He was sent to England early in March with a range of movement from complete extension to considerably less than a right angle.

I am not equipped with a sufficient number of results to be able to state dogmatically that this method is advisable. However, the few cases I have treated encourage me to further trials.

It appears that early institution of movement after penetrating gunshot wounds of the knee may determine whether or not the wounded man will become fit again for military service. It seems justifiable to postpone evacuation to England for a week or two in order to adopt measures which yield prospects of at length getting men back to duty, or at any rate making them more fit for subsequent civil employment.

Since writing the above I have learnt that Willems has for some time advocated mobilization of knee-joints immediately after operation. He commences active movements from the very first, and claims an early return of full-range mobility in most cases, even where there is considerable bone injury. Not uncommonly there is an effusion of blood into the joint which checks progress; however, when this is drawn off, movements make good headway, and walking is usually possible in the second or third week. He is not deterred from carrying out active movements even in the presence of suppuration, holding that the movements express pus from the recesses of the joint through the incisions made for drainage.

Such treatment is somewhat revolutionary, but, after all, many of our pre-war ideas have had to undergo an upheaval equally dramatic.

#### *Note by COLONEL FULLERTON, C.M.G., A.M.S.*

The difficulties encountered in obtaining a freely movable joint in wounds of the knee and in fractures of the lower third of the thigh are notorious. Most massage operators are inclined to be too brusque in their endeavours to obtain joint movement.

Major Everidge has devised a plan by means of which a graduated range of movement may be calculated with almost mathematical precision. The insidious coaxing into function accomplished by his method prevents the painful spasm and the lighting up of infection which is so liable to accompany unmeasured attempts by even the gentlest manual manipulation. I have watched most of his cases with interest during the earliest periods of their convalescence, and I have been struck by the absence of febrile reaction and pain.

The method is scientific, and has proved successful in the cases I have been able to follow with him.

It is to be hoped that surgeons at home who see cases of injured knee-joint and fractured lower third of the femur will be encouraged by Major Everidge's success to persevere with this or similar methods, to avoid what has hitherto been somewhat of a reproach in war surgery.

### SUGGESTIONS FOR THE TREATMENT OF SEPTIC WOUNDS.

BY

FREDERICK W. ROBINSON, M.B., F.R.C.S.,

LATE CAPTAIN R.A.M.C.,

CONSULTING SURGEON HUDDERSFIELD ROYAL INFIRMARY.

The following paper deals with the impressions derived from an analysis of a thousand cases which passed through the writer's hands at an auxiliary hospital. These cases were taken in rotation and not by selection. They were all in a more or less convalescent stage, having been treated at various hospitals, so that in the majority of cases many months had elapsed from the commencement of their illness to the time of their admission to the auxiliary hospital.

There was of necessity some finality in their symptoms as shown in a depreciation of their potential capacity as soldiers. The symptoms, too, were more or less dissipated and attenuated, and in this sense possessed a value of their own as enabling them to be more easily classified and their importance appreciated. The constant association of neurasthenia with other diseases, such as frost-bite, rheumatism, wounds, gas poisoning, tended to show how the ordinary symptoms of these diseases could be materially modified, and that chiefly in the direction of persistence and exaggeration.

The majority of cases of neurasthenia were sent as cases of "shell shock," but however much the symptoms may have approximated to those of shock in the initial stages, at the time they were admitted into our hospital they were undoubtedly neurasthenic, representing a condition of cerebral and spinal exhaustion. For instance, one case had a history of unconsciousness for some days following a bursting shell; another had a history of prolonged mental and physical strain in the trenches, yet in both these cases the symptoms were identical. In every case noted as neurasthenia there was some gross manifestation of the disease, though the cases of a milder degree not noted must have been manifold. Some symptoms which are generally regarded as casual or ordinary in the neurasthenia, traumatic or otherwise, met with in civil practice become dominant features in these shell-shock cases. Such, for instance, are tachycardia, stammering, tremors, which are far more in evidence in these cases.

In the 1,000 cases analysed, 75 were neurasthenic, while 505 were the subjects of wounds; of the latter, 249 suffered from disability owing to pain, limited movements, and deformity. Of these latter, all complicated with fracture were excluded. The disability was entirely due to scar defects. These scars were distinguished by their multiplicity in individual cases and by the large number that were adherent, irregular, and infiltrated. There was a marked contrast between the scars in these cases and the scars met with in the South African war, the proportion of cases producing disability being much larger. This



was not due to any fault in the treatment at the front, where, as every one knows, the arrangements are perfect, and the best surgical skill is everywhere available. It was due to the very early infection of these wounds, and the impossibility of applying appropriate treatment at the early stage.

The kinds of disability are classified according to their cause, pain, limited movements, and deformity. Pain may be divided in five categories:

1. Paroxysmal pains of neuralgia. These are distinct paroxysms, with intervals of freedom from pain. These pains are independent of movement.

2. Neuritis pains. These are more continuous, and there is tenderness along the course of the nerves. They generally occur in wounds infected at the outset or represent a transition stage from a traumatic neuralgia. Most of the head injuries, I consider, belong to this category.

3. Pain at the site of wound and caused by movement. These cases are generally associated with limitation of movement. The largest number of cases belong to this category.

4. Deformities occurring as the result of adherent and contracting scars. For instance, talipes equinus following on a contracting scar of the calf; the fixed flexure of joints from scars in their vicinity. The pain in these cases comes on after exercise.

5. Referred pains. These are referred to some remote part of the body, and have "apparently" no connexion with existing scars. In these cases there is, as a rule, a multiplicity of scars or a large area of scar tissue. There is invariably neurasthenia.

*Example.*—Sergt. V., West Riding Regiment. He presented five scars: Left arm and forearm, right arm and forearm, and over right eyebrow. He suffered from no inconvenience from these scars, but complained of great pain at a point a little below and to the inner side of the angle of left scapula. He was markedly neurasthenic, suffering from insomnia, tremor, and vertigo, etc.

The etiology of these cases would seem to be that when there is peripheral irritation from many sources in a neurasthenic patient a hypersensitive state of nerve centres is produced by which impressions are intensified and widely referred.

The following case is interesting, though difficult to classify. The history is incomplete, as I was only able to get a glimpse of it at a travelling board. It was a case of gunshot wound on the back of the left wrist. There was a large, irregular, non-adherent scar. There was no evidence of injury to the joint, bones, or extensor tendons. The muscles of the hand and forearm were wasted. The history that he gave was that the illness was a long one and that the loss of power was gradual and progressive. The hand was in a condition of complete drop-wrist. It occurred to me that this might be a case of neuritis migrans.

From a perusal of the above one cannot help in tying the large number of intractable neuralgias present. Three factors would seem to enter into the causation of this condition:

(a) The large number of wounds infected at the outset originating a septic neuritis.

(b) The presence of the neurasthenic state in which an unduly sensitized mental register modified the results so that ordinary impressions were intensified.

(c) The large number of adherent scars. This probably was the most potent factor.

As a result of much work and research at the front it has been conclusively proved that, owing to the condition of the soil, wounds are infected from the very first. It was also shown that modern germicides, on account of their low penetrating powers, are unable to reach the infected areas which lie in the lacunar spaces beneath and outside the wound itself.

As a result of these researches the physiological treatment of wounds by irrigation has largely superseded the older methods. This treatment, however, cannot be applied in the very earliest stages, when it is so necessary. The consequence is that gangrenous and septic processes have already begun in the wound before irrigation can be applied. This accounts for the large number of unhealthy and adherent cicatrices with their resulting disability. Whatever treatment, therefore, is adopted, it must be prompt, and it should aim at reaching in the very earliest stages these outlying infected areas, to reach which has taxed the efforts of our most skilful surgeons. It would seem that to throw around these infected areas a circle of bactericidal serum would most nearly approach the conditions required, and would best anticipate the treatment of irrigation which is to follow.

In a few emergency cases in South Africa, where prompt attention and immediate removal were required, I adopted the following somewhat crude but otherwise effective method:

I grasped the wound with the left hand well beneath its base,

at the same time drawing it well forwards and making the thumb and fingers compress the tissues tightly. I then transfixed with a needle, entering the point immediately beneath the tips of thumb and fingers. In a similar manner I transfixed the tissues about an inch beyond each end of the wound, taking care to include the same depth of tissue. I then passed a rubber ligature round the wound beneath the needles. This was tightened to the desired extent and fixed by a clip. The points of the needles were protected by pieces of cork wrapped in sterilized gauze. It will be understood that the only idea in these cases was quick transport.

The knowledge of these cases suggested to me the instrument figured in the illustration. It was made by a local watchmaker of the only materials at hand and is necessarily somewhat crude, though the plan is quite correct and the larger scale serves to emphasize its main points. It can, however, be made on the smallest scale and adapted to the finest surgical needles.

It consists of two slender looped splints, a system of wormed needles with detachable points and nuts which travel on the needles. In this way the splints are made to approximate to each other and so compress the intervening tissues.

The manner of using it is sufficiently indicated by the illustration. It is practically the same as the description given above of my own method of treating cases in South Africa, with the exception that the splints are looped on to the needles and made to approach each other by the nuts. By transfixing the tissues in the manner suggested by me an immobility is obtained in the simplest, easiest, and quickest manner possible. The immobility is far more perfect than can be obtained by splints. There is no traction on any part of the area included within the needles. The edges of the wound are quite flaccid and tend to fall together.

In the compressed area the circulation is controlled and easily regulated. It is more equable, and protected from reflex vasomotor impressions. The physiological engorgement ensures a flooding of the basal areas with bactericidal serum and the infected interstices and lacunae are in this way reached. One effect of compressing either by splints or ligature a circumscribed area of tissue well outside the margins and base of a wound is to elevate, unfold, and flatten out both the basal and other parts of the wound itself. This is shown in Figs. 2 and 3.

The base of a wound is thus rendered more superficial and more adaptable for any surgical toilet that may be necessary. The lymphatic spaces are opened out and easily reached. The same

may be said of any wound diverticula which under ordinary circumstances would be difficult to reach. The wound in its new position is in a condition to be more effectively dealt with. Haemorrhage would be easily controlled, blood clots or sloughs removed, sinuses opened up, and infected areas disinfected. The elevation of the wound will depend upon the amount of outlying tissue engaged in the compressing agent. Wherever possible—and this will apply to the majority of cases—splint compression should be used, leaving the ligature to control the ends of the wound.

Where there are wound diverticula at the base some modification is required, and the ligature in these cases plays the most important rôle. This is shown in Fig. 4. Small portions of tissue are pinched up and transfixed, and retained by small splints. An encircling ligature is thrown round the wound, passing beneath the needles, and drawn tightly.

The direction and depth of any diverticula should be ascertained before transfixing, and a portion of tissue should be selected on the skin which corresponds to their terminations; a spot should be fixed upon well beyond these but in the same line. All diverticula should be treated in this manner.

In order to simplify the above description, the areas of skin transfixed will be spoken of as "standards." In mapping out an area of skin for the encircling ligature the following arrangement of "standards" should be observed. In case of irregularities at the base the "standards" are placed in relation to

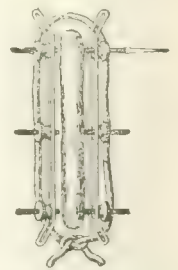
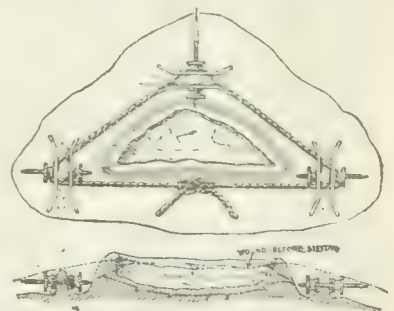


FIG. 1.



FIGS. 2 and 3.

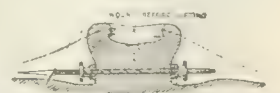


FIG. 4.



wound directed in the manner above described. The disposition of other standards is immaterial, always providing that a wide circle is obtained, and that the distance between the wound margin and ligature is always greater than the deepest part of the wound.

To summarize what has been said, the elevation of a wound in this manner furnishes the following advantages:

It allows of a complete toilet. The bactericidal serum enhances the defensive properties of a wound, which, as is well known, are at a high state of development at the time of infection. During the progress of healing the perfect immobility of the compressed area, since all circumferential forces are inhibited at the line of constriction, gives the best condition possible for the building up of healthy scar tissue. The part inside the constricted area is free from any kind of traction, and the edges of the wound are quite flaccid and tend to fall together.

Of equal importance in the healing process is an avoidance of anything that would tend to depreciate the vitality of the growing cells. The practice of packing a wound with an unabsorbable dressing, such as sterilized gauze, is a familiar example of the continued disturbance of growing granulations wherever such a dressing is removed; not only is the proceeding exceedingly painful, but a layer of germinal tissue is taken away in the dressing to which it has adhered. This of course means delay, and what causes delay will eventually show in the final cicatrix. It is urged, too, that germicides in destroying bacteria must in some measure impair the vitality of the surrounding cells; it is considered improbable that the bacterial protoplasm should be killed outright, and that the protoplasm of the neighbouring cells should escape untouched.

Many years ago I invented a dressing from cancellous tissue of bone. This is deprived of fats, decalcified and bleached, and forms a soft white sponge-like tissue which adapts itself readily to the soft parts. It is both absorbent and absorbable. Though its utility has been circumscribed and limited, it is still a most serviceable dressing for chronic wounds, as I have had the opportunity of witnessing in this war. It fails in freely secreting wounds, as it does not provide sufficiently for drainage. I still think that if modified the matrix of bone tissue will ultimately form a basis for dressings. The need for a dressing which can be removed without disturbance of the granulations and without causing pain has been greatly felt in this war. Xylonite and celluloid dressings have been invented to meet this requirement. I have made the suggestion that cancellous tissue might still be utilized by a modification of the method adopted in making the dressing in its present form. Briefly, it would consist of only partially decalcifying the bone in the first instance until it was of such soft consistence as would enable it to be planed into exceedingly fine films. The face of these films could then be perforated. The films could then be completely decalcified and subsequently hardened in formalin to make them more adaptable and to secure the perforations from collapsing.

Any dressing which is to be applied to a granulating surface should possess three qualities: It should be absorbent, absorbable, and perforated. Absorbent, so that the plastic lymph could be held in its meshes for the nourishment of the ingrowing plasma cells. Absorbable, so that the dressing could yield, and be gradually replaced by the new tissue. Perforated, so that drainage could be obtained in the early stages, and the graft would thus be enabled to adhere to the granulations; otherwise the dressing is liquefied and prematurely absorbed. Healing by granulations should be "continuously progressive," and there should be no pauses in the process and no "retrograde movements," such as must always occur when a wound is treated with unabsorbable dressings.

For the development of perfect scar tissue one factor is essential—absolute rest in the healing zone. A healthy scar should be smooth, elastic, free from adhesions, and non-contractile. Contractility in a scar presupposes undue traction in the wound, against which it is an opposing force. It is the presence of this quality in a scar that is responsible for so many disabling conditions that remain after healing, such as deformities, intractable neuralgias, paralysis of nerves—such as ulnar paralysis where the symptoms are late in developing—chronic oedema, etc.

WEISSENBAUGH and BOUTTIER have reported to the Société de Biologie de Paris that the inflammation following penetrating wounds of the brain is usually due to the *Streptococcus pyogenes*, and that this is specially true of diffuse cerebro-meningeal inflammation arising at an early stage—that is to say, during the first two weeks after receipt of the wound.

## A BED AND SOME APPLIANCES FOR GUNSHOT WOUNDS OF THE FEMUR AND BACK.

BY

MAURICE G. PEARSON, M.B., B.Sc.LOND., F.R.C.S.,

MAJOR SOUTH AFRICAN MEDICAL CORPS,  
OFFICER IN CHARGE OF FEMUR WARDS, — BASE HOSPITAL, FRANCE.

THE accompanying illustrations show a special bed and some other apparatus found useful in the femur wards of a base hospital in France. Most of it has been in use for over a year, and all of it long enough to have proved its value.

The bed is intended primarily for gunshot wounds of the femur, but is also useful for any wound of the shoulder, back, or pelvis where turning the patient is difficult. It is an extension of the "sectional mattress" idea, with this addition—that not only the mattress, but the whole of that part of the bed that underlies the wound, can be removed altogether, giving unimpeded access either for dressing the wound, for radiography, or for ordinary nursing purposes, so that it is unnecessary to move the patient at all.

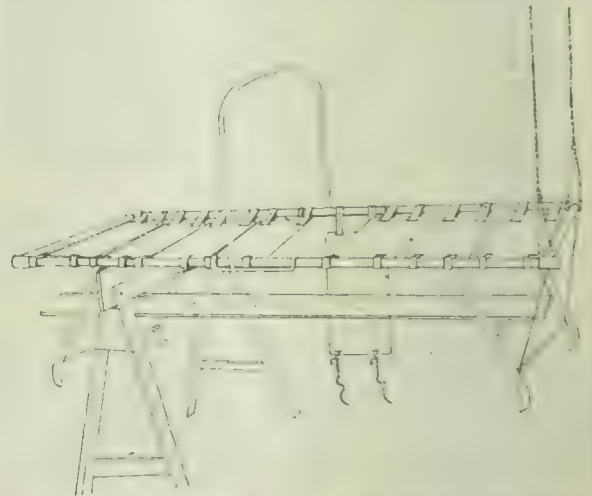


FIG. 1.—Femur bed stripped; one movable section with "quick-release" attachment let down as for dressings or radiography; the plank underneath is to support a dressing bowl.

It consists of an ordinary tubular frame army bedstead with the spring mattress removed and replaced by tight canvas slings, 11 in. wide, fastened by straps and buckles to one side-bar of the bedstead, and by metal hooks or a "quick-release" contrivance to the other.

Upon the tight slings lie the mattresses in three or more sections. For a femur case, one square "biscuit mattress" is under the patient's head and body, another under the lower part of the legs, and a small piece of mattress similar in shape and size to the canvas slings lies immediately under the wound and is the one that is removed, with its corresponding canvas, for dressing purposes.

As a matter of convenience the bed stands 36 in. high, the head of it supported on a wooden trestle, the foot either on a trestle or hung from the roof by chains, the length of which can be easily regulated to tilt the bed, if wished. In flimsily-floored huts the vibration is also much reduced by this means. A movable arch of round iron resting on the side-bars of the bed affords means for suspending the Thomas splint, or the pelvis of the patient if it is necessary to expose a large part of the back or buttock at one time. I would like to lay great stress on the value of the suspension of the ring of the Thomas splint: it prevents slipping of the ring, thus adding to the efficiency of the splint and the comfort of the patient.

Fig. 2 shows the other femur apparatus which is in ordinary use here. The patient arrives at the base hospital with his leg generally very well put up in a Thomas splint with strapping or glue extension applied below the knee. Our object is to retain the complete immobilization and extension of the thigh while securing the greatest possible freedom of the knee and ankle. Both of these objects can be attained without disturbing the adjustment made at the casualty clearing station, and without removing the Thomas splint there applied.



After the patient has had a good rest and been radiographed, Besley's or other callipers with weight and pulley extension in the line of the thigh are, as a routine procedure, applied to the femur just above the knee, and the points are inserted down to the bone, but not penetrating into it; any tendency to subsequent penetration is limited by placing a light check-bar between the handle-ends of the callipers; a subsidiary hinged splint, exactly similar to the



FIG. 2.—Femur bed with patient on it; Thomas's splint with large ring as sent down from the casualty clearing station, with knee-flexion piece added. Lower end of bed suspended by chains.

one used by Major Sinclair for elbow flexion, is attached to the Thomas by a thumb-screw at the level of the knee-joint, and the weight of the leg below the knee is transferred to this. The strapping or glue extension is then removed altogether. The femur thus has very direct and efficient extension through the callipers in its own long axis, while the leg below the knee has, and needs, no extension at all, and can be flexed as much as desired, the amount being regulated by a light chain and hooks between the foot of the Thomas and the subsidiary splint. The patient's foot is suspended from a foot-piece, as shown. The leg is bare below the knee and is massaged and moved daily.

In upper-fourth fractures, where wide abduction of the limb is necessary, two of the vertical suspension posts shown in the figure are attached to the foot of the bed and a third one bolted across the top of the other two, projecting as far as is necessary beyond the side of the bed.

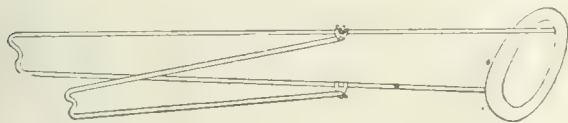


FIG. 3.—Thomas's splint with knee-flexion piece added.

The patient with the whole apparatus—bed, splint, extension post, weights, etc.—being compact and self-contained, can be carried as a whole without any difficulty in case of a fire alarm, or out into the garden if wished.

Measurements of both thighs are taken once a week by means of a sliding scale, such as shoemakers use, and any shortening is charted as regularly as the temperature. Very few have a centimetre of shortening. All have moveable knee-joints. Secondary haemorrhages are extremely rare.

With these beds one nurse can dress a case easily without assistance; the actual dressings of a ward of femur cases are much lighter than those of an average general surgical ward, though, of course, there still remains more fetching and carrying and washing.

I submit these particulars for publication in the hope that some of them may be useful or suggestive to others working in special femur hospitals. They have very greatly lightened the work and increased the efficiency of our wards.

I am greatly indebted to Captain Renwick, of the Army Ordnance Department, for valuable advice and assistance in making these appliances, all of which are now available through ordinary army sources or from the British Red Cross Society.

## A CASE OF SEPTICAEMIC MENINGITIS, WITH RECOVERY.

By JOHN DUNBAR, M.B. GLASG.,  
LIEUTENANT R.A.M.C.

SINCE it is well known that cases of septicaemic meningitis are almost invariably fatal, and that cases of recovery are extremely doubtful, it is well to place on record a case in which recovery is not doubtful, and which shows an absence of certain signs and symptoms generally found in this condition.

S. S. was admitted to hospital on July 14th, 1917, suffering from a shrapnel wound of the right scapular region received seven days previously. The wound was superficial, very septic, and the spine of the scapula was exposed for three inches of its length. Except for a slight cough he was very comfortable.

Two days later, and for the following three days, he had a feeling of malaise. Rise of temperature was slight, and not of a septic character.

On the evening of July 19th he had an attack of syncope, following which he complained of severe pain in the eyes. Next morning he had a slight rigor—temperature  $102.2^{\circ}\text{F}$ ., pulse 104, respirations 36—followed by pains in the calves and stiffness of the lower jaw. The jaw could be opened fairly widely; the tongue was coated with a brownish fur. As some of the signs and symptoms resembled those of tetanus, it was considered safer to treat the complication as that disease. The wound was in good condition.

He was very restless on the following day, and bilious vomiting preceded by nausea occurred. The pains in the legs were now severe, and the stiffness of the jaw was increased. In addition there was slight stiffness and tenderness of the neck, and slight headache. The temperature was  $101.6^{\circ}\text{F}$ ., pulse 104. He continued in this condition until July 22nd, when lumbar puncture was performed, 20 c.cm. cerebro-spinal fluid withdrawn, and as it was still doubtful whether tetanus was the cause of the condition, 17 c.cm. antitetanic serum were injected. Although the cerebro-spinal fluid was clear, it was under slightly increased pressure.

The following organisms were found: Cocci, some of which were Gram-positive, others Gram-negative, but shaped like pneumococci. Small Gram-negative bacilli were also present. Culture gave a very abundant growth of the latter. No meningococci were found. Practically no polymorphonuclear leucocytes were present. The fluid contained no evidence of inflammatory reaction. The same organisms had been found in the pus from the wound.

The pain and stiffness in the back of the neck still continued on July 23rd, but the headache was now localized to the occipital region, and was severe. Kernig's sign was well marked, although previously it had been absent. Slight generalized twitchings were observed. He was given morphine  $\frac{1}{2}$  gr. that night, as he was very restless and his headache was very severe. There was no improvement in his condition on July 24th.

On July 25th 20 c.cm. cerebro-spinal fluid were withdrawn. It was still under slightly increased pressure, and on this occasion it was faintly opalescent. The same organisms were found as before, except that the bacilli were now very scanty. There was distinct evidence of meningitis, abundant polymorphonuclear leucocytes being present. Immediately after the lumbar puncture he became much brighter and the pains in head and neck were less severe. Slight congestion of the right side of the throat was present. No meningococci were found on bacteriological examination of the throat swab. He developed phlebitis of the left long saphenous vein.

Apart from a syncopal attack during the night of July 26th nothing of any importance was noted, except that his general condition was improving, until July 29th. On that day the pain and stiffness of the neck were absent, as was also Kernig's sign, and pain in the head was less severe. The phlebitis was still present. He continued in this condition until August 2nd, on which day his temperature was  $101^{\circ}\text{F}$ . Lumbar puncture was performed, 20 c.cm. cerebro-spinal fluid being withdrawn. The cocci and bacilli were still present, but were much scantier than on the previous occasion. Extremely few polymorphonuclear leucocytes were found. The fluid was practically clear.

As the headache was now much less severe, lumbar puncture was not performed until August 13th, when 10 c.cm. were withdrawn. Although practically under normal pressure the fluid contained a few organisms. Polymorphonuclear leucocytes were very scanty.

After August 13th the headaches were not constant. Lumbar puncture was again performed on August 28th. The fluid was under slightly increased pressure—greater than on previous occasions—but on bacteriological examination it was found to be sterile. The swelling and pain of the leg had disappeared, but the glands were still enlarged, although not painful. The patient was allowed up on August 31st. Oedema appeared in the leg on September 4th, and he was confined to bed until the swelling had disappeared.

On September 25th the following was noted as his condition: Weight increasing rapidly. Mentally bright. Slight frontal headaches of a very transient nature present. The eyes were examined by Major Fergus, R.A.M.C.(T.), who could find no



abnormality of the nerve structures. Heart and lungs normal. Apart from slightly increased knee-jerks, the nervous system presents nothing abnormal. Bowels normal. Wounds healing. Slight oedema of the left leg, and the long saphenous vein can be felt in Scarpa's triangle as a cord.

The features of interest in this case are that the patient has recovered; that the condition was discovered at a very early stage; that, in comparison with the number of organisms present in the cerebro-spinal fluid, marked signs and symptoms were absent; that headache was never severe except when localized to the occipital region; that emaciation and constipation were very marked; that the patient only vomited once, and that the emesis was not cerebral in type, but was preceded by a feeling of nausea; that convulsions and epileptiform attacks were absent throughout, except for the slight generalized twitchings on July 23rd; that Brudzinksi's sign was absent throughout; that there was hyperaesthesia of skin and muscles of the neck and calves during the inflammatory period, and that the temperature was never very high, the highest being 102.2° F. The pulse-rate in septicaemic meningitis is stated to be abnormally high compared with the temperature at the commencement of the disease. In this case the relationship between the pulse and the temperature was practically normal during the period of fever—that is, till about August 8th. The temperature then became normal, and the pulse-rate between that date and September 1st varied between 88 and 104 per minute. Since the latter date the rate has gradually diminished, and on September 16th it was normal, and has continued normal.

The cerebro-spinal fluid was under very slightly increased pressure. It contained both cocci and bacilli, and there was practically no evidence of inflammatory reaction except at the second examination. It will be noted that three days previous to the withdrawal of this cerebro-spinal fluid the patient had received an intrathecal injection of antitetanic serum. This of itself produces leucocytosis in the cerebro-spinal fluid, but the number of leucocytes present was much larger than could be attributed to the antitetanic serum.

#### *Differential Diagnosis from Tetanus.*

In the early stages the condition resembled slight generalized tetanus. A slight rigor preceded the complaint of pain and stiffness in any of the muscles. He had received subcutaneously 1,500 units antitetanic serum on July 7th and 500 units on July 15th. With this amount of antitetanic serum and the long incubation period (ten days) one would have expected a more localized tetanus at the commencement. The condition gradually got worse till July 22nd, although treated as a case of tetanus.

#### *Treatment.*

From the commencement the patient received hexamine 40 grains daily and magnesium sulphate 120 grains every morning. He was kept on fluid diet until the temperature became normal, then on light diet until the pulse-rate was normal, and thereafter was given ordinary diet.

Lumbar puncture was performed five times. It would have been performed much oftener if symptoms had demanded it. There is no doubt that it greatly relieved the patient's condition; after each occasion on which cerebro-spinal fluid was withdrawn he was much brighter, his general condition was improved, his headaches became less severe, and the pain and stiffness were less marked. For the following twenty-four hours the improvement was maintained, but the various symptoms, after that period had elapsed, gradually recurred. After each lumbar puncture the condition was more improved than after the preceding one. Except on the first occasion, the punctures were performed under local anaesthesia.

#### *Conclusion.*

The good result in this case was probably more due to the frequent withdrawal of cerebro-spinal fluid than to hexamine. Antitetanic serum injected intrathecally would also have a beneficial effect, since it produces leucocytosis. No case of septicaemic meningitis should be looked upon as necessarily fatal. This case recovered, and that it was a true case of septicaemic meningitis is shown by the fact that the organisms present in the cerebro-spinal fluid were the same as those in the pus from the wound. There is

also proof that the organisms were present in the blood (although no blood culture was set up), since he had phlebitis with no immediate external cause.

I wish to thank Captain A. N. McGregor, R.A.M.C.(T.), for his kind permission to place this case on record, and also Professor R. Muir, Lieut. Colonel R.A.M.C.(T.), for the bacteriological examination of the cerebro-spinal fluid.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### "RABBIT GUT."

I DESIRE to draw attention to an intestinal condition which, though I expect it is familiar to many abdominal surgeons, has not, so far as I know, been described in print.

On inspection through an abdominal wound the small intestine is seen to be in a peculiar contracted state and of a characteristic grey-blue colour, very much resembling the normal appearance of rabbit's intestine.

It is found typically, but not necessarily, in emaciated anaemic patients the subject of chronic indigestion and intestinal pain. Through the thin and often retracted abdominal wall the peristalsis of the contracted coils is often visible.

My observations of these patients leads me to believe that the intestinal wall is definitely hypertrophied and that the pains they suffer are due to the spastic state of the bowel wall.

A very marked case of "rabbit gut" lately under my care determined me to write to you on the subject. It was that of a woman from whom I resected three years ago 5 feet of small intestine for acute volvulus. A year ago she began to suffer from attacks of abdominal pain which became so violent that a partial obstruction, due either to adhesions or contraction at the site of the anastomosis, was strongly suggested. I reopened the abdomen; there were neither adhesions nor constriction, indeed the site of the anastomosis was scarcely visible; but the small intestine was in a most typical state of "rabbit gut."

I hope that by calling attention to the condition other surgeons may be led to look out for it and study it.

London, W.

VICTOR BONNEY.

#### A CASE OF PYORRHOEA ALVEOLARIS TREATED BY EMETINE.

A LADY, aged 26, had a fairly severe attack of measles in December, 1917. On February 11th, 1918, she called on me and complained that all her teeth were loose and that pus was exuding from all the sockets. I told her to swab the gums twice a day with ipecacuanha wine. This was continued till February 16th, when I obtained some emetine. From that date till February 27th I gave her daily a hypodermic injection of gr.  $\frac{1}{2}$  emetine hydrochloride (Allen and Hanburys) and continued the mouth-wash of ipecacuanha wine twice a day. The hypodermics were continued daily till March 6th, but the mouth-wash was changed on February 27th to emetine hydrochloride gr.  $\frac{1}{2}$ , sod. chlorid  $\frac{3}{4}$  j, aq. ad  $\frac{3}{4}$  viij; to be used with one and a half times the quantity of warm water three times a day. The emetine mouth-wash was continued, but as the condition was steadily improving the injections were given less frequently (March 10th, 13th, 17th, 24th, 30th, and April 11th and 26th). The patient was then apparently cured and all treatment was stopped.

On August 1st her mother reported that at times she complained that the front teeth were a little loose, but there had been no discharge.

This is only one case, but, as a dentist had told her mother that no treatment would be of any avail but to extract the teeth, I consider it worthy of record and should advise further trial of this method, but not to persist if it should any septic symptoms, such as arthritis, supervene.

GEORGE P. BLETCHLY, M.B.Lond.

Nailsworth, Gloucestershire.

#### SOFT PARAFFIN AS A WOUND DRESSING.

The statements in your review of Professor Rutherford Morison's book, *Bipp Treatment of War Wounds*, to the effect that "both bismuth and iodoform may prevent satisfactory x-ray pictures," and that "there may be more



danger of poisonous absorption of bismuth or iodoform," lead me to suggest a simple method of treatment which I used for years in civil practice in the case of lacerated wounds, as, for instance, fingers and hands crushed or torn by machinery—namely, the application of ordinary soft paraffin.

It is a most soothing treatment and frequent dressing is unnecessary. I used it in several cases at the regimental aid post when I was with a battalion; but, owing to the difficulty of following up cases, I never ascertained whether the surgeons were pleased or otherwise. If the results prove equally satisfactory in war wounds, the above-mentioned disadvantages of bipp paste would be obviated; there might also be considerable saving of dressing materials, for, if the case required to be looked at in a field ambulance, the dressing put on at the regimental aid post could be reapplied.

WM. HAIG,  
Major R.A.M.C.(T.).

## ACUTE PNEUMONIA WITH DISPLACEMENT OF THE HEART TO THE SIDE OF THE LESION.

It may be accepted as a clinical fact that cardiac displacement is one of the rarest accidents of pneumonia, the scarcity of records in the journals and of any mention of it in most of the great textbooks of medicine bearing this out, for should it happen its presence is unlikely to be overlooked in an illness where the heart is the especial object of our anxiety. So rare is it, indeed, that the recorder of any such instance must feel that the onus lies on him to prove that no pre-existing disease, more especially perhaps chronic in character without obtrusive symptoms, was present in the thorax to account for the facts. These conditions, I submit, are fulfilled in the following case by the previous good health, the clinical findings confirmed by x-ray examination, and the complete restitution to the normal under observation.

A private in an infantry battalion, in good health and hard condition, was wounded by shrapnel, on March 22nd, 1918, in the right lumbar region. He walked about five miles before reaching means of transport, and was exposed in the open throughout a bitterly cold night. Pneumonia seems to have commenced about March 26th; he remained very ill until shortly before crossing to England on April 10th.

His condition on April 11th was as follows: There was a large granulating wound in the right lumbar region about 6 in. by 1½ in., not penetrating abdomen or thorax. Temperature and pulse were normal. The left lower lobe of the lung was solid, dull, with tubular breathing, increase of vocal resonance and vocal fremitus, redup crepitation. The signs were those of a typical lobar pneumonia with commencing resolution. The remainder of the lung and the whole of the right lung were normal. There was no pleural effusion, cough was not severe; the expectoration was semipurulent, and showed nothing unusual on microscopic examination. The apex beat was 5 in. from the middle line, normal on inspection, no suggestion of hypertrophy; the right border of the heart did not reach to the left edge of the sternum, over which the percussion note was resonant. Sounds normal; no bruit. The heart, therefore, was quite normal, but was displaced to the left. At a later date the expansion of the right chest was quite evidently greater than on the left, the physical signs pointing to some temporary condition of compensatory emphysema which gradually subsided; the inflamed lung was slow in clearing, and on April 24th (about the twenty-ninth day of the pneumonia) some increase in vocal resonance and vocal fremitus, together with impairment of the percussion note, was still heard. The position of the heart was as before. An x-ray examination on May 7th showed displacement, with the apex 4½ in. from the middle line; no dilatation. Left lower lobe nearly clear; remainder of thorax normal. On May 18th the apex was 4 in. out, and on May 22nd had reached its normal site; lung normal.

Norris<sup>1</sup> has drawn attention to the possibility of mistaking displacement for dilatation in acute pneumonia. Herringham<sup>2</sup> published two fatal cases with displacement in each away from the side of the lesion, and this he explained by the "push" of the solid and therefore enlarged lobe. In my case the explanation presents greater difficulties. The displacement may conceivably have been due to the "pull" brought about by some collapse of a portion of the left lung, or—and I think more probably—by some changes in the right chest of which the emphysema there noted was a manifestation.

I am indebted to Lieut.-Colonel Maxwell Telling, the Divisional Medical Officer, for permission to publish this note.

REGINALD G. HANN, M.R.C.S., L.R.C.P.

<sup>1</sup> Osler and McCrae's *System of Medicine*, 2nd edition, Art. "Acute lobar pneumonia."

<sup>2</sup> *Proc. Roy. Soc. Med. (Clinical Section)*, 1910.

## TETANUS FOLLOWING SUBCUTANEOUS INJECTION OF GELATIN.

THE following is an account of a case in which a subcutaneous injection of gelatin, given as haemostatic on account of grave intestinal haemorrhage in typhoid fever, was followed by fatal tetanus.

S. D., aged 25 years, a tailor's presser, was admitted to hospital on July 30th, 1918, with a history of having been ill for six weeks. Influenza had been thought of as the cause. In the hospital the disease was considered to be typhoid fever. There was considerable fever, with moderate enlargement of the spleen, and deafness, but no rose spots were seen. On August 3rd there was much diarrhoea, and the faeces gave a positive reaction for blood (modified guaiacum test). Small doses of tincture of opium and bismuth were ordered.

On August 6th, owing to very severe intestinal haemorrhage, the house-physician gave a subcutaneous injection of "coagulose" in the afternoon, and about three hours later injected two pints of (sterilized) physiological saline solution under the skin. Next morning, for additional haemostatic effect, he injected 20 c.cm. gelatin under the skin (guaranteed to be sterilized for subcutaneous use). On August 9th one and a half pints of (sterilized) physiological saline solution were injected. On August 10th the faeces appeared macroscopically not to contain blood, though the modified guaiacum test still gave a slightly positive reaction.

On the afternoon of August 12th—that is to say, five days after the gelatin injection—the patient began to complain of not being able to open his mouth properly, and also of stiffness and pain in the muscles at the back of the neck and trunk. When I saw him, on the morning of August 13th, he certainly could not separate his jaws ("lock-jaw") and was suffering from frequently recurrent painful tonic spasms of the muscles of the back of the trunk and neck, also of the muscles of the abdominal wall and, notably, of the left thigh. It was, I should mention, into the left thigh that the gelatin had been injected on August 7th. The symptoms were typical of tetanus, and treatment was adopted accordingly; but death occurred in the afternoon of the same day (August 13th).

I sent details of the case to the coroner, and Dr. B. H. Spilsbury, who made the *post-mortem* examination, found (in addition to intestinal ulcers due to typhoid fever) a small abscess in the thigh, at the site apparently of the gelatin injection, and from this little abscess he obtained bacilli resembling those of tetanus. At the inquest a verdict was returned of death by misadventure, due to tetanus (in a man suffering from a disease resembling typhoid fever), in accordance with the medical evidence furnished.

It must, however, be acknowledged that the sequence of events above suggested has not been scientifically proved. In the first place, Dr. Spilsbury's investigations were not complete; moreover, the gelatin in the remaining ampullae (prepared in the same batch) were not examined for the presence of living tetanus bacilli. It might be suggested that the bacilli were otherwise introduced—for example, by an imperfectly sterilized syringe. Lastly, it is, I suppose, theoretically possible that a patient with open intestinal ulcers (typhoid ulceration of the intestine) might become infected with tetanus by way of the ulcers by tetanus bacilli, ingested with the food, in the intestinal contents.

London, W. F. PARKES WEBER, M.D., F.R.C.P. Lond.

## Reviews.

### THE ACTION OF MUSCLES.

AN author in seeking to justify the publication of an unnecessary book is apt to take refuge in the conventional phrase that "it is designed to supply a long-felt want." The author of this work on the *Action of Muscles*,<sup>1</sup> Dr. WILLIAM COLIN MACKENZIE, a distinguished graduate of the University of Melbourne, does not seek this conventional excuse, nor was it necessary, for the truth is that the want this book is designed and fitted to supply is one we never felt until we were suddenly called on to mend the crippling and maiming which result from war. Without doubt circumstances resulting from the war have suddenly made us dissatisfied with the inane and misleading teaching which we have reproduced generation after generation in our standard textbooks of anatomy concerning the action of muscles; but those who were watching the trend of events in medicine knew well that,

<sup>1</sup> *The Action of Muscles, including Muscles Rest and Muscle Re-education*. By William Colin Mackenzie, M.D., F.R.C.S. Edin.

<sup>2</sup> R.S.E. formerly Lecturer on Applied Anatomy to the Universities of Melbourne and Adelaide. London: H. K. Lewis and Co., Limited, 1918. (Med. 8vo, pp. xvi + 267, 97 figures, 12s. 6d. net.)



war or no war, a revolution in our teaching and knowledge of muscular action had become inevitable.

The events which were to lead up to that revolution one can gather from Dr. Mackenzie's experience. Some ten years ago he, as well as other thoughtful surgeons, were finding that re-education could effect an unexpected degree of recovery in the youthful subjects suffering from the effects of infantile paralysis. For the purposes of treatment an accurate knowledge of limb and body movement became necessary, but the only effective help which could be obtained was to be found not in our modern textbooks, but in the writings of John Hunter, Duchenne, and the lectures of the late Dr. Charles Beevor, which this JOURNAL had the prescience to publish at the time they were delivered (1903, i, 1357, 1417, 1481).

Dr. Mackenzie has availed himself of such help as these authors can give, and he has also done much more. He has gone, as John Hunter did, to comparative anatomy to learn function; he has studied, as Beevor did, the defective movements which result from nerve lesions, central as well as peripheral; he has worked as a clinical assistant in the military orthopaedic hospital at Shepherd's Bush, and realized that the rational methods of treatment which brought healing to the unfortunate subjects of infantile paralysis are equally effective in the treatment of men disabled in the war. In this book Dr. Mackenzie summarizes his experience, states the principles which guide him, and the exact methods he adopts in diagnosis and in treatment, and thereby has rendered a service of the first importance to orthopaedic surgery.

Dr. Mackenzie, in his teaching, is a devout follower of Owen Thomas—a believer in the curative effects of rest and a disbeliever in all forms of treatment which are meddlesome, showy, destitute of a rational basis, and designed to effect rapid cures. "It is wonderful," he writes, "what can be accomplished in a warm room with the aid of a table, a few pillows, and a sheet of powdered cardboard." No doubt fashionable or philanthropic visitors to our modern hospitals will be enamoured of the rooms which are fitted out with costly and complex apparatus for the treatment of disabled muscles, but time will show that the simple rational methods advocated in this book will yield better results and more of them.

As an illustration of his methods of re-education we may take their application to cases of musculo-spiral paralysis. In the period between the suture of the nerve and the first manifestation of the return of power the arm is placed in such a position that the paralysed muscles will be rested and the joints so fixed that the active muscles cannot drag upon and elongate their paralysed antagonists. The fingers are fixed in extension, the thumb is abducted and also extended to prevent shortening of the flexors and elongation of the paralysed extensors in the forearm. "No attempt at re-education should be commenced till we are assured that we have overcome flexor contracture. . . . For exercising, the patient should lie on the back with the head supported by a pillow, and the arm, with the elbow flexed, should rest on a firm pillow placed parallel to the patient's side. A sheet of cardboard should be placed under the limb." At first the surgeon is to seek for only minimal effects from the affected muscles, placing the hand, when the arm is removed from the splint, in the supine position, back of the hand down. In such a position, after the hand has been slightly flexed at the wrist, the weight of the hand comes in to help the weakened but recovering extensors of the wrist and fingers. Presently the patient is able to perform these movements when the hand is placed midway between supination and pronation, and therefore not assisted by gravitational effects; and at a later stage, when the hand is placed midway between pronation and supination, the extensors of the wrist are strong enough to extend the hand against gravity. It is clear that such methods need intelligence and patience, not only on the part of the surgeon, but also on the part of the subject of the treatment. But it is also clear that no machine, only the patient himself, can help in the recovery of a lost function.

Dr. Mackenzie has not only improved our means of treatment but added to our knowledge of muscular function. Of his personal observations only one example need be given here. The clawing of the hand—the hyper-extension of the proximal or basal phalanges, and the flexion of the middle and distal phalanges, in ulnar paralysis—is well known, but the condition cannot be explained on the

basis of our present anatomical teaching. It is true that Duchenne knew and taught that the common extensor of the fingers acted only on the proximal phalanges, but on anatomical grounds we have gone on teaching that it acts on and extends also the middle and distal phalanges. Dr. Mackenzie shows, on anatomical grounds, that Duchenne was right, and on physiological grounds that the lumbrical muscles are the opponents of the extensor communis and flex the proximal phalanges, while the antagonists of the flexor sublimis and flexor profundus, which act on the middle and distal phalanges, are the interosseous muscles. Hence, in ulnar paralysis, the lumbrical and interosseous muscles of the ring and little fingers, being thrown out of action, the proximal phalanges become hyperextended by the extensor communis and the middle and distal bent by the deep and superficial flexors of the digits.

In brief, Dr. Mackenzie has produced a work which should be studied and mastered by every orthopaedic surgeon.

A. K.

#### CLINICAL CASE-TAKING.

DR. ROBERT D. KEITH has published an excellent little book on *Clinical Case-taking*.<sup>2</sup> It has grown out of his experience as principal and lecturer in clinical medicine in the King Edward VII Medical School, Singapore, and bears some traces of its adaptation to teaching in a tropical climate. But, as the author justly says, in view of the tropical nature of a large part of the British Empire, and considering that our campaigns in tropical lands will cause diseases peculiar to these regions to be seen in Britain much oftener in the future than in the past, it will be no disadvantage to the student to make himself acquainted with some of the elementary facts bearing on such conditions.

The idea underlying the book is that the student should do everything for himself and that thoroughness should be his watchword. The author utters a warning, which every one of us needs, against hasty assumptions and snapshot diagnoses. His book is intended to help the student to avoid such faults by training him to make a thorough examination upon a well-considered system in every case. Dr. Keith deals first with the general examination, including in that the history of the patient and his family, and a note of the general appearance presented. Then follow chapters on the several systems, including the excretory system, in which a very succinct but adequate account is given of the examination of the urine. This is followed by another chapter on microscopical examination of faeces, sputum, and blood. Search for ova in the faeces is a matter of particular importance in tropical climates, and a method of detecting small numbers of ova is mentioned which may be novel to many readers. It was used by the Rockefeller Commission in ankylostomiasis in Malaya. A fairly thick suspension of faeces in a mixture of equal parts of glycerin and normal saline solution is centrifuged. A fragment of cotton-wool spread out like a fan is then laid lightly on the surface of the fluid in the tube and afterwards placed on a slide and covered with a cover-glass. As ova, if present, float on the top of the fluid they become entangled in the meshes of the cotton-wool and are thus easily detected.

Dr. Keith considers that the best way of teaching clinical medicine is by question and answer, but that method does not lend itself to print, as, indeed, experience has shown. His book will suggest to the student trained at the bedside the kind of questions he ought to put to himself when first he begins to make independent examinations. We would commend it as the considered work of one with a natural bent for clinical teaching.

#### THE SCIENTIFIC USE OF COAL.

THE serious warning issued by the Coal Controller last week as to the shortage of coal next winter will perhaps bring Professor BONE's book on *Coal and its Scientific Uses*<sup>3</sup> more readers than could have been expected for it in normal times. Though it is a technical book, addressed to "the scientific public, and especially the chemical section

<sup>2</sup> *Clinical Case-taking: An Introduction to Elementary Clinical Medicine*. By Robert D. Keith, M.A., M.D. (Aberd.). London: H. Lewis and Co., Ltd., 1915. (Crown 8vo, pp. 104, 3s. 6d. net.)  
<sup>3</sup> *Coal and its Scientific Uses*. By William A. Bone, D.Sc., Ph.D., F.R.S. 1915. London, New York, and India: Longmans, Green, & Co. (Med. 8vo, pp. xv + 491; illustrated. 2ls. net.)



of it," the judicious skipper may yet find it interesting and intelligible. The book deals with most aspects of the coal industry; a short account of the origin and formation of coal is followed by a full discussion of its chemical composition, and of its combustion, and the later part of the book is occupied in the description of the various processes for cooking, gas-making, and obtaining by-products. There are chapters also on domestic heating and on the smoke nuisance.

The enthusiasts of the Smoke Abatement Society used to argue that the smoke palls were not only injurious to animal and vegetable life, but wasteful, urging that it ought not to pay manufacturers in Leeds, for instance, to send up volumes of smoke, containing 27 per cent. of carbon amounting to 220 tons a year to the square mile, and tar to the amount of  $5\frac{1}{2}$  tons. Professor Bone puts the total weight of soot and smoke produced in factory chimneys throughout the kingdom at approximately 6,000,000 tons a year, and the domestic smoke and soot at about half this. But domestic soot, as it contains more tar, is not so easily removed by rain and wind from anything on which it falls. Further, the proportionate effect of domestic smoke is presumably much greater in the winter than in the summer. The conclusion is that "weight for weight, domestic smoke is undoubtedly the more pernicious of the two in regard to its direct effects upon human and vegetable life and health, and in densely populated city or industrial areas the combined effects of the two must be very disastrous."

The main interest of Professor Bone's book to the reader who is not a specialist will be that it explains the ways in which, while economizing the natural resources of the country, we may rid ourselves of the smoke evil. "The present sordid ugliness," he says, "of our large industrial areas, largely caused as it is by the pall of smoke which continually hangs over them, is a standing reproach to our national economy, and we pay an appalling price for it both in direct loss and damage, and even more so in physical lowering of vitality and depression of spirits."

Professor Bone does not neglect to discuss the best way of burning coal on the domestic hearth, and, incidentally, to do justice to the work of Mr. Pridgin Teale of Leeds, but it is clear that his remedy is the gas fire both for cooking and heating. The use of both was rapidly extending before the war, and would have grown more rapidly if chemists and engineers had early devoted to their construction and their adaptation to domestic conditions the attention which the author and his colleagues, Professor H. C. Callender and Mr. Yates, have given in recent years. The objection the medical profession had to gas heating in living apartments is spoken of by Professor Bone as prejudice; it was a well-grounded objection, as indeed he himself admits when he says that "it has proved to be illusory, at least so far as any modern types of such fires are concerned." We can only hope that all newly fitted gas stoves are of these modern types.

The book is one of the monographs on industrial chemistry which Sir Edward Thorpe is editing, and we assume that it is to Sir Edward we should address a remonstrance about the index to the volume; it is not constructed on scientific principles, and for a book so full of detail is altogether inadequate. We desire to congratulate the publishers on their enterprise in arranging this series. We have already had the opportunity of noticing the first volume, Professor Morgan's *Organic Compounds of Arsenic and Antimony*; Professor Bone's volume is not less comprehensive and authoritative, while at the same time, as we have endeavoured to show, it is so well compiled and expressed that its scope can be appreciated and its contents understood by those who have no more than a general acquaintance with chemical science.

#### NOTES ON BOOKS.

DR. CHALMERS WATSON'S *Lectures on Medicine: A Handbook for Nurses* is a well written and well arranged little volume giving a compressed account of the subject on the usual lines. As might be expected, it is particularly strong on the subject of diet, to which the last sixty pages are devoted. Nowadays nurses are usually so well taught that one ventures to ask if it would not be possible to set

the whole subject of diet in disease on a quantitative basis in a book of this sort, giving the calorie values of some of the foods and the diets indicated. It is, after all, by its heat or energy value that a patient's diet is ultimately calculated or rationed; and unless the fact is pointed out in figures, the low calorie value of the diet given to most patients is apt to escape notice. Knowledge of the heat values of foods and diets is particularly desirable in nurses, as it is they who commonly deal out the food to their patients.

DR. PAUL CARTON has written a book<sup>5</sup> on the treatment of children by the sun cure and by exercises. It is illustrated by a large number of photographs taken at the Hospice de Brévannes, to which he is physician. He has a high opinion of the advantages of regulated exercises or play in the sun for children, and believes that it is an advantage that they should have very little on.

Diabetes is a disease of great interest to medical men working in the East. DR. WATERS has written a small book on the subject,<sup>6</sup> with special reference to India and the Indian standpoint, holding the view that a carbohydrate-free diet is not an impossibility in that land of excessive or almost exclusive carbohydrate alimentation. It is well written, and contains a full account of the starvation (or Allen) treatment of the disease.

<sup>5</sup> *La cure de soleil et d'exercices chez les enfants*. By Dr. Paul Carton. Paris: A. Maloine et Fils. 1917. (Roy 8vo, pp. 101; 60 original figures. Fr. 4.)

<sup>6</sup> *Diabetes: Its Causation and Treatment (with Special Reference to India)*. By Ernest E. Waters, M.D. Edin., M.R.C.P. Lond., Lieut.-Colonel I.M.S. Calcutta: Thacker, Spink and Co. 1917. (Cr. 8vo, pp. 170. 4s.)

#### THE ACTION OF SUGAR IN PULMONARY TUBERCULOSIS.

ON June 15th (p. 678) a short account was given of certain observations by Professor D. lo Monaco on the treatment of pulmonary tuberculosis by the intramuscular injection of sterilized solutions of cane sugar. From a paper published by him in *La Renaissance*, June 22nd, 1918, it appears that he at first used hypodermic injections.

He states that at the Institute of Chemical Physiology, of which he is director, attention has since 1907 been directed to the investigation of the influence of sugar on organic secretions. Dr. Sterbini and Dr. T. Piantoni found in goats that sugar introduced hypodermically exerted a decided influence on the secretion of milk; it increased after small doses and diminished after large, without any change in the composition of the milk. These results were confirmed in women by Dr. U. Sammartino, who observed numerous cases at the obstetrical clinic at Rome. He showed that one gram of saccharose injected beneath the skin determined well marked increase in the secretion of milk, even in women who were undernourished. Injections of five grams, on the other hand, abolished the secretion altogether. Professor V. Nazari, Dr. Ricci, and Dr. d'Amato found that the same thing obtained in cows, an increase of from one and a half to two litres of milk a day being noted.

Later (1914) lo Monaco found that the saliva, gastric juice, pancreatic juice, bile, and urine similarly diminished with large doses and increased with small doses. Dr. Sammartino then showed that with artificial circulation in detached organs the blood vessels dilated under the influence of small doses and contracted with large doses. The reaction was rapid and pronounced. Increased bronchial secretion coincides with increased pulmonary circulation, and in acute catarrh the bronchial mucosa is reddened, swollen, and secretes a sticky, greenish, opaque or purulent liquid. Astringent and expectorant remedies are usually prescribed in such cases, but while their action on expectoration is easily demonstrated, the belief that they have a drying up action is not based on any experimental data. It was found that a gradual diminution of the bronchial secretion quickly followed subcutaneous injections of sugar. That this effect is due to the sugar was proved by suspending the injections before the process was complete, whereupon the expectoration set in afresh and soon became as copious as before. Observation went to show that this drying up of the secretion occurred when on clinical examination the lung no longer presented marked dilatation of the bronchioles or pulmonary cavities. As long as these lesions were present the expectoration diminished but did

<sup>4</sup> *Lectures on Medicine: A Handbook for Nurses*. By Chalmers Watson, M.D., F.R.C.P.E. Edinburgh: E. and S. Livingstone. 1917. Cr. 8vo, pp. viii + 255. 4s. 6d. net.)



not cease. The treatment is much more efficacious in non-infectious affections of the respiratory apparatus than in others, but in all it presents the advantage that the gastro-intestinal functions are not disturbed. The injections were not painful even when large doses of sugar were injected, when, for instance, the object was to arrest the milk secretion. In very emaciated persons it was found to be desirable to add a little cocaine to the solution. The treatment is simple: it comprises one injection of 10 c.cm. containing 5 grams of cane sugar, or two of 5 c.cm. containing 2.5 grams each. The fluid must of course be sterilized. Syrups enter largely into the composition of expectorant mixtures, their action being vaguely described as "emollient," but it is suggested that this action is due to vaso-constriction of the upper air passages which diminishes the tumefaction of the mucosa. Their effect is slight and fugitive, whereas that due to injections is more pronounced, more persistent, and is exerted on the respiratory tract as a whole. Allowance must also be made for the influence of sugar on the muciparous and lymphatic glands, and it is thought possible that the effect extends to the unstriated muscle fibres of the bronchi and bronchioles. This suggestion is based on the remarkably rapid recovery in two cases of whooping-cough after the injection of sugar.

Contrary to what has been said by some of the advocates of his method, Professor le Monaco does not go farther than to claim that injections of sugar reduce bronchial secretion even in the gravest cases of tuberculosis. At the same time, cough and night sweats diminish and haemoptysis ceases. Observations made at the Polyclinic at Rome showed that in one case—that of a tuberculous woman in whom the daily amount of expectoration was between 42 and 70 c.cm.—a distinct improvement was noted at the end of five days' treatment, when the amount had fallen to 24 c.cm.; five weeks later expectoration was reduced to a negligible quantity—3 to 5 c.cm. a day—and the other symptoms had improved *pari passu*. In another case—a man with cavities, pleural adhesions, and haemoptysis—the condition was excellent after three months' treatment. In a third case—that of a young man with haemoptysis—twenty-four days' treatment put an end to the expectoration, and he was discharged as no longer requiring hospital treatment. In some instances the injection has been followed by fever and shivering lasting for some hours. This may be due to the fact that in certain subjects sugar, by raising the blood pressure, may determine the absorption of pyrogenous substances from the lung. Such an occurrence is rare, and is observed only after the first few injections.

Dr. C. F. KNIGHT, M.D., M.O. i.e. troops, Witham Urban and Prantree Rural Districts, writes: Since 1885, when I was visiting physician and lecturer on clinical medicine and pathology to Mercer's Hospital, Dublin, I have used sugar for intramuscular injection in cases of tuberculosis (pulmonary and general), in neuroses, and in various forms of rheumatism and sciatica, with resulting improvement in the physical signs, muscular power, etc. The amount of sugar at my disposal being limited, I applied to the Special Diseases Subsection, Ministry of Food, for an extra 4 oz. a week, but have not yet succeeded in obtaining it, as the medical adviser says that it cannot be granted for preparing intramuscular injections; he suggests that I should use glucose instead. My theory is that the sucrose is oxidized and formic acid formed, and working on this idea I injected the acid, but had to give it up as the local reaction was excessive. Glucose does not form formic acid and is useless as a substitute for sucrose when given by intramuscular injection.

## THE VOLUNTARY HOSPITALS AND THE PROPOSED MINISTRY OF HEALTH.

The council of the British Hospitals Association proposes to hold a conference on Friday, October 18th, at 3 p.m., at St. Thomas's Hospital, to consider the relations of the voluntary hospitals to the proposed Ministry of Health, and invites suggestions to be addressed, before September 30th, to its honorary secretaries, 14, Victoria Street, Westminster, S.W.1.

With the notice is circulated a pamphlet, prepared by Mr. J. Courtney Buchanan, one of the honorary secretaries, and entitled *The Voluntary Hospitals and the Proposed Ministry of Health Bill*.<sup>1</sup> Its object is to place the various aspects of the subject in logical order, not to attempt to

prejudge them in any way. It concludes by a series of fifteen propositions suggested for discussion.

The first proposition is that the voluntary hospital system should be permanently retained in this country. The second, third, and fourth are as follows:

2. That the function of the voluntary hospitals, which are medical, surgical, and nursing schools, should be to supply a special form of medical relief, namely, treatment by specialists, such treatment being made in every respect as perfect as possible, and the hospitals in which it is given equipped and maintained, in all their special and general departments, in the highest state of efficiency, and adapted to the requirements of the latest medical and surgical and nursing science and education.

3. That the service of the voluntary hospitals, supplemented where necessary by any service under the control of the new Government or municipal authorities, should be directed to the following three great purposes—namely:

- (a) To treat the most grievous forms of disease;
- (b) To raise the general standard of all medical and nursing education; and
- (c) To advance and facilitate, with bacteriological and pathological investigation, scientific research.

4. That the great value of the voluntary hospitals (which are only a part, yet by far the most important part of the general medical relief of the sick poor) lies in their elasticity of organization and flexibility of adaptation; and they should be ready to fulfil their proper function in relation to all the other agencies, whether State, municipal, or voluntary, concerned with the general health of the community.

The fifth suggests the establishment of clinics or treatment centres in touch with the hospital. The sixth, seventh, and eighth are as follows:

6. That it should be possible to eliminate trivial cases, and obtain for treatment at the hospital all cases which are suitable not only on the ground of their serious character, but also having regard to their value for teaching purposes. Further, the link between the hospital and the treatment centres should facilitate the reference to the hospital of cases of which general practitioners desired confirmation of their diagnosis; but, whenever consultants at the hospital retain for treatment such cases, the patient's own doctor should invariably be informed.

7. That trivial ailments should not be treated in the hospital out-patients department; that special departments at special hours be opened for war pensioners; or, in the interests of teaching, that the number of chronic cases treated should, if possible, be limited. That as a general principle the patients should not be treated unless they bring a letter or report from their medical officers or attendants, except in cases of accident or other special circumstance or emergency. That the casualty and surgery departments of hospitals should be only for cases of serious accident or sudden emergency.

8. That, if in-patient treatment be necessary, the patient should be recommended by the doctor attending him to that institution best suited to his needs.

The ninth makes suggestions with regard to payments by insured persons and others who can afford something towards the cost of their treatment, and the tenth deals with distressed gentlefolk or members of the professional classes who are in real need of help. The eleventh urges full development of the almoner's department of the hospital; the twelfth deals with the nursing and after-care of patients in their own homes. The thirteenth is as follows:

13. That the staffs of hospitals should be prepared, where such work is not performed by the medical officer of health, to conduct special examinations of blood, urine, and sputum, take cultures, etc., for general practitioners when requested, and to report to the general practitioners from whom cases come, the results of such examinations; but that this be regarded as special work for which the medical staff might reasonably expect to be paid.

The fourteenth suggests that the lay administration should as far as possible be continued and retained, and the fifteenth proposes that steps should be taken to educate the general public as to the importance of maintaining the hospitals at the fullest efficiency on voluntary lines.

In an earlier section Mr. Buchanan expresses the view that the propositions put forward will be found not to be at variance with the provisions of the scheme of the British Medical Association in the pamphlet *A Ministry of Health*. The statement therein, it is observed, deals with the question from the point of view of the medical profession, and the following comment is made:

This is a point which compels the most serious consideration, especially having regard to the strengthening in the profession's organization. The British Medical Association have shown their intention to assist the Government with their proposals, and to help on reforms and changes introduced by the Government which they recognize as for the good of the community as a whole; but their intention is also, and equally, to see that such reforms and changes are not introduced "over their heads or behind their backs."

<sup>1</sup> London: The Scientific Press, Ltd. (Southampton Street, Strand, W.C.2). (6d.)



# British Medical Journal.

SATURDAY, AUGUST 24TH, 1918.

## THE COMING GENERAL ELECTION.

THE position of politics to-day is curious, and, so far as the House of Commons is concerned, without precedent. The agents and organizers of the old parties are obviously perplexed, and only the new reconstituted Labour party, seems to know its own mind. The last general election took place nearly eight years ago, and the present House of Commons has extended its own life five times. No House of Commons for two centuries has had so long a life. It seems to be generally admitted that it no longer represents the electorate. It is true that about half its sitting members have been returned since it came into existence in December, 1910, but most of them have been elected under the conditions of the party truce without any serious contest. Whatever force there might have been in an argument in favour of any further considerable prolongation of the life of the present House of Commons, founded on this infusion of new blood, has been destroyed by the action of the House itself in passing the Representation of the People Act, which became law on February 6th, 1918. This new Reform Act so extended the franchise as to add to the electorate a far larger number of persons than any of its predecessors. The number is now more than double what it was, the magnitude of the increase being largely due to the inclusion of women. The Act also increased the number of members, and made large alterations in the distribution of seats. Constitutional practice points strongly to the dissolution of a Parliament which has adopted a Reform Act so soon as the new register can be got into order. The Local Government Board has had seven months to get on with the work of registration, and there is a strong and influential body of political opinion which desires a general election in the early autumn in spite of the difficulties which would be encountered in carrying through arrangements for voting by post and by proxy. On the other hand, political extremes seem to have met in urging that there should be no general election before at earliest next spring, and there are some who would wish to postpone it until the war is over. The latter opinion is not likely to prevail, and the prudent course for all who desire to influence the constitution of the new House of Commons is to assume that the election may take place as early as November; otherwise they may be caught napping.

A great deal has been written and spoken for a good many years past about the need for a larger number of medical men in the House of Commons. It has been said with truth that such increase would add to the wisdom of that assembly, would be for the benefit of the public, and would be a direct advantage to the medical profession itself. Now is the time to put these precepts into practice.

The Annual Representative Meeting last month expressed the opinion that the medical profession should be more fully represented in the House of Commons, and that a voluntary fund should be raised to assist the candidature of such members of the

medical profession as might be approved as candidates. It referred the matter to the Council, which at once appointed a special committee. This committee, as is noted in the SUPPLEMENT, met on August 7th, and it was then decided to issue a circular letter to Divisions requesting them to take immediate steps for the inauguration of the fund.

We have endeavoured to set out above the considerations which make it not improbable that a general election may take place within the next three or four months, and if this expectation be fulfilled there will be little time to raise a fund or to establish any central organization. In these circumstances we venture to think that the executive officers of the Divisions of the Association in Great Britain will be well advised to look into the situation in the constituencies with which the Division has to do. It might be possible to discover unavowed ambitions for a political career among their own members, but, failing this, opportunity could be taken from the first to have a share in the selection of candidates, and to impress on selected candidates the views of the medical profession with regard to the many questions affecting the public health and the future of medicine which must be discussed and decided in the new Parliament.

Again, in certain of the universities the influence of the medical graduates ought to be very considerable, if not preponderating, and it is disappointing that so little seems to have been done to move medical graduates to make their influence felt in the selection of candidates for the universities. In this instance at least the out-of-date catchwords of the party politician might be forgotten. The number of members the universities of the United Kingdom are entitled to elect has been increased from seven to thirteen. The University of Wales, the National University of Ireland, and Queen's University of Belfast each receive one member, and the combined universities of Durham, Manchester, Leeds, Sheffield, Birmingham, and Bristol, voting as one constituency, two members; the four Scottish universities, which will in future vote as one constituency, will have three representatives instead of two. In a university constituency having more than two members a contested election will be conducted according to the principle of proportional representation, each elector having one transferable vote, and an elector may vote by proxy. For Queen's University, Belfast, Sir William Whitla has come forward; for the three seats of the Scottish universities there are four new medical candidates; and there is every reason to expect that Sir Watson Cheyne, who now represents the universities of Edinburgh and St. Andrews, will stand for the combined constituency. The University of London has no medical candidate, but the medical profession is not likely to forget the services rendered to it in the present Parliament by Sir Philip Magnus, the sitting member. No definite steps, so far as we are aware, have yet been taken by the medical graduates of the combined English universities, but we hope that they will not neglect this opportunity of returning a member of the medical profession. Of Oxford and Cambridge we can say nothing more than that the latter has not infrequently elected a man of science as one of its representatives, while the former seems generally to have looked for political eminence already achieved.

We venture to say that the very brief statement here given of certain aspects of the political position to-day, and of the near prospect of a general election, is sufficient to justify an appeal to the medical profession to bestir itself before every opening is taken up.



## THE SYMPTOMS OF ACUTE CEREBELLAR INJURIES.

AMONG the ways in which the experience of the war is being employed to advance medical knowledge is the careful analysis of cases in which shell or bullet wounds have picked out parts of the body comparatively seldom the site of uncomplicated disease or of injuries in ordinary times. Thus, earlier in the war Gordon Holmes and Sargent established the syndrome of wounds of the superior longitudinal sinus in the skull. Similarly, the opportunities afforded by wounds of the cerebellum have been utilized by Gordon Holmes,<sup>1</sup> who has seen forty such cases and been able to investigate thoroughly twenty of them. They were mainly recent and unilateral lesions, though seven bilateral and a few old-standing cases were available for comparative study. This research is especially valuable, not only on account of its philosophical tone but also because there is considerable divergence between the symptoms usually described as characteristic of cerebellar disease and those obtained by physiological experiment. The effects of tumours, abscesses, haemorrhage, and softening are seldom so confined as those of the experimental operator, whose results may be reproduced by chance gunshot wounds. In these circumstances the skilled clinical observer has the advantage over his physiological colleague in the intelligent co-operation of his patients, and can consequently employ more numerous methods better adapted to the purpose for the observation of the effects produced by various lesions, especially as regards subjective manifestations. As Gordon Holmes's observations have been made on injuries closely resembling those on which the classical physiological descriptions are based, it is not surprising that a close similarity is shown between them, the chief differences probably depending on the position of the subject in the phylogenetic scale, and on the relative importance or subordination of the cerebellum in the nervous system of different animals.

Cerebellar injuries produce almost exclusively motor symptoms, and in the early stages of an acute lesion loss or diminution of muscular tone in the limbs, and to a less extent of the trunk, on the same side of the body as the lesion is a prominent feature; this hypotonia, which gradually diminishes with time, is uniform, and André-Thomas's anisosthenia, or loss of tone in some muscles with relative hypertonicity of their antagonists, though looked for, was never detected. Asthenia, as shown by Castex's dynamometric apparatus, and slowness of the muscular contractions and relaxations, as illustrated by tracings, ataxia, the "rebound phenomenon," and Babinski's adiadochokinesis, are the disturbances of voluntary movement found. Giddiness is extremely common after all gunshot injuries of the head, and nearly all the patients with cerebellar injuries become giddy immediately or on regaining consciousness. Abnormal attitudes, so prominent in experimental animals, are much less constant and striking in man. Nystagmus was present in almost every case with any disturbance of function, and is a clinical sign of the highest importance; it is essentially a fixation nystagmus, and differs in many particulars from that due to labyrinthine destruction. Apart from the oculomotor, the only cranial nerves obviously affected by unilateral cerebellar lesions are those concerned in phonation and articulation. Sensation was never affected in any way.

In order to obtain an insight into the normal

functions and physiology of the cerebellum, Gordon Holmes has undertaken the difficult task of analysing and attempting to resolve these numerous functional disturbances into their simplest components. In the first place, he concludes that from their nature, constancy, and persistence the symptoms are mainly due to destruction of the cerebellum; vertigo, which is inconstant, variable, and only occurs early after the injury, being an exception and probably irritative in origin. His observations do not support the view held by many physiologists and clinicians that the predominant function of the cerebellum is the maintenance of equilibrium; neither do they lend any support to the existence of focal localization of function in the cerebellar cortex, though they cannot be accepted as proof that such localization does not exist. There is, however, no doubt that the relative prominence of various symptoms, such as tremor, slowness and inco-ordination of movement, as well as nystagmus, varies with the site of the lesion, and this question the author hopes to consider in a future paper.

## YOUNG RECRUITS.

FRANCE is calling up the class of 1920. Some anxiety has been expressed lest some of these lads may not have reached the degree of physical development which would enable them to undergo military training without permanent injury. M. Clemenceau has issued a vigorous circular which, from its tone and style, his fellow countrymen believe he must have written with his own hand. The substance of the circular makes it plain that when he sat down to write it the French Premier did not put aside his medical knowledge. In crisp sentences he tells the medical members of the examining committees to reject all but the perfectly healthy and robust, and defines what he means by these words in very clear terms. He concludes as follows: "Insufficient selection, by which the quality of recruits is sacrificed to the numerical importance of the contingent, would be directly opposed to the object in view. In a very short time it must lead to a failure in physical development and consequently to loss of effectives, and must tend to produce a soil favourable to tuberculosis, and conduce to the onset and dissemination of divers infectious and epidemic diseases. In a word, it would endanger the health of the troops, the progress of their education, and their ultimate military value. A very rigorous selection of the contingent is something more than a medical and hygienic necessity: it is essential to the true military needs of the country."

## PREGNANT WOMEN IN INDUSTRIAL WORK.

In an address delivered to the Welfare Conference held recently at Oxford, Dr. Deacon, the woman medical officer at a national shell filling factory in the north-western area, referred to the maternity problems amongst employed married women. Of the total number of women employed in the factory rather more than half were married. Records were kept in 101 cases with a view to noting the effect of the work on women who became pregnant. At the time of the completion of the report, pregnancy had terminated successfully in 64, and unsuccessfully in 15. Thirteen of the unsuccessful cases were very early miscarriages (of some few weeks' date) and mostly quite unassociated with the work. One woman, for example, had experienced several previous miscarriages; a second had had tuberculous trouble; a third fell out of bed whilst dreaming; and a fourth fell downstairs when at home. All the women seen had good health whilst pregnant, very easy confinements, and gave birth to healthy children. One woman, who worked until ten days before her confinement, reported the birth of the first healthy child out of eight. Another had reared previously only one child out of twelve; and yet another stated that the

<sup>1</sup> *Brain*, London, 1918, xl, 461-535.



child born during her war-time work at the factory was the healthiest baby of seven. Such a record tends to confirm the opinion that if factory work were wisely allocated to the pregnant woman—that is, if suitable light tasks were found for her—she could stay at work earning sufficient money to keep her well fed and in comfort. The general conclusion would seem to be that, as in the easy classes and among women who share in the work of a small holding, so in women engaged in industrial occupations, reasonable work and exercise, and good food, are the proper preparations for childbirth. After childbirth different considerations arise, and Dr. Deacon is probably right in holding that, if possible, a mother should abstain from outside work for at least three months after confinement, both in order to regain her normal state of health and to nurse her baby for that period.

#### THE DIAGNOSIS OF GALL BLADDER DISEASE.

A KEEN believer in the importance of early surgical interference in gall bladder disease so as to obviate later and severe complications, Bodenstab<sup>1</sup> has analysed with a view to early diagnosis the clinical pictures of 500 cases of cholecystitis subsequently submitted to operation. The cases fall into two groups—340 with calculi and 160 without; of the 340 calculous patients 304 were women and 36 men, whereas in the other group there were 40 men and 120 women. The reason why so many cases of cholecystitis or cholelithiasis are taken, or rather mistaken, for gastric disease is that their symptoms are referable to the stomach—the “inaugural symptoms” of gall stones described ten years ago by Sir Berkeley Moynihan—but they are reflex symptoms and in no way related to meals. Five cardinal symptoms of gall stones are described: Radiating pains from the epigastrium to the right or left costal arch, to the back or to the shoulder, found in 72 per cent. of the calculous and in 38 per cent. of the non-calculous cases; flatulence in 80 per cent. of the calculous and 67 per cent. of the non-calculous patients; vomiting in 79 and 47 per cent. in the two groups; dyspnoea in 72 and 39 per cent.; and prostration with a feeling of impending death recorded in 28, but probably present much more often in the calculous cases, and in 4 per cent. of the cases without gall stones. Tenderness over the gall bladder was present in 94 per cent. of the cases without stones, and in 86 per cent. of the calculous cases. About 23 per cent. of the gall stone cases gave a history of jaundice, as compared with 8 per cent. in the other group. The duodenal tube of Einhorn, used in approximately a hundred cases, gave little assistance; it provided infected bile and mucus in a case with an apparently normal gall bladder, and on the other hand sterile golden yellow bile in patients with cholelithiasis. In spite of the ability of Case, Pfahler, and George to detect gall stones skiagraphically in 50 to 85 per cent. of their patients, Bodenstab did not find this a guide of great value, and concludes that reliance must still be placed on the older methods of diagnosis rather than on the more modern *x-ray* and laboratory methods such as gastric acidity. In 90 per cent. of the cases a correct diagnosis can be made from the history alone.

#### THE VALUE OF INFECTIOUS HOSPITALS.

MANY London practitioners have probably been surprised by the receipt of a circular letter from the medical officer of health embodying a request made by the Metropolitan Asylums Board that mild cases of scarlet fever and “bacteriological diphtheria” should be treated in their own homes, thus leaving beds available for the more serious cases. The request is made on the ground that the military authorities have recently taken over additional hospitals from the Metropolitan Asylums Board, thus curtailing seriously the accommodation for infectious cases. This action of the Board suggests that a very

pronounced change has taken place in its opinion with regard to the function of fever hospitals. If isolation of patients suffering from the diseases named has any effect on their prevalence, it is clear that to leave slight cases unisolated might involve a serious risk of increased epidemic prevalence. If, on the other hand, the Metropolitan Asylums Board authorities have, under the pressure of war conditions, come to the conclusion that the main function of fever hospitals is to provide efficient care and treatment for serious cases which cannot be properly looked after at home, then it would seem essential that a reasoned statement should be put out; otherwise practitioners will be left in a state of uncertainty as to the true functions of these hospitals. The action of the Board also raises one or two other considerations. Very large sums of money have been spent on infectious hospitals, undoubtedly in the belief originally that the prevalence of infectious disease would thereby be greatly reduced or even abolished. If this purpose has failed of achievement the question may be raised whether it is wise, in the early days of an experiment of which the results cannot be foretold, to lavish money on bricks and mortar. Experience in the war has abundantly shown that much less expensive structures suffice. Another important consideration arises owing to the assumption, which seems very generally to be made, that the Ministry of Health, if it comes, will be a large administrative body taking over the functions of existing departments. Is it not possible that greater good would be derived from a body designed to investigate and advise on such questions as that now under discussion? If it were one of the duties of the Ministry of Health to inquire into the real value of fever hospitals, and having done so to make a pronouncement for the guidance of local administrative bodies, it is possible that far greater efficiency in public health matters could be combined with reasonable economy.

#### THE WOUNDED IN AGRICULTURE.

M. J. GOURDON, an officer of the French Medical Corps, who is director of the training school at Bordeaux for men who have lost a limb or been otherwise crippled in the war, presented recently to the Académie de Médecine a report based on 5,014 men, of whom 30 per cent. had been wounded in the upper limbs. Of the grand total 73 per cent. had been able to resume their occupations without any special training, either with or without the help of artificial appliances; the remainder required re-education. He notes that there is often want of will power, which may lead to a disinclination to resume work, to adopt the occupation in which there is the best chance of succeeding, or to persevere during the period of education. This frame of mind perhaps explains the differences in results obtained among men previously engaged in agriculture, who constitute 62 per cent. of the patients at the Bordeaux centre. The improvements in the artificial appliances supplied at Bordeaux to every man engaged in agricultural pursuits have been so considerable that 85 per cent. of farmers or owners of small holdings have gone back to their previous occupations, but only 48 per cent. of wage-earning labourers have returned. The value in agriculture of the work of a man who has lost a hand, or undergone amputation through the forearm, is nearly normal; that of a man who has undergone amputation of the arm is 75 to 85 per cent. of the normal, but the work of those who have undergone disarticulation at the shoulder is only 40 or 50 per cent. of the normal. It is estimated that a man who has lost a lower limb or been seriously crippled can work at many industrial trades with the loss of only 10 per cent. of efficiency. The loss of an upper limb reduces a man's working power in nearly every industrial trade; it is 50 to 75 per cent. of the normal in basket-making, and 40 to 50 per cent. in machine works; it is, however, nearly normal in electric welding. The

<sup>1</sup>W. H. Bodenstab: *Journ. Amer. Med. Assoc.*, Chicago, 1918, lxxi, 12-15.



general conclusion is that the great majority of men who have lost a limb or been seriously crippled can engage in some sort of work, but to attain this end a man's attention should be directed from the first to some suitable occupation, and great care should be taken to adapt the artificial appliance to the particular needs of the individual. M. Gondon considers that re-education should begin as soon as the wounds have healed and before a man is discharged from the army, and he suggests that men who make themselves efficient should receive an addition to their pension. He agrees with most other observers in thinking that the best plan is, if possible, to help a man to go back to his old trade.

#### A CAUSE OF DROWNING IN SWIMMERS.

THE bathing season makes a note by Walter Robert Shaw, assistant professor of botany in the University of the Philippines, Manila, which appears in *Science* of July 12th, especially opportune. He describes an optical illusion which he thinks has probably led to the drowning of many capable but inexperienced swimmers. A person swimming with the wind, and therefore with the waves which travel in the same direction faster than it is possible to swim, receives the impression of being carried backwards in the water. Want of knowledge of this fact makes most people in such circumstances, if headed towards the shore, immediately think of "undertow" and believe themselves to be caught in an offshore current. The instinct of an untrained swimmer always leads to nervous haste and over-exertion in deep water, even under conditions most favourable to swimming. When the instinct is reinforced by the panic engendered by the belief that he is caught in an "undertow," the resulting increase of effort and acceleration of action reduce efficiency to a degree that must certainly have left many fatally exhausted before they reached a footing. Shaw's attention was first called to this matter by two cases of able-bodied but indifferent swimmers who, after going out just beyond their depth in an onshore breeze at Pasay Beach, near Manila, returned to the bathhouse exhausted and reported that they had been caught in an "undertow" with a nearly fatal issue. In each case he made immediate investigations of the water at the point indicated and found neither "undertow" nor offshore current sufficient to trouble any swimmer. On numerous subsequent occasions, while initiating beginners in the art of deep-water swimming, being headed for shore with an offshore breeze, he has heard the pupil anxiously declare that there was a current against him. The feeling of being carried backwards may, according to Shaw, be explained as analogous to the effect commonly produced on a person seated in a stationary railway carriage when a train on an adjoining line moves forward. More strictly, it might be compared to the effect produced by two trains, one on each side of the stationary carriage, moving forward at the same speed. Shaw concludes that when this optical illusion is made a matter of familiar knowledge by textbooks of physics, physiology, and physical culture there will be less danger in open-air swimming for those trained in tanks, ponds, and rivers when they go out of their depth in larger bodies of water. A swimmer should choose fixed objects by which to gauge his progress.

#### DR. JOHN HALL, SHAKESPEARE'S SON-IN-LAW.

In a paper read before the Historical Section of the New York Academy of Medicine Dr. Eli Moschcowitz<sup>1</sup> gave an account of this practitioner without a medical degree, who married Susanna, Shakespeare's elder daughter, in 1607, settled at Stratford-on-Avon, and died there at the age of 60 in 1635. During these twenty-eight years he had a varied practice and necessarily attended people related

and known to the immortal William, such as Michael Drayton the poet, Captain Bassett, his own wife, and their only daughter, at whose death, in 1670, the last descendant of the poet disappeared. Not a great physician, Hall is rescued from oblivion by propinquity, especially as it is suggested that, since he must have been known to Shakespeare for at least nine years, he may have contributed to the poet's acquaintance with medicine. An argument in favour of this is that most of Shakespeare's knowledge of things medical is displayed in his tragedies which were written in his later years. Hall left behind him a case-book, written in Latin, of which Dr. Leftwich gave an account to the Shakespeare Association, as noted in these columns last March. It related cases of most diverse kinds—dropsies, epilepsy, sterility, melancholia, and cancer among them—all cured by an extensive materia medica, including the dried trachea of a cock and the dung of various animals. These notes were translated by a Linacre professor into English, and brought out by James Cooke, a surgeon, after Hall's death. The book appeared in 1657, and fresh editions were brought out in 1679 and 1683, its popularity being possibly due to its optimism. Dr. Moschcowitz, who analyses some of the cases, is more daring than Sir Sidney Lee in the *Dictionary of National Biography*, and suggests that Hall attended Shakespeare in his fatal illness, and that had he been willing to publish his failures as well as his cures, an account of the poet's death might have been vouchsafed us. As it is, our only information is that, at "a merrie meeting" with Michael Drayton and Ben Jonson, Shakespeare "drank too hard, for he died of a fever there contracted on April 23rd 1616, aged 52 years." This is from the pen of the Rev John Ward, vicar of Stratford-on-Avon from 1662 to 1681 who was the subject of Mr. D'Arcy Power's interesting presidential address to the Medical Society of London in October, 1916. Hall is said to have become more puritanical with advancing years, and, as Shakespeare's executor, to have been to blame for the loss of the manuscripts of his plays.

#### VENTRICULAR FIBRILLATION WITH CARDIAC RECOVERY.

It is generally believed that ventricular fibrillation in human beings is immediately followed by death, although Gunn has shown that in small animals, such as the rat, recovery is not uncommon. Ventricular fibrillation appears to have been proved in man by means of the electrocardiograph in nine cases only, seven of which were recorded by Robinson. In another remarkable case, recorded by G. C. Robinson and J. F. Bredeck,<sup>1</sup> fibrillation of the ventricles was shown to be present by the electrocardiograph during an attack of cardiac syncope thirty hours before the death of a woman with mitral stenosis and aortic disease. Electrocardiograms taken after this attack showed the presence in the ventricles of functional abnormalities of very various forms. These abnormal complexes indicate that the cardiac impulses were arising in various points in the ventricles, travelling along abnormal paths in the ventricular muscle, and that many were travelling with abnormal slowness. These abnormalities were specially noticeable after the intravenous injection of strophanthin (1 mg.), and resembled the deranged cardiac mechanism observed experimentally by Levy and Lewis during the so-called state of potential fibrillation. Robinson and Bredeck have, indeed, seen these electrocardiographic changes in a patient who died suddenly after strophanthin, but at that time did not recognize their significance; other sudden deaths have occurred after strophanthin, possibly from ventricular fibrillation. This disturbance of ventricular conduction can be detected by the electrocardiograph, and contra-indicates the use of drugs such as chloroform, epinephrin, and strophanthin, which dispose the heart to ventricular fibrillation.

<sup>1</sup> Eli Moschcowitz, *Johns Hopkins Hosp. Bull.*, Baltimore, 1918, xxix, 148-152.

<sup>1</sup> G. C. Robinson and J. F. Bredeck, *Arch. Int. Med.*, xx, 725-738.



## TUBERCULOSIS IN NAVAL DOCKYARDS.

A RUMOUR mentioned to us by a correspondent to the effect that there was a considerable prevalence of pulmonary tuberculosis among men employed in dockyards led us to make some inquiries. We are indebted to the Medical Director-General R.N. for information which would appear to show that the rumour is unfounded. The number of cases of tuberculosis in the returns from one of the principal dockyards during the years 1915, 1916, 1917 was 99, out of a total complement of over 15,000; this gives an annual average of 33 cases, or 0.2 per cent. By Admiralty orders notices are placed in workshops and other places forbidding spitting. Punishment for violation of the order is, under dockyard regulations, checking of wages or dismissal. No persons suffering from tuberculosis are, we are informed, allowed to return to work unless certified by the local tuberculosis officer to be non-infectious; even in such cases only outdoor work is allowed as far as possible.

## HERPES ZOSTER AND VARICELLA.

THE evidence in favour of a connexion between herpes zoster and varicella has been dealt with by Dr. W. P. Le Feuvre of Bulawayo in various communications to medical journals, and recently he has returned to the subject in an article on "The aberrant vesicles of herpes zoster" in the *Medical Journal of South Africa* (March). He has brought forward evidence to show that cases of herpes zoster may (as there is abundant evidence to prove) be accompanied by an outbreak of "aberrant vesicles," which he suggests represents a generalized varicella eruption; secondly, he has endeavoured to establish the proposition that patients with herpes zoster may infect other persons with varicella, and, conversely, that patients suffering from varicella may sometimes give rise to herpes zoster amongst those about them; thirdly, he points out that herpes zoster and varicella occasionally occur side by side in the same period. It may, however, be questioned by any one familiar with the literature on the subject whether all the evidence really suggests more than that there are cases of varicella with a peculiar herpes zoster-like grouping of all or most of the vesicles, so that they may be easily regarded as cases of true herpes zoster (with or without "aberrant vesicles"); and, secondly, that there are cases of herpes zoster accompanied or "represented" by a generalized eruption of vesicles, so that they are accepted as genuine examples of varicella.

## DIABETES INSIPIDUS AND THE PITUITARY.

SOME cases of diabetes insipidus have been thought to be due to over-activity of the posterior lobe of the pituitary, the extract of which has been shown by Schafer to have a diuretic action, and it would therefore be expected that experimental removal of the posterior lobe would diminish the urinary output, but Cushing found that a transitory polyuria almost always occurred, particularly after operations necessitating manipulations of the stalk of the hypophysis and thus liberating excess of the secretion of the posterior lobe. In a short paper on the control of diabetes insipidus by means of subcutaneous injection of extract of the posterior lobe (and pars intermedia) of the hypophysis in a multiglandular endocrinopathy (thyreo-hypophyseogenital syndrome) Lewellys F. Barker and M. Hodge<sup>1</sup> state that all the recent evidence shows that diabetes insipidus is due to under-function of the pars intermedia, and that one of the most brilliant results of substitution therapy is the control of polyuria and polydipsia by injections of the extracts of the posterior lobe and pars intermedia of the hypophysis. Their patient showed symptoms of hyperthyroidism and also signs possibly pointing to implication of the (a) adrenal cortex, namely, hypertrichosis of the masculine type and well marked hypertrophy of the mammae and labia minora, there being no reason to consider that the chromaffine

system was abnormal, and (b) of the pituitary. Hypodermic injections of Armour's pituitary liquid, usually 2 c.cm. daily, produced a fall in the amount of urine and a rise in the specific gravity. Barker and Mosenthal previously found that 1 c.cm. twice daily satisfactorily controlled the fluid intake, the urinary output, and the specific gravity of the urine in a woman who when untreated passed from 8 to 11 litres of urine daily.

## ANTIVIVISECTIONISTS AND THE RED CROSS.

IT is a little difficult to understand the state of mind of persons who will give money to the Red Cross for the purpose of treating soldiers attacked by disease but object to any part of their gift being used for the discovery of means of preventing disease, and thereby saving suffering and permanent or long-lasting disability. But this, as we have already noted, has been the experience of the American Red Cross. A sum of 165,000 dollars was voted by its War Council in two appropriations for medical research, and a number of important subjects have already been investigated by means of these grants. One such subject is the etiology of trench fever, with regard to which most valuable results have been obtained, indicating that the disease is transmitted by the louse and the conditions in which this occurs. Another subject upon which light has been thrown is the nature and treatment of wound shock. The researches of Professor Cannon and his colleagues have done much to explain the phenomena of shock, and have placed in the hands of surgeons valuable means of treatment which have already saved thousands of lives. The American Red Cross has now received from Mr. Cleveland H. Dodge, of New York, a letter authorizing it to set aside and create a restricted fund of as much of his contribution to the second Red Cross War Fund, not exceeding 250,000 dollars, as may be necessary "for the proper and most thorough-going conduct of medical research designed to ascertain methods for the prevention and cure of diseases and wounds to which soldiers and sailors may be exposed." He also authorizes the American Red Cross to utilize part of this money to reimburse the first Red Cross War Fund for the appropriations already made for medical research, as well as for future expenditures for research work at home and abroad. Reimbursement has now been made and this particular grievance of the antivivisectionists is thus removed. As Mr. Davison, chairman of the War Council of the American Red Cross Fund, has well observed, the solution of such problems as the treatment of wounds, and especially of compound fractures, the eradication of lice and other parasites, the treatment of trench nephritis, and of the effects of lethal gas "will not only contribute toward the relief of suffering, but toward more effective prosecution of the war."

AN Order in Council has been issued extending the term of office of the existing direct representatives on the General Medical Council until December 31st, 1919. Accordingly, no election of direct representatives will fall to be held in the present year.

THE Food Controller has given notice that he is prepared to grant licences for the sale of milk at prices exceeding those specified in the Milk Order provided that the producer fulfils the conditions laid down by the Local Government Board, of which we gave particulars a short time ago.

A GRANT of £10,000 has been made to the Royal Free Hospital by the American Red Cross Commission for Great Britain for an extension of the maternity department, and it has been decided to take over and extend the maternity hospital hitherto entirely supported by the Duchess of Marlborough, which at present provides for the treatment of twenty patients. It is intended, as soon as the necessary arrangements can be carried through, to provide fifty beds for maternity cases, and to extend at this centre maternity training for the nursing staff of the Royal Free Hospital and other pupils; there are already vacancies for probationers.

<sup>1</sup> *Endocrinology*, i, 427-432.



# THE WAR.

## NEW METHODS OF DISINFECTION FOR THE PREVENTION AND ARREST OF LICE-BORNE DISEASES

(TYPHUS, RELAPSING, AND TRENCH FEVERS).\*

BY

COLONEL WILLIAM HUNTER, C.B., A.M.S.,

PRESIDENT OF ADVISORY COMMITTEE FOR PREVENTION OF EPIDEMIC  
DISEASES IN EASTERN WAR AREAS, 1915-17; COLONEL IN CHARGE  
OF BRITISH MILITARY SANITARY MISSION TO SERBIA, 1915;  
CONSULTING PHYSICIAN TO THE EASTERN COMMAND.

THE subject of this lecture relates to the prevention of lice-borne diseases—typhus, relapsing fever, and trench fever. I am not concerned with the evidence as to the lice-borne character of these diseases, nor with the life habits of lice, nor with the degrees of heat required to kill them, but with killing them in masses by an overwhelming amount of steam in the presence of which all life is impossible. Nor am I concerned with the conditions favouring lousiness. The whole matter is much simpler—namely, want (1) of water and (2) of conveniences for disposing of it. My experiences have lain in two areas—Egypt, the waterless and lice-plague stricken land, and the Balkans, where water indeed exists but is hand-carried, where there are no sewage arrangements, and where a saying is, "Lives there a man without his louse?" Nor am I concerned with the thousand and one lice-killing ointments and applications invented for prevention, nor with costly appliances and apparatuses for disinfecting, usually not available when wanted and insufficient to meet the needs when they are.

My interest has been in simple methods, available at all times and absolutely efficacious in killing body vermin, easily improvised, easily worked, and extremely effective. This interest, born of a great necessity in dealing with the appalling conditions in Serbia in 1915, has given the subject of disinfection a new importance in my eyes, and it has been my happy experience to extend that interest to conditions prevailing in Eastern war areas. The results have been from time to time officially recorded in reports submitted from the Serbian and Eastern Mediterranean war areas, where my duties for two and a half years have lain, first as O.C. of the British Military Sanitary Mission of twenty-five R.A.M.C. officers sent out to Serbia in February, 1915, and subsequently, from July, 1915, to June, 1917, as president of the Advisory Committee for Prevention of Epidemic Diseases in all the Eastern war areas.

These duties throughout have related to preventive work against infectious diseases, among which lice-borne diseases have been the most prominent and difficult. My experiences in connexion with the latter relate to the prevention and arrest of—

1. Typhus and relapsing fever in Serbia.
2. Relapsing fever in Egypt.
3. Trench fever in Macedonia.

### DISINFECTION PROBLEM.

The particular problem is prevention; and, in connexion therewith, the urgent need of extended measures of disinfection against body vermin on the largest scale. As to the van disinfectors, the striking results achieved in Egypt exceed, according to the testimony of all who have seen them, in simplicity, effectiveness, and rapidity of action, ten to twentyfold any methods of disinfection ever known. They have during the past two years formed the most striking and prominent feature of preventive work in Egypt, controlling the relapsing fever which has occurred each winter amongst the native labourers, and, up to the time of my leaving in 1917, effectively checking its spread to the troops.

#### *Typhus and Relapsing Fevers in Serbia, 1915.*

The origination of the two new types of disinfectors, called the "Barrel disinfector" and the "Railway van disinfector" respectively, was the first work of the British Military Sanitary Mission. The mission was sent out

by the War Office at the request of the Serbian Government, at two days' notice, under my charge, to deal with the great epidemics of typhus and relapsing fever and typhoid fever then raging in that country.

When we arrived in Salonica on March 1st, 1915, the accounts given me by the chief of the Serbian Red Cross of the conditions of that country were of the darkest character; but the realities we found after our first visits to the hospitals on our arrival at Nish on March 4th exceeded anything that had been anticipated. The whole country was decimated by these diseases, and there were over 15,000 to 20,000 cases in hospitals. There existed no available measures for disinfection and sanitation, and equipment and hospitals were lacking. The barrel disinfector was devised by my colleague Lieut.-Colonel G. F. Stammers on March 7th, 1915, three days after our arrival in Nish, and was made and put into use the following week in Kragujevatz, the head quarters of the Serbian army.

The railway van disinfector was devised by the same officer about ten days later, to meet the needs of disinfection of troops on a larger scale, and to form a part of the British sanitary train for inoculation and disinfection which we had decided to form for the work of the mission.

### "VAN DISINFECTORS": THEIR NATURE AND WORKING CAPACITY.

The principle of primary importance in disinfection against lice-borne diseases is to carry out disinfection on the largest possible scale and in the shortest period of time—the object being to kill off in any individual unit within a few days every living thing in the clothes and on the body which may have possibly contracted infection and be capable of conveying such infection. This principle is carried out by the current-steam railway van disinfector with a rapidity and efficiency unapproached by any other method of disinfection.

This simple and eminently practical type of disinfector was put into use as a part of the work of the mission in Serbia. It was subsequently introduced by me (modified in certain structural details which increased its working capacity and rapidity of action) and placed at work under my direct personal supervision in Egypt in February, 1916. For the first time in the history of disinfection the van disinfectors enabled clothes to be disinfected in bundles without any need to spread them out, permitting disinfection to be carried out with the greatest ease and rapidity, on groups of 500 men at a time, and at the rate of 500 men every two hours, measured from the time of their arrival to the time of their departure. It also enabled this disinfection to be carried out every day over an area of 200 miles and more, wherever disinfection was required.

A most striking illustration of the advantages of this mobility was afforded in one instance, where a van disinfector, which had just disinfected a division of 18,000 troops in twelve days in one area, went off about 500 miles to a centre in Southern Egypt, where some cases of typhus had occurred among the native labourers. It disinfected the whole of the troops and labourers (1,500 in number) in three days, and was back at work again in its former area disinfecting another division on the fourth day.

In the first three months of their work the two van disinfectors carried out the disinfection of 170,000 kits, 170,000 overcoats, 340,000 blankets, and great masses of ordnance clothing. Since that time the disinfectors in use have been the most prominent and effective measure of preventive work in Egypt, carrying out in the simplest and most efficient way in all parts of the Egyptian war area—up to railhead in Palestine—disinfection of troops and native labourers to the number of 100,000 to 120,000 men monthly. The total number of disinfections carried out in twelve months (May, 1916, to April, 1917) among a monthly average of 40,000 labourers was 495,000—an average of over 40,000 a month.

The van disinfector, both in its principle and in its efficiency, is totally different from various contrivances which have been put into use on railways for purposes of disinfection. These latter are merely large forms of autoclaves, dependent for their efficiency on the action of steam under pressure, and therefore expensive. They are essentially "disinfectors on railway trucks" ("truck

\* Abstract of a lecture delivered before the Royal Society of Medicine, London, on July 17th, 1918.



disinfectors", and for disinfecting purposes they have their definite applicability and usefulness.

But for disinfection on the largest and most rapid scale, such as is required for military purposes, the usefulness and ease of working of such types of disinfectors fall far below that of the railway van disinfectors. The principle of its action is quite different—namely, disinfection by current steam, supplied by and directly discharged in great volume and force into one or two ordinary railway vans (suitably adapted) by the railway engine which conveys them along the line to the place most conveniently adjacent to the troops. The cost of adaptation is only £30 to £40, the working simple and easy.

There is, of course, nothing new in the principle of using current steam as a disinfecting agent, but what I claim as new, and to the credit of the English Sanitary Mission in Serbia in 1915, for whose work it was first devised, is its application for widespread disinfection on a larger scale than had ever before been devised.

#### *Method and Rapidity of Disinfecting.*

Each man places his clothes in the centre of his blankets, ties the latter into a bundle by their four corners, attaches his identification disc to the bundle, and hands it into the van. Two soldiers inside the van place the bundles on the shelves and, after filling the shelves, on the gangways. One door is then closed, and the steam is turned on for a moment by the driver of the engine to enable it to be seen in what volume it is entering, what amount of steam is necessary for the particular load, and to make any final adjustment of the bundles near the doorway that may be necessary—for example, to prevent too free an escape of the steam under the door, or allow its due escape according to the degree of fullness of the van. The second door is then closed, and condensation water at once begins to escape below the doorways—at first in small amount and cool to the finger, then increasing in amount and warmth, then in about ten to fifteen minutes so hot that it cannot be borne by the finger. This continues for about half an hour; the water having a distinct offensive odour and a somewhat dirty colour. At the end of this period it becomes quite clear, loses its offensive odour, and has the clean, characteristic smell of the wash-tub. At the end of half an hour the quantity steadily lessens—an interesting change, denoting that the condensation water at first formed in the clothes is itself being converted into steam. If the van were opened at this period and any bundle taken out and examined, the clothes were found still wet with hot water. But, as the process went on, this water was itself converted into steam, till eventually, when the operation was complete at the end of an hour, the clothes were found full of steam at a temperature of 100° to 105° C. On being shaken in the air, this rapidly evaporated, leaving the clothes dry in a minute or two.

#### *Working Capacity.*

Each double van is capable, if fully employed, of carrying out disinfections at the rate of 500 kits with 1,000 blankets and 500 overcoats every two hours, of over 10,000 kits with 20,000 blankets and 10,000 overcoats in four days, and 18,000 kits with 36,000 blankets and 18,000 overcoats in nine days. With one disinfectors alone I have disinfected the kits and blankets of a hospital with 1,000 beds in four hours; the kits, blankets, and camp bedding of 4,000 prisoners of war in sixteen hours; of 1,500 camel corps men in about twelve to eighteen hours.

#### *Relapsing Fever in Egypt.*

The van disinfectors system was introduced into Egypt in February, 1916, for the control of relapsing fever. In Fig. 1



FIG. 1.—Double van disinfectors (Cairo) as introduced into Egypt in 1916.

is shown a van disinfectors made in the railway works at Cairo from a steel van and old engine which were available. It included certain modifications, in the larger size

and more central position of the steam pipes, the large number (a double row) of minute apertures,  $\frac{1}{8}$  inch in diameter, for the dispersion of the steam from the engine instead of a few larger apertures, and in the substitution of shelves for the clothes, instead of wooden bars or hooks for hanging the clothes. The adaptations were made in four days, at a cost of £35. The modifications made in this van disinfectors included the use of a small railway engine for the combined purpose of locomotion and production of steam, instead of a small heating engine. This added enormously to the rapidity and efficiency of action, as was proved by numerous tests I made—eggs being boiled hard, potatoes cooked, cultures sterilized, flies enclosed in test tubes killed, and, most conclusive of all, a self-registering thermometer, even when enclosed in its case, closed in at both ends and put into the centre of the largest bundle, registered temperatures of 102° to 105° C. (215° to 220° F.), as early as half an hour after the steam was turned on from the engine into the van. In each and every direction the results obtained exceeded all previous experiences or expectations connected with the possible usefulness of this type of disinfectors.

#### *Factors in the Disinfecting Process.*

The factors concerned in the remarkable disinfecting powers which this disinfectors has proved itself to possess are the following:

1. The first and most important and essential factor at work in the van is the disinfecting power of current steam (steam in continuous motion) at the ordinary atmospheric pressure. It is at once the easiest and the most potent disinfecting factor we possess.

2. The second factor is the great force under which the steam is driven into the van and clothes—a force derived from a pressure of 4 to 7 atmospheres (60 to 110 lb.) in the boiler of the engine. This is a powerfully aiding factor, which enables the steam to penetrate even the largest bundles of clothes. No attempt is made to develop any pressure in the van itself.

3. The third factor is the great volume of steam available from the boiler of a moderate-sized or even small engine, a factor which also contributes to the rapid penetration into the clothing.

The above factors would be amply sufficient of themselves for all purposes.

But they are powerfully aided by another very interesting and important factor connected with temperature. This is the possible action of the extra heat or "heat of condensation" of steam which has been under a pressure of 4 to 7 atmospheres, and which has just been set free from that pressure on entering the van. This heat is considerable. In the locomotive used by me the pressure in the boiler varied from 60 to 110 lb. (4 to 7 atmospheres). Steam under this pressure attains a temperature of 144° C. or 168° C. Immediately on entering the van the steam comes under normal atmospheric pressure, falling therefore to 100° C. and parting at once with its increased heat of 44° C. or 68° C. This "heat of condensation" is available as a factor, and appears to be an important factor in raising—in a few minutes—the temperature of the van to that of 105° C., which is so constantly found.

This source of additional heat ("heat of condensation") continues throughout the whole period of disinfection. It affects in the first place the articles it first strikes, and on which its full effect can be most rapidly manifested—namely, the walls of the van. Nothing was more striking from the first than the rapidity (five to ten minutes) with which the walls of the steel van became burning hot. But its action rapidly extends to all the clothes, and, thanks to the great force and volume of the steam, it rapidly penetrates to the centre of even the largest bundles, raising the temperature there to 102° to 105° C., as I found time after time by enclosing a thermometer in the centre of such bundles.

It might at first sight seem that to produce a temperature of 105° C. there must be pressure in the van, but no attempt is made to develop any pressure, the steam being allowed to escape above and below and around the doorways and in any other place (for example, chinks in the floor or in the roof) through which it can escape. Indeed, so far from trying to produce pressure, I always made it a point, in packing the van cram full, as I frequently did, to see that the bundles of clothes near the foot of the doorways did not obstruct the exit of the steam;



and I always made a point of regulating the amount of steam used, keeping it just sufficient to cause a sufficient but not excessive escape of steam from the van.

#### *The Factor of Pressure.*

Although no attempt is made to develop pressure in the van, there is the possibility that the walls of the steel van with the mass of clothes in it might exert a certain degree of pressure upon the contained steam. The temperature reaching  $105^{\circ}\text{C}$ . denotes a pressure of about 24 lb. (or about 9 lb. above ordinary atmospheric pressure).

The question at issue is one of physics, with which I do not feel qualified to deal. In favour of the view that increased pressure may be responsible for at least some part of the rise (of  $5^{\circ}\text{C}$ .) I can mention one fact of interest, namely, that in Stammers's barrel disinfector, described below, the temperature rapidly rises to  $100^{\circ}\text{C}$ . and in some circumstances may reach even  $102^{\circ}\text{C}$ . On the other hand, against this view of pressure is the result of one experiment in which there seemed to be no time for pressure to develop; and yet the temperature reached  $102^{\circ}\text{C}$ . in a few minutes.

The practical point is that, whether due to "heat of condensation," or to pressure, or to both combined, the temperature in the van disinfector (Cairo) did reach  $105^{\circ}\text{C}$ . The increase of temperature must contribute to the rapidity of the disinfecting process, if only by ensuring that the temperature rapidly rises to and never falls below  $100^{\circ}\text{C}$ .

The great advantage is not that there is any necessity for such a temperature for killing lice or their nits, which can be killed by temperatures far lower, but that the whole of the watery vapour in the clothes is in the form of steam at the end of the process, that the clothes are not wet with warm water but moist with steam, and that, consequently, if exposed at once to the air the clothes become dry in a minute or two. This occurs also with the "barrel disinfector." The method is pre-eminently suited for military purposes against all lice-borne diseases, such as trench fever, typhus, and relapsing fever, and against other verminous diseases like scabies, in which the needs are not for periodic disinfection on a small scale, but disinfections on large bodies of troops, carried out frequently and rapidly within a few days whenever the opportunity presents.

#### LICE-BORNE INFECTION AMONG TROOPS IN THE FIELD.

It is clear from the foregoing that to deal effectively with such conditions the disinfection must be capable of being brought to the troops, so as to be accessible to them wherever they are; it must be capable of dealing with them rapidly and in great numbers at a time, in order to interfere as little as possible with military duties, and be easily improvised on the spot and capable of being easily and expeditiously worked without need of special knowledge or technique or special personnel.

All these requirements are in my experience met—in a manner unapproached by any other type of disinfector—by the van disinfector (Cairo). Looking back at the circumstances in the Egyptian war area and on the results which I closely followed for a year and a half, I feel satisfied that in the absence of this form of disinfector the problem of relapsing fever in the Egyptian war area would have occasioned the greatest military difficulty and greatly impeded the successful prosecution of the campaign. Before the introduction of the van disinfectors among the natives nearly one-fifth of the average number of labourers were attacked by relapsing fever, but by disinfection on the largest scale by this disinfector the disease was effectively arrested or stamped out.

#### REGIMENTAL DISINFECTION BY MEANS OF STAMMERS'S "BARREL DISINFECTORS."

While the "Railway van disinfector" meets in most effective way the needs for disinfection of large bodies of troops or ordnance clothing, the needs for regimental disinfection are in my experience most simply and effectively met by the "Wine-barrel disinfector"—happily devised by Lieut.-Colonel Stammers as the first measure of disinfection against typhus and relapsing fever in Serbia.

Originally known as the "English barrel disinfector" during our work in Serbia, it was subsequently introduced as the simplest form of disinfection amongst our troops in

Mudros, Gallipoli, in the autumn of 1915, and in the Salonica forces early in 1916, where Lieut.-Colonel Stammers was A.D.M.S. (Sanitary). It was introduced into Egypt and thoroughly tested by me in October, 1915, when in Cairo.

#### *Description of Barrel Disinfectors.*

An old wine-barrel is taken and in its bottom a large central hole is made, with five or six holes around it; through them the steam enters the barrel, which stands (Fig. 2) on a circular boiler of cast iron or galvanized iron. To prevent any escape of the steam between the boiler and the bottom of the barrel a narrow sausage ring, filled with sand, is placed between the boiler and the barrel. The weight of the barrel presses this down, forming an efficient valve.

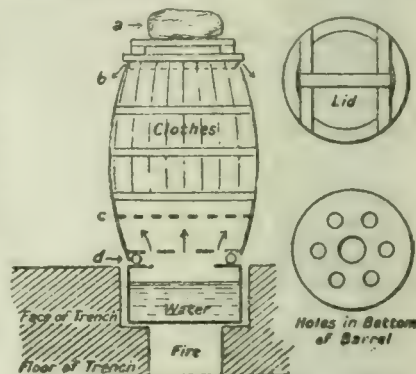


FIG. 2.—Stammers's "barrel disinfector."

To keep the clothes in the barrel away from the holes in the bottom through which the steam enters a small frame made of two or three crossed bars of thin wood or wicker-work is placed inside the barrel, over and about 9 inches above the holes.

The barrel is provided with a wooden lid, purposely made heavy, with an edge which fits inside the barrel or overlaps it. The object of the lid is not to prevent but to retard the escape of the steam; the purpose of the disinfector is disinfection by current steam which escapes slowly and with some difficulty around the edges of the lid. For transport the boiler and its sausage ring of sand are placed inside the barrel. Each barrel disinfector should have its own fire; once the water is heated, a very low fire suffices to keep it boiling. Each company of 250 men should have its own barrel disinfector, under the charge of the N.C.O. responsible for seeing that the men of his company are kept free from lice.

After the barrel is thoroughly heated and the steam escaping is too hot to be borne by the hand, the time required for disinfection of clothing is one hour; when fully heated up the temperature can reach as high as  $100^{\circ}\text{C}$ . ( $212^{\circ}\text{F}$ .).

In view of the widespread infection underlying trench fever, and its proved connexion with lousiness, the two methods here described are those most easily adapted for troops. I can confidently recommend them for wide use supplementary to or in place of any of the many other measures of disinfection or form of disinfectors now in use.

They have been tried on a scale in Serbia and in Egypt to deal with conditions of infection such as have never been exceeded in any war, and with success exactly proportionate to their systematic and continued use.

The area where the problem is now presented and the disease, trench fever, is different, but the problem is the same, and is capable of solution by the same methods—namely, not by methods requiring costly apparatus and technical skill for their use, but by practicable measures available and utilizable by the men themselves and by the company officers responsible for their cleanliness and freedom from lice infection.

The prevention of lice-borne disease can never be effected by the costly appliances of autoclave nature any more than the face cleanliness of troops could be effected or maintained by periodic visits to baths. The matter is one which affects each company of men and the platoon of each company; given a simple appliance it is perfectly possible, as my experience shows, for each company or platoon officer to keep his men free from lice or at least to give his men the opportunity of freeing themselves from lice at short periodic intervals when at rest in reserve.

For this purpose all that is required is the use of a simple steam disinfector of the nature of the barrel



disinfectant, which can be improvised at a cost of a few shillings, or of an even simpler form of steam disinfectant of the same principle which we also introduced into use

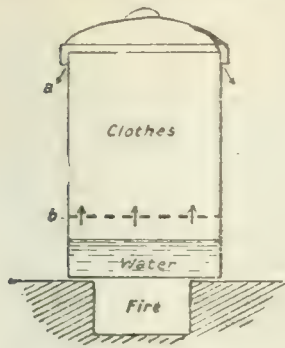


FIG. 3.—Galvanized iron bin disinfectant.

and employed in Serbia—namely, a galvanized sanitary bin (Fig. 3), placed over a fire, with a foot of water at the bottom, and an open wire or wooden grid over the water to keep the clothes off the water; one such barrel disinfectant or bin disinfectant for each company could meet its need of disinfection against lice to a degree which would reduce to one-tenth, even if it failed to eliminate, the entire risk of infection from louse-borne diseases.

Speaking from experience, were I a commanding officer of a regiment, I would rather

for immediate practical purposes have four such barrel disinfectants at my disposal (and, failing that, I should improvise them) than any type of disinfectant—"portable" or otherwise—that I have seen.

### THE KING'S LETTER.

In the letter congratulating Sir Douglas Haig and the troops that have fought so magnificently, on the happy results obtained, addressed to Field Marshal Sir Douglas Haig by the King at the conclusion of his visit to the army in France at the beginning of the fifth year of war, His Majesty said, "Of the hospitals, their efficiency, skill, devotion, and untiring efforts of the staff, I cannot speak in too high praise."

## CASUALTIES IN THE MEDICAL SERVICES.

### ROYAL NAVY.

#### *Accidentally Killed.*

#### SURGEON L. A. MARTIN, R.N.

Surgeon Lionel Arthur Martin, R.N., was accidentally killed at sea on August 10th, aged 31. He was the youngest son of Dr. E. F. Martin of Weston-super-Mare, and was educated at University College Hospital, taking the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1912. He joined the navy as a temporary surgeon on August 6th, 1914, two days after war was declared.

### ARMY.

#### *Killed in Action.*

#### LIEUT.-COLONEL A. J. A. MENZIES, D.S.O., R.A.M.C.

Lieut.-Colonel Arthur John Alexander Menzies, D.S.O., R.A.M.C., was killed in action on August 9th, aged 32. He was the only son of the late Alex. Menzies of Lankat Estate, Sumatra, and was educated at Edinburgh University, where he graduated M.B. and Ch.B. in 1912. He entered the R.A.M.C. as lieutenant on January 30th, 1914, was promoted to captain on March 30th, 1915, and had since been promoted to an acting lieutenant-colonelcy. He gained the D.S.O. in 1915 at Loos. He had been in France from October 7th, 1914, till his death, when he was in command of a cavalry field ambulance.

#### CAPTAIN G. H. H. ALMOND, R.A.M.C.

Captain George Hely Hutchinson Almond, R.A.M.C., was killed in action on August 9th, aged 41. He was the eldest son of the late Hely Hutchinson Almond, head master of Loretto School, and was educated at Loretto, at St. Bartholomew's Hospital, and at Oxford, where he graduated B.A., with honours in natural science, in 1902, and M.A., M.B., and B.Ch. in 1908, also taking the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1906. After filling the posts of clinical assistant in the electrical department and of house-physician at St. Bartholomew's, and of house-surgeon at the West London Hospital, he went into practice at Bath, where he was honorary pathologist to the Royal Mineral Water Hospital, assistant pathologist to the Royal United Hospital, medical officer of Monckton Combe School, and District Director of the Clutton Division of the Red Cross Society. He served in the South African war as a combatant, and had the Queen's medal with two

clasps. He took a temporary commission in the R.A.M.C. in 1915, was promoted to captain after a year's service, and had been serving as a pathologist at the front. His two brothers had previously fallen in the war, Captain R. L. Almond, R.E., in 1914, and Lieutenant H. T. Almond, Gordon Highlanders, in 1916. In 1908 he married a niece of the late Sir William MacCormac, Bt., and leaves a widow and three sons.

#### CAPTAIN W. H. LISTER, D.S.O., M.C., R.A.M.C.

Captain William Howard Lister, D.S.O., M.C., R.A.M.C., was killed in action in Italy on August 9th. He was educated at University College and Hospital, London, and took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1913, after which he filled the posts of surgeon to the Royal Mail ss. *Cobequid*, and of house-physician at University College Hospital. While still a student he served as a dresser under the Red Cross with the Greek army in the Balkan war of 1912. He took a temporary commission as lieutenant in the R.A.M.C. on August 8th, 1914, and was promoted to captain on completion of a year's service. In 1915 he was severely wounded. He received the Military Cross on June 3rd, 1915; a bar thereto on October 20th, 1916; a second bar on November 25th, 1916; and the D.S.O. on December 17th, 1917.

#### *Died of Wounds.*

Captains M. A. McKechnie and T. Whitmore, both of the Canadian Army Medical Corps, were reported as having died of wounds, in the casualty list published on August 17th.

#### *Died on Service.*

#### CAPTAIN J. CROSS, R.A.M.C.

Captain John Cross, R.A.M.C., died at Allahabad on July 21st. He was educated at Glasgow University, where he graduated M.B. and Ch.B. in 1903, and, after acting as house-physician and house-surgeon of the Victoria Infirmary, Glasgow, went into practice at Birkenhead. He took a temporary commission as lieutenant in the R.A.M.C. on June 14th, 1917, and was promoted to captain after a year's service.

#### *Wounded.*

#### Lieut.-Colonel D. Donald, Canadian A.M.C.

#### Major J. Hughston, R.A.M.C. (temporary).

#### Captain J. D. H. W. Barnett, Canadian A.M.C.

#### Captain I. M. Barrow, Australian A.M.C.

#### Captain D. St. C. Campbell, Canadian A.M.C.

#### Captain E. A. McCusker, Canadian A.M.C.

#### Captain D. R. Morrison, Canadian A.M.C.

#### Captain A. J. W. Ritchie, R.A.M.C. (temporary).

#### Lieutenant J. J. Hughes, R.A.M.C. (temporary).

#### Lieutenant J. J. Pickles, R.A.M.C. (temporary).

#### *Prisoners of War.*

#### Lieut.-Colonel A. C. H. Gray, R.A.M.C.

#### Captain F. C. H. Bennett, R.A.M.C. (temporary).

#### Captain M. S. Esler, R.A.M.C. (temporary).

#### Captain D. D. Gillespie, R.A.M.C. (temporary).

#### Captain R. M. Handfield-Jones, R.A.M.C. (temporary).

#### Lieutenant A. Boyle, R.A.M.C. (temporary).

#### Lieutenant J. W. Jones, R.A.M.C. (temporary).

#### Lieutenant A. M. McDonnell, R.A.M.C. (temporary).

In the BRITISH MEDICAL JOURNAL of August 17th, the name of Major G. Stiel, R.A.M.C., was entered by mistake in the list of prisoners, instead of in that of wounded.

#### DEATHS OF SONS OF MEDICAL MEN.

Collins, Robert Henry, M.C., acting Major Royal Engineers, second son of Dr. Collins of Dulverton, died of wounds in hospital abroad on June 1st, aged 23.

Keith, Thomas Stothard, Cameron Highlanders, youngest son of the late Dr. Keith of Aboyne, killed in action, July 24th, aged 31.

Ogilvy-Ramsay, Max, Second Lieutenant Royal Air Force, only son of the late Maxwell Ogilvy-Ramsay, surgeon, of Carlisle, died of wounds recently, aged 20.

Young, William Barrie, Captain Royal Air Force, only son of Dr. Young of Earlston, Berwickshire, accidentally killed on August 8th while flying in the South of England. He was educated at Edinburgh Academy, and at the beginning of the war enlisted in a Scottish yeomanry regiment, with which he served in Salonica. After obtaining a commission in the R.A.F. he was severely wounded in an air fight in France in 1916. He was serving as an instructor in England at the time of his death.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]



## HONOURS.

THE following are the acts of "conspicuous gallantry and devotion to duty" for which the decorations announced in our issue of March 9th, 1918, p. 299, were awarded to the two medical officers mentioned:

*Bar to the Military Cross.*

Temporary Captain George Lestock Thornton, M.C., R.A.M.C.

After his two orderlies had been killed he continued to attend to the wounded with complete disregard for his personal safety.

*Military Cross.*

Temporary Captain Robert Daniels Bell, R.A.M.C.

On the battery positions being heavily shelled with gas shells one shell struck a dug-out occupied by three men, badly wounding two of them and gassing the third. This officer immediately proceeded to their assistance, extricated them from the debris, and proceeded to bind up their wounds, removing his own gas mask in order to see more clearly. The men were successfully evacuated to a dressing station, but he, unable to find his mask, became badly gassed. Despite this, he persisted in carrying out his duties for some time until he had to be evacuated. His absolute lack of fear was undoubtedly the means of saving the lives of the three men.

## OFFICERS COMMENDED.

The following members of the medical profession are included in a list of names brought to the notice of the Secretary of State for War for valuable services rendered in connexion with the war:

Major-Generals: Sir W. Donovan, K.C.B., A.M.S., O. R. A. Julian, C.B., C.M.G., A.M.S.  
 Surgeon-General W. S. M. Price, A.M.S.  
 Colonels S. H. McKee, C.M.G., C.A.M.C., W. H. Parkes, N.Z.M.C.  
 Lieut.-Colonels: H. H. Balfour, M.B.E., S.A.M.C. (temporary Major R.A.M.C.), H. J. Barnes, R.P., late R.A.M.C., U. J. Bourke, R.A.M.C., E. R. W. Carroll, I.M.S., R.P., W. H. Delaney, C.A.M.C., C. E. Dennis, A.A.M.C., P. G. Goldsmith, C.A.M.C., (temporary Colonel) C. T. Green, T.D., R.A.M.C. (T.F.), W. E. Grigor, A.A.M.C., Acting Colonel L. E. W. Irving, D.S.O., C.A.M.C., W. J. Le H. Lyster, United States M.C., F. Marshall, A.A.M.C., H. M. Nicholls, R.A.M.C., K. D. Panton, C.A.M.C., W. F. Somerville, M.D., T.D., R.A.M.C. (T.F.), B. M. Sutherland, A.A.M.C., J. R. Yourdi, R.A.M.C., R.P.  
 Temporary Lieut.-Colonel H. French, R.A.M.C.  
 Majors: (Temporary Lieut.-Colonel) J. K. Adey, A.A.M.C., S. C. Chown, C.A.M.C., H. A. Howes, R.A.M.C. (T.F.), T. R. Ritchie, N.Z.M.C., A. G. Stamborg, Jersey Medical Corps (temporary Major R.A.M.C.), H. H. D. Turnbull, A.A.M.C., C. B. Turner, R.A.M.C. (T.F.), G. C. Wilcocks, M.C., A.A.M.C., C. A. Young, C.A.M.C.  
 Temporary Majors R.A.M.C.: F. S. Brereton, W. B. Cosens, G. P. Humphrey, W. V. Robinson, R. Wilson, S. W. Woollett. Temporary Major J. C. A. Rigby, S.A.M.C.  
 Temporary honorary Major T. G. M. Hine, R.A.M.C.  
 Captains R.A.M.C.: G. A. Child (T.F.), R. A. Freeman (T.F.), L. C. Hayes, (temporary Lieut.-Colonel) E. A. Houchin (T.F.), (acting Major) A. Jackson, G. E. Kinnersley, W. P. MacArthur, D.S.O., (local Major) A. T. J. McCreery, M.C., G. W. S. Paterson, T. Sheedy (S.R.), C. W. Wirgman (T.F.). Captains C.A.M.C.: (Acting Major) J. R. Goodall, E. L. Warner, C. R. Wilson. Captain (temporary Major) H. O. Lethbridge, A.A.M.C. Captains N.Z.M.C.: (Temporary Major) W. Bruce, D. E. Fenwick, W. S. Wallis.  
 Temporary Captains R.A.M.C.: D. J. Bedford, A. E. Boycott, R. Bruce-Low, W. A. Clayton, F. Corner, S. E. Denyer, C.M.G., J. Fairley, E. F. W. Mackenzie, D. W. MacLagan, J. A. Marsden, R. A. Peters, M.C., (temporary Major) H. T. L. Roberts, T. Russell.  
 Dr. A. M. Roberts, Medical Recruiting Controller, Q.M.A.A.C.  
 The list also includes a number of warrant and non-commissioned officers and men of the R.A.M.C. and colonial medical corps.

## FOREIGN DECORATIONS.

The President of the French Republic has conferred the honours indicated upon the following officers of the R.A.M.C.: *Légion D'Honneur*.—*Croix d'Officier*: Colonel Claud K. Morgan, C.M.G.

*Croix de Guerre*.—Major Charles M. Row, Captain Francis Ward, temporary Captain Cecil T. I. Clarke.

The British member of the Royal Italian Medical Commission upon whom the King of Italy conferred the rank of Cavalier of the Crown of Italy, noted last week, p. 173, as Dr. Andrew Morton, is Mr. A. Stanford Morton, F.R.C.S., ophthalmic surgeon to the Italian Hospital.

## NOTES.

## "THE BLACKGUARD NATION."

THE German army, which we are often told is one with the German people, is filling up the cup of its iniquities. When the Germans bombed hospitals the excuse was made for them that the buildings were not properly marked with the Red Cross, though the apologists forgot to add that the Germans used the Red Cross to protect their corps head quarters. A month or two ago an order was found to have been issued directing troops in the advanced line to shoot down stretcher parties collecting the wounded, not so much with the object of killing them, but, as was explained, to ensure that the wounded were left out so long that they would be beyond the reach of the surgeon's art. In this way it was sought to diminish allied effectiveness. The Ministry of Information has now sent through its wireless service particulars of certain gross outrages committed by the Germans upon British prisoners and wounded in March last. The stories have

no doubt been seen by all readers, and it is only necessary to say that the sworn statements of soldiers belonging to a Scottish regiment are to the effect that, under the orders of a German officer, a soldier who accompanied him turned a stream of liquid fire down the trench in which prisoners and wounded (16 men, of whom 10 were wounded) had been lined up. Some of the unwounded men escaped, but all the wounded must have been either suffocated or burnt. The British Government has caused to be conveyed to the German Government a protest against the offences described, but, as they appear to be part of a deliberate policy, it is hardly to be expected to have any effect. The *Cologne Gazette* recently said that the Germans are a blackguard nation, and the epithet seems well chosen.

## THE WEIGHT OF LIMBS: NATURAL AND ARTIFICIAL LIMBS COMPARED.

It happens not infrequently that a man who does not find it easy to manage an artificial limb believes that his difficulty is due to the weight of the appliance. At the instance of Colonel J. Lynn Thomas, C.B., C.M.G., Surgeon to the Prince of Wales's Hospital for Limbless Sailors and Soldiers at Cardiff, Professor A. Keith, F.R.S., Conservator of the Museum of the Royal College of Surgeons of England, has supplied some information which has been printed on a card at the Welsh Orthopaedic Centre Curative Print Shop.

The information supplied by Professor Keith is as follows:

The total weight of a lower extremity is 18.6 per cent. of the body weight, and the total weight of an upper extremity 6.38 per cent. of the body weight. In a man weighing 11 stone (154 lb.), a lower extremity would weigh 28.65 lb., made up thus:

Thigh ...	11.6 per cent. of body weight = 17.85 lb.
Leg ...	5.2 " " " = 8.0 "
Foot ...	1.8 " " " = 2.8 "

18.6 per cent. of body weight = 28.65 lb.

An upper extremity would weigh 9.8 lb., made up thus:

Upper arm ...	3.3 per cent. of body weight = 5.1 lb.
Fore arm ...	2.28 " " " = 3.5 "
Hand ...	0.8 " " " = 1.2 "

6.38 per cent. of body weight = 9.8 lb.

For comparison Colonel Lynn Thomas has supplied us with the weights of the standardized artificial limbs made for the patients at the Prince of Wales's Hospital, Cardiff:

*Lower Limb.*

For disarticulation at the hip (including tilting table) ...	9 lb.
For amputation through the upper thigh (with pelvic band) ...	7½ "
For amputation through the middle thigh ...	6½ "
For amputation through the knee ...	6 "
For amputation below the knee ...	5½ "
For Syme's amputation ...	3½ "

*Upper Limb.*

For disarticulation at the shoulder ...	3 lb. 10½ oz.
For amputation above elbow ...	2 " 12½ "
For amputation below elbow ...	2 " 4½ "
For amputation of the hand ...	7½ "

## MILITARY MEDICAL ESTABLISHMENTS IN ITALY.

According to the *Giornale d'Italia* of July 10th, there were in Italy before the war 28 principal and 2 auxiliary military hospitals, 6 convalescent depôts, and 31 garrison infirmaries. In September, 1917, there were 948 reserve hospitals, 21 convalescent institutions, 146 Red Cross hospitals, and 1 hospital of the Order of Malta, with a total number of several hundred thousand beds. The sanitary services of the army included bacteriological and disinfecting stations, close up to the front lines; consultation posts, each with a surgeon, an ophthalmologist, a syphilographer, a psychiatrist, a neuropathologist, and a stomatologist chosen from among university teachers; hospital trains, trains for stores and equipment, stretcher sledges, motor litters, and ambulances; physiotherapeutic centres for each army corps; departments of confirmatory diagnosis for incipient tuberculosis; a centre at Nervi for tuberculous prisoners, and one at Careggi, near Florence, for tuberculous men from the war zone; surgical sections at Turin, Milan, Genoa, Bologna, Florence, Rome, Naples, and Palermo for blinded and mutilated soldiers; neurological centres for each army corps; departments and special hospitals in each army corps for relapsing malarious patients; antimalarial sanatoriums for convalescents; and surgical and radiological ambulances for each army corps.



## Scotland.

### THE SCOTTISH UNIVERSITY CONSTITUENCY.

At a meeting of the Labour Representative Committee of the Scottish Universities in Glasgow on August 17th, at which graduates belonging to the professions of medicine, teaching, the ministry, law, and engineering, were present, Dr. Peter Macdonald and Dr. James Dunlop were chosen as candidates for the parliamentary representation of the Scottish Universities. Dr. Peter Macdonald, whose first medical degree at Aberdeen was taken in 1894, is surgeon to the ear, nose, and throat department of the York County Hospital. He is at present one of the vice-presidents of the Panel Medico-Political Union. Dr. James Dunlop, who graduated M.B., Ch.B. in 1910, practises at Slettleston, an eastern suburb of Glasgow. Colonel W. R. Smith, who is a graduate of Aberdeen University, and has recently been elected a sheriff of the City of London, has also been invited to become a candidate; it was announced some time ago that Sir John Collie had been invited to become a Liberal candidate for the Scottish Universities, and other names also have been mentioned. The sitting members are Sir Watson Cheyne (Edinburgh and St. Andrews) and Sir Henry Craik (Glasgow and Aberdeen). Although we have seen no definite statement on the subject, we understand that both are prepared to stand again.

### STERILIZATION OF MEAT FROM TUBERCULOUS ANIMALS.

It appears that by direction of Mr. Trotter, the chief veterinary meat inspector, a quantity of tuberculous meat has been put into cold storage in Glasgow. The storage appears to have been connected with an attempt to introduce into the city a system of sterilizing meat condemned as tuberculous. The Health Committee, after two discussions, has referred the matter to the subcommittee on meat and fish inspection to investigate and report. The sale of sterilized meat from tuberculous animals has long been permitted in Berlin and, we believe, in other German cities.

## Canada.

### CONTROL OF VENEREAL DISEASES.

This year the Canadian Medical Association, the Ontario Medical Association, the Canadian Association for the Prevention of Tuberculosis, and the Ontario Health Officers' Association, met at the same time at Hamilton, on Lake Ontario.

The first two days of the medical week were devoted to meetings of the Canadian Public Health Association and the Ontario Health Officers' Association. The opening ceremony was performed by the Duke of Devonshire, the Governor-General. The principal questions under discussion were the control of venereal diseases and the conservation of child life. Lieut.-Colonel John W. S. McCullough, Chief Health Officer for the Province of Ontario, gave an account of the Act recently passed by the Legislature of Ontario. It provides that any person under arrest may, if thought necessary by the health officer, be examined to discover if he is suffering from venereal disease, and, if so, detained and treated. Medical officers in charge of places of detention are required to report cases within twenty-four hours. Medical officers of health may also require examination and treatment of persons they know to be suffering from venereal disease, and provision is made for the right of entry in the daytime by the health officer or his deputy to premises for the purpose of examining persons known to be so infected. It is provided that action against a physician making examination or reports with regard to such cases can be brought only with the consent of the Board of Health. It is provided also that hospitals receiving Government aid shall arrange for the treatment of cases of venereal disease, and that the necessary remedies and equipment for treatment shall be supplied free to hospitals. Heavy penalties are imposed on any persons other than qualified physicians who attend or treat venereally infected persons, on those who advertise remedies, and on those found guilty of infecting others.

The presidential address of the Canadian Medical Association was given to a combined general session of all the associations by Dr. H. Beaumont Small of Ottawa. In it Dr. Small made reference to the spirit of amicable co-operation manifested both before and at the congress, and expressed the hope that on account of the scientific programme presented the departure would commend itself to the profession, and that the precedent established of one medical congress instead of several medical meetings would occasionally be followed.

We learn that an Act is now in force in Saskatchewan which provides that all cases of syphilis, gonorrhoea, or chancroid shall be reported by the physician in attendance to the Commissioner of Health. The physician is required to furnish particulars as to the age of the patient, his occupation, marital relations, and probable source of infection. Such information will not be made accessible to the general public, and the name of the patient will not be given unless he fails to return for treatment for thirty days, in which case his name and address must be reported to the Health Commissioner, who is authorized to take the necessary steps to ensure that such patient receives adequate treatment. Provision has been made for the treatment of patients suffering from these diseases and for the carrying out of the Wassermann test at the new pathological laboratory at the Regina General Hospital and at the chemical laboratory of the University of Saskatchewan at Saskatoon. An educational campaign throughout the province has been begun to awaken the public to the dangers from these diseases.

## Correspondence.

### THE LABOUR PARTY AND THE MEDICAL PROFESSION.

SIR,—It is gratifying to read Mr. Sidney Webb's admirable letter, and not only to be assured that the Labour party is not in favour of a State medical service, but also to observe how closely he, as spokesman for his party on this occasion, is in agreement with the scheme approved by the Council of the Association, and set out in the pamphlet under the title of *A Ministry of Health*. It is unfortunate that there are a number of members of the Labour party, both medical and lay, who do not agree with us, but it is clear that we may now look for help from representatives of all the political parties in achieving the main objects to which we have set our hands in this matter.

There are three main points as to which I should like to compare Mr. Webb's statements with those set out by the Council. Mr. Webb does not favour a "State army of salaried clinicians operating, like the R.A.M.C., from a central head quarters and working in conjunction with an array of State hospitals and sanatoriums administered, like the pensions, by a Government department at Whitehall." We entirely agree, of course, but I should like to assure Mr. Webb that we are equally opposed to the establishment of such a "State army of salaried clinicians," even though its divisions or regiments may be administered by local councils. It is the whole-time salaried clinical service, whether centrally administered or otherwise, that we believe to be not good for the profession and bad for the public. I hope Mr. Webb agrees.

The three local bodies administering health services are: the Poor Law guardians, the Insurance Committee, and the Municipality or County Council (including the Education Committee). Mr. Webb, we know, is foremost among those who advocate the abolition of the first of these, and the handing over of its medical functions to others. Again we entirely agree, and as the Poor Law administration seems to be the chief obstacle to immediate progress, it is important that all those who take this view should unite their efforts to remove it. But with regard to the second and third, Mr. Webb seems to contemplate their continued separate existence and development, mitigated by an attempt to co-ordinate their work so that they may aid one another. Our scheme, on the contrary, aims at their complete unification, and attempts, in unifying them, to preserve the best features of both. Perhaps Mr. Webb might agree that the latter plan is better than the former, but prefers co-ordination to unification as being easier of accomplishment. If this be so, I suggest that where both



plans are difficult it is as well to aim at the complete one, and I plead for his help and that of his party.

Mr. Webb frankly recognizes the need for "the full and cordial co-operation of the independent medical practitioner," and states that the Labour party are basing their scheme on "a more effective representation in the counsels of the nation of the medical profession itself; meaning by this the opinion of the general practitioner even more than that of the consultant, the official expert, or the professor of the medical college." Again we entirely agree, and our scheme attempts to secure this in three ways—(1) by a completely independent department for medical research and statistics; (2) by "an Advisory Medical Council attached to the Ministry of Health without executive powers, but authorized to report to the public, uncensored by the Government, upon anything done or undone in the realm of public health"; (3) by a local medical committee elected by all members of the profession in each area exercising locally powers similar to those which the Advisory Council exercises centrally. Mr. Webb does not refer to the first of these, but there is no reason to suppose that it is objected to. The other two, of vital importance to the profession, he somewhat emphatically adopts. The second I have described in his own words; the third he implies is a suggestion of his party's, going beyond our own, but I invite his attention to the fact that it is set out quite clearly in our scheme, and that we are in agreement as to its value and importance.

Where so much that is basic is agreed upon we need not despair of carrying Mr. Webb and the Labour party with us the whole way, and so securing among all political parties a general agreement that will be sufficient to overcome the smaller interests and jealousies that are bound to be in opposition.—I am, etc.,

London, N., Aug. 18th.

HENRY B. BRACKENBURY.

SIR,—Mr. Sidney Webb's letter in the *BRITISH MEDICAL JOURNAL* of August 17th should prove of great interest, whatever the political views we hold. Mr. Webb voices, if he does not dictate, the ideals in health measures of an important section of what is called "Labour." From his letter it appears that most of us have hitherto misunderstood these ideals. And he desires a "more effective representation in the counsels of the nation of the medical profession itself." In fact, Mr. Webb would concede to the doctor an extremely important position in the State.

Without discussing in detail the aims stated by Mr. Webb, I would like to indicate briefly the specific matters which, in my opinion, need consideration forthwith by all those who are interested in "reconstruction" so far as it affects the medical profession, whether they are members of the lay community, or of the medical profession, or of the State services. It seems to me that without due consideration and right decision on these matters no sound foundations for a Ministry of Health can be laid. First, there is the better education of the medical man, whether as a student or when qualified. With regard to the education of the student, there is much food for thought in Sir George Newman's *Notes on Medical Education in England*. For the continued education of the qualified practitioner—an even more difficult matter—it is worth considering how far a closer linking up of the general practitioner and the consultant or specialist can be effected. Such linking might lead to better continuity of treatment and to a physiological division of labour, as well as having an educational value for all concerned. In order not to interfere with the student-teaching functions of the larger hospitals, use should be made of such institutions as special hospitals, Poor Law infirmaries, and fever hospitals, which might be thrown open to the general practitioner.

Secondly, so far as the industrial population is concerned, more time would seem to be required for diagnosis and treatment. This may mean that a larger number of entrants to the profession of medicine is needed; and if so, the nature of greater inducements which should be held out, and their development, must be considered.

Thirdly, methods of providing greater facilities for special methods of investigation in the treatment and diagnosis of disease must be found.

Finally, on these foundations it may be possible to build a Ministry of Health from which real benefit might accrue. As to the form which that Ministry should assume opinions still seem divided. May it not be possible that greater

results will be obtained from a super-department engaged in scientific research into the principles upon which public health should be based, rather than from a conglomeration of the present departments concerned with public health engaged in attempting to administer an unwieldy machine?—I am, etc.,

London, W., Aug. 20th.

CHARLES BUTTAR.

#### VANGHETTI'S OPERATION.

SIR,—My attention has been drawn to a letter in your issue of August 3rd signed by Colonel Openshaw and Colonel Lynn Thomas. I wish to state that the operation which they criticize was only performed after the case had been seen in consultation according to the invariable rule of the hospital. And, in fact, it was at the express wish of the surgeon in charge that I did the amputation.—I am, etc.,

London, W., Aug. 14th.

ERIC PEARCE GOULD.

#### THE MENINGOCOCCUS OF WEICHSELBAUM.

SIR,—The article by Dr. Edward C. Hort in the *BRITISH MEDICAL JOURNAL* of September 22nd, 1917, on the Meningococcus of Weichselbaum is somewhat difficult to understand, but the main point seems to be that Meningococcus is regarded as the spore of an ascomycetous fungus. Further, the "filterable meningococcal virus" of an earlier paper of the author "probably represents a stage in the life-cycle of the ascomycetous organism." I cannot claim anything but a superficial acquaintance with Meningococcus, and do not wish to criticize Dr. Hort's statements on the genus as such; but, particularly in view of the exploded theories of many early nineteenth century biologists—such, for example, as that of Béchamp, who, about 1870, held that certain bacteria were capable of transforming into yeasts, and of the well-known pleomorphic extravagances of a few years earlier, when Hallier and his school placed Mucor, Empusa, Saprolegnia, and Saccharomyces in the same life-cycle—it is essential that we should have the strongest possible scientific evidence before regarding a diplococcus and a filterable virus as stages in the life-history of an Ascomycete.

It is on the mycological side that I would wish to point out certain criteria which are necessary before the organism described in the paper can be regarded as an Ascomycete. (There is little or no evidence given that it is even a fungus.)

The organism is described and drawn as spherical, with the power of budding. Within the body endospores are formed varying in number from two to eight, and, judging from the figures, the number of spores in the same ascus increases with age—for example, from three to eight in Culture 3. These endospores the author regards as the meningococcus of Weichselbaum.

To make clear to those who profess no knowledge of mycology the criticisms I have to offer, it may be well to emphasize the essential characters of an ascus, the organ which gives its name to one of the main groups of fungi.

An ascus is a sac containing, in the vast majority of cases, eight spores. It is generally subglobose in the lower forms such as Endomyces, Eurotium, etc., and club shaped in the more evolved forms such as the ordinary cup fungi (Discomycetes). The spores arise by free-cell formation. There is a single nucleus in the ascus at its origin which, in those genera possessing ascogenous hyphae, arises from the fusion of two nuclei in the penultimate cell which gives rise to the ascus. The nucleus divides; a second and third division follow, and thus eight nuclei are formed. Part of the protoplasm accumulates around each of the nuclei, and these portions are delimited by a spore wall which is usually formed by astral rays from the nucleus. The remainder of the protoplasm (periplasm) is gradually absorbed by the growing spores. Although eight is the almost invariable number of spores in the ascus, variations occur. In some cases certain of the nuclei degenerate, and one, two, or four spores result, as the case may be; or further divisions of the original eight nuclei may take place (*Hypharobius* spp.), and 16, 32, 64, etc., spores be formed; or, very rarely, the spores may bud inside the ascus (Exoascaceae). Yeasts are Ascomycetes, but the number of spores contained in the ascus is variable, ranging from one to twelve. In the most variable species—as, for example, those used in industry—the number, however, shows a certain fixity: thus *Saccharomyces cerevisiae*, in which the number of spores varies from one to five, has most frequently four. In Phycmycetes—for example, Mucor—the sporangium, which likewise contains internal spores though almost without exception indefinite in number, is multinucleate from its inception, and the spores are formed by the segmentation of the protoplasm, none of which remains over as periplasm.



Dr. Hort's terminology is difficult to follow; even more so is the chart of free hand drawings of selected giant meningococci which he states is self-explanatory. The author is apparently so little aware of the extraordinary characters of the "ascomycetic organism" he has described that he has taken no trouble to prove that it is an ascomycete, apparently relying on the fact that internal spores are formed and that the vegetative cells undergo gemmation. How does the "ascus" described agree with a typical ascus? The young cells are drawn as being without cell contents, and so it is impossible to tell whether they are originally uninucleate, as are all young asci, and also what nuclear changes take place therein. The increase in the number of spores in the same ascus is not commented on, though it would be amazing in any fungus with so few spores, and is, of itself, sufficient to cast doubt on the whole paper. Does this "ascomycetic organism" differ from the rest of the fungi with endospores in that there is not simultaneous spore formation? If there is not simultaneous spore formation how does the number of spores increase? One would not expect the spores to increase by budding in such a form, though the difference in size of the spores, which is, so far as my memory serves, unique, may perhaps suggest that such takes place; but the relative positions in the cells is against this view, and the last four drawings seem to indicate that the difference in size is due to growth. Further, all non-motile fungus spores have definite cell-walls, whereas these are absent in *Meningococcus*. The author writes:

There is as yet no evidence that the true meningococcus develops again directly into an ascus, as, on the contrary, undoubtedly do the ascial buds. For a time, at least, on solid laboratory media, equal binary fission of the meningococcus becomes stable and fixed, though I have been able to obtain evidence, at present incomplete, that some meningococci (endospores), either before or shortly after escape from the ascus, will show mycelial sprouting in suitable liquid media, and so complete the cycle. Considering, however, the tendency to suppression of the mycelial phase in many of the ascomycetes, it is perhaps not to be wondered at that the mycelial aspect is much more difficult to study in laboratory cultures of the meningococcus than is the ascial aspect.

This apparently means that, although the spores are placed in the conditions under which there is abundant vegetative growth, they refuse to germinate—an unexpected phenomenon. They behave, on solid media, as the meningococcus of the textbooks, but does the "true meningococcus" here mean the endospores? Endospores may show "mycelial sprouting," though it is not stated whether this is the vegetative budding described for the organism or the formation of a true mycelium. Vegetative budding, if such be meant, might explain the remarkable increase in the number of endospores before liberation; but the next sentence seems to suggest that it is a true mycelium the author intends, though the sentence as a whole indicates his lack of knowledge of fungus culture—asci are *always* more difficult to obtain than are vegetative phases.

Apparently Dr. Hort has been led to consider his organism near to the Saccharomycetes. A few of the camera lucida drawings suggest an organism similar to *Torulospira*, but the representations of budding in the chart are very unlike what one ever sees in cultures. But budding is not unknown in fungi other than Ascomycetes; it occurs in Basidiomycetes (for example, *Calocera*), Ustilaginaceae (for example, *Ustilago*), Fungi Imperfecti (for example, *Dematium*), in some cases even with alcoholic fermentation.

It may be thought that the statements in the author's conclusions:

The so-called giant meningococcus is not a bacterium. It represents an ascial stage in the life-cycle of an organism allied to the ascomycetes.—

or in the footnote to this—

Owing to the variable number of ascospores (meningospore) which the ascus (meningococcus) contains, and owing to the absence of perithecium, the organism here described is provisionally placed amongst the hemiascomycetes, instead of amongst the ascomycetes proper—

shelter him from much of the above criticism. But all fungi with asci are Ascomycetes. The Hemiascomycetes (*Hemiasci* of Brefeld) were a group which were characterized by having an indefinite number of spores in a single sporangium (not, be it remarked, a variation in number

in the same sporangium), though with other characters suggesting Ascomycetes. The members of this group, supposedly intermediate between Phycomycetes and Ascomycetes, have, so far as studied, proved to belong definitely to one or other of these two groups. To use the term Hemiascomycetes for simple Ascomycetes (either primitive or reduced) is wrong both historically and scientifically. It would be of the greatest interest to mycologists to have definite proof that *Meningococcus* (or any such genus) is the spore of a fungus. But it is devoutly to be desired that workers making assertions on such matters should give satisfactory evidence when publishing their accounts. Dr. Hort is obviously not enamoured of bacteriology textbooks. Is it too much to ask that he should consult a mycologist before publishing any further account of his mycological researches?—I am, etc.,

Base Laboratory,  
Salonica.

J. RAMSBOTTOM,  
Mycologist, British Museum.

#### GENERAL PRACTITIONERS AND VENEREAL DISEASE.

SIR,—The article, "General Practitioners and Venereal Disease," in the issue of August 3rd, p. 119, seems to me so wide of the mark as to call for comment.

It implies that the army and navy hold some monopoly, as it were, of venereal disease, and whilst this is safely bottled up in the army, it will be dangerous when let loose.

If so, what about "leave"? Every man in the army and navy has leave now, so where is the difference? Any general practitioner knows that there is no difficulty with the army or navy contact, because of his high idea of personal hygiene. The danger lies in the disreputable and filthy "ne'er-do-well" civilian of both sexes. These are never in any army or navy, but once used to follow armies—harpies and ghouls to batten on the sick and wounded.

The males have adroitly evaded every regulation since 1914, or if by chance one gets into the army, it is only too glad to get rid of him quickly.

The females will neither pay for nor take advice or treatment until (what time they have spread disease broadcast) they become so bad as to necessitate their becoming inmates of some hospital, where they pass the time weaving embroidered lies about the inefficiency of some general practitioner. If they happen to be in medical benefit, which is rare, they pester some general practitioner to put them on his list, and defile his waiting-room and surgery to the consternation of his other patients.

Yet the article says the insurance practitioner is not "rising to the occasion." I say he has risen some long time ago and knows exactly how to treat them. Where has there ever been any difficulty in treating those whose instincts point to personal cleanliness? Is it not puerile and futile to talk of inadequate medical training when these living cesspools of squalor, dirt, and disease walk abroad unchecked and uncontrolled by any law, and rub one's very shoulders in tram, bus, and train. Our new army and navy, when they come home, may have a good deal to say on such matters, which will be straight to the point, but it is laughable in present circumstances to talk about the army as a source of evil.—I am, etc.,

F. W. HOGARTH, M.B., B.S. Lond.

Morecambe, Aug. 5th.

#### INSURANCE PRACTICE IN RURAL DISTRICTS.

SIR,—The contrast in the medical working of the Insurance Act is so marked in town and country practice in favour of the former that it is incredible to me that the long-suffering rural practitioner should patiently submit to what is undoubtedly gross unfairness from his point of view.

I doubt whether it is an exaggeration to say that a town panel of 2,000 can be worked with no more expenditure of time, energy, and money than a country panel of 1,000.

In towns patients mostly live within a small radius of the doctor, and not only does this shorten the time expended by him in visiting them, but undoubtedly their proximity to the surgery enormously lessens the number of visits he is called upon to make. So many people not feeling quite up to the mark would brave the few hundred yards of town street, who would regard themselves as



until for the one, two, or three miles or more of country road to the doctor's surgery.

It has been stated that country panel patients do not so frequently consult their doctor as those of the town by reason of difficulty of access. If this be so, it may in some degree lessen the number of those visiting the surgery; but it is not these patients that take up one's time; it is the visits of a mile or more, scattered about.

Country panel doctors are thoroughly discontented, and reasonably so. Either the mileage grant should be extended to cases over one mile or the capitation fee should be considerably raised for rural practitioners. Why does this patient, enduring slave of humanity not rebel? The fact is, he is so overwhelmed by the surging life that he has no time to think. A dull resentment fills him, but he is so fatigued both mentally and physically that the line of least resistance is taken. Can one imagine the so-called working man submitting to industrial tyranny such as this? I trow not.—I am, etc.,

August 6th.

PIGOT.

### THE BURDEN OF COSTLY REMEDIES.

SIR,—The Insurance Act seems to be one of those causes which conspire to blind Man's erring judgement, and misguide the mind.

At least, one is tempted to think so from your recent editorial on the above subject, from divers letters which have since appeared in your columns, and from the diatribe delivered by the Chairman of the Representative Meeting, as reported in the *BRITISH MEDICAL JOURNAL* of August 10th, against the judgement of the Medical Commissioner. How anyone reading it could imagine that his remonstrance in the last paragraph was intended for Dr. Fisher personally passes my comprehension. Even my dull brain could see that it was aimed at the London and Counties Medical Protection Society, who are rebuked not for raising the question on behalf of their member, but for advising him, and for persisting on his behalf, to demand a full dress inquiry, with all its expensive paraphernalia of plaintiff, defendant, lawyers, and witnesses, into a question the facts of which were not in dispute, and on which a formal decision without a hearing had been offered by the Commissioners.

Dr. Bateman's letter shows that there was no misunderstanding of the purport of the judgement at the office of the Medical Defence Union, where some effort is evidently made to master the meaning of the agreements voluntarily entered into by panel practitioners.

But on the principle that any rope is good enough with which to hang a dog, with some people any excuse seems good enough for an attack on the Insurance Commissioners, and as they are precluded from replying in public, the game is as safe as any true sportsman could desire.—I am, etc.,

Nottingham, Aug. 20th.

A. FULTON.

## Obituary.

### WILLIAM SELLERS, M.D.,

Professor of Forensic Medicine, Manchester University, and Coroner for the City.

By the death of William Sellers, barrister-at-law, M.D.Lond., Professor of Forensic Medicine in the University of Manchester, and Coroner for the City of Manchester, Lancashire has lost a man who attained distinction in both law and medicine. He was the elder son of Dr. William Sellers, of Radcliffe, near Manchester. From the Manchester Grammar School he proceeded to Edinburgh and afterwards to London for his medical training. He graduated M.B.Lond. in 1880, and for twenty years afterwards he practised with great success as a doctor over an extensive district of which Radcliffe was the centre, first in conjunction with his father, and afterwards as partner with his brother, now Brevet Major Arthur Sellers, R.A.M.C.(T.), of the Manchester University Public Health Laboratory. He graduated M.D.Lond. in 1883 and took the D.P.H.Vict. in 1889, and for some years was medical officer of health for Radcliffe. In 1900 he abandoned the practice of medicine for the law, and was called to the bar at the Middle Temple. He joined the Northern Circuit, and practised at Manchester. He attached himself to the Common Law branch of his profession, where his wide knowledge and experience of medicine and surgery

were calculated to be of most service; he obtained a recognized position in matters in which scientific questions of the nature indicated were involved, and he was concerned in a number of civil and criminal cases of the first importance of this character. As an advocate he was hardworking and resourceful, but always kindly and courteous, moderate and fair. Perhaps his most outstanding quality was the urbanity and geniality which were part of his nature. Judges and juries alike trusted him, and in great measure, no doubt, their confidence was gained by the reasonableness which characterized all he said and did. It was doubtless these qualities that led to his being frequently asked to sit as arbitrator or as deputy to several county court judges, and to his unqualified success when acting in either of these capacities. He showed, indeed, such manifest judicial qualities as marked him out distinctly for promotion to the county court bench had he not accepted an appointment as coroner, involving his retirement from the bar. His work as a coroner began as deputy coroner for the city of Manchester during the coronership of the late Mr. Gibson. Afterwards he was for some years coroner for the Salford Hundred of the county of Lancaster. Then in 1915 the coronership of the city of Manchester became vacant by the death of Mr. Gibson, and Mr. Sellers was appointed. Of his work as coroner the *Manchester Guardian* said that he was "characterized, perhaps above all, by an abounding sympathy with the sorrows and mental distress of many from whom it was his duty to obtain evidence; and in these cases his patience, tact, and kindness seldom failed to extract the information necessary to a right conclusion." Before his appointment as city coroner, and, indeed, by special request during part of the time that he held that office, he acted as independent chairman of various joint committees and boards representing employers and workpeople appointed to deal with questions affecting the relations of masters and men, and his wise counsel and moderate views gave him an influence which promoted peace and solved many difficulties. He did not lose touch altogether with the work of his old profession, for although he ceased resolutely to practise medicine in 1900, he published in 1906 *A Handbook of Legal Medicine*, and the high regard in which he was held was testified by his appointment as professor of forensic medicine at the Manchester University. He also for some years acted as examiner in forensic medicine at the University of Leeds, University College, Cork, University College, Galway, and University College, Dublin. He had travelled much, and played cricket in his younger days, fished, and was a swimmer of unusual power. His skill at billiards was far in excess of that of most amateurs. He played golf a good deal in recent years, and was at one time captain of the Poulton-le-Fylde Club. In his later years he took to yachting, and from his beautiful home at Thornton Lodge, near Fleetwood, where the waters of the Wyre estuary sometimes flowed into his garden, he could indulge his passion to his heart's content. He sailed and raced his own yacht, was a member of the Royal Mersey Yacht Club, was commodore for a time of the Blackpool and Fleetwood Yacht Club, and was known and beloved by every yachtsman and boatman on the Wyre and in that part of Morecambe Bay. His cheeriness, sympathy, and good nature endeared him to all who came in touch with him. And though there was sorrow in the hearts of the watchers, there seemed to be something peculiarly appropriate in the peaceful brightness of the beautiful summer afternoon when he was laid in his last resting place in a quiet grave by the seaside, with the waters of a full tide lapping almost to the spot where he was laid, and shining blue for miles to the sunlit hills across the bay. Around his grave were simple brown-faced boatmen mingled with representatives of law and medicine and university and civic life in a common tribute of affection and regret.

With much regret we announce the death on August 5th, at his residence, 1, Amhurst Park, N., of Dr. THEOPHILUS HOSKIN. He was born sixty-two years ago at Gelling's Park, Calstock. He received his medical education at University College, London, where he was demonstrator of anatomy and house-physician to Sir William Jenner. He took the diploma of M.R.C.S. in 1879 and that of L.R.C.P.Lond. in 1881. He practised first in Amhurst



Road and afterwards at Amhurst Park. Possessing a charming and amiable personality and being skilful as a physician and surgeon, his practice became one of the largest in the north of London. He was honorary physician to the London Female Guardian Society and to the Home for Invalid Women, Stoke Newington, and he was a trustee for various charitable institutions, besides being a justice of the peace for the County of London and a commissioner for income tax. He took an interest in the Hackney Volunteers, for whom he raised a considerable sum of money, and in recognition he was made an honorary member of the Corps. He was a member of the British Medical Association and a Fellow of the Royal Society of Medicine. He had been ill for several months and, on the advice of his friends, he went in May last to his country house in Cornwall, but returned to London a few weeks later as he derived no benefit there. An operation was performed, but he succumbed a few weeks later. The funeral took place on August 9th. The first part of the service was conducted at St. Andrew's Church, by Canon Gardiner, for forty years an intimate friend. The large congregation of patients and friends which assembled included a considerable number of the medical profession. The second part of the service was conducted at Golder's Green Crematorium, and the ashes will be deposited in the picturesque and historical little church of St. Enodoc, near Dr. Hoskin's house, St. Minver, Cornwall. He leaves a widow, a son, and a daughter to mourn for him. His son, Major Jenner Hoskin, R.A.M.C., has been serving in the East for the past three years.

DR. FREDERICK FAWSETT of Louth, Lincolnshire, who died on August 6th, aged 83, received his medical education at Edinburgh University, King's College, and Paris, took the diploma of M.R.C.S.Eng. in 1858, and graduated M.D.Edin. in 1859. He was physician to the Louth Dispensary and Hospital, and consulting physician to the Mablethorpe Convalescent Home. He was a J.P. for the borough of Louth and the county of Lincoln, a member of the Lincoln Division of the British Medical Association and of the Royal Medical Society, Edinburgh, and a fellow of the Royal Geographical Society and of the Botanic Society of Edinburgh.

DR. GUSTAVE VERRIEST, one of the leading men in the Belgian profession, died suddenly at Saint-Cloud on June 25th, 1918. For twenty-five years he occupied the chair of internal pathology in the University of Louvain. He was one of the first to associate experimental research with bedside observation, and he established a laboratory in connexion with his clinic. He was president of the Belgian Academy of Medicine, and of the International Congress of Neurology held at Brussels in 1903. He was an officer of the Order of Leopold.

COLONEL ALEXANDER PORTER, Madras Medical Service (ret.), died in London on May 30th. He graduated as M.D. Queen's University, Ireland, in 1864, and became F.R.C.S.I. in 1872. He entered the L.M.S. as assistant surgeon on April 1st, 1865, after the service had been closed for five years, became surgeon in 1873, surgeon-major in 1877, brigade surgeon in 1886, and surgeon colonel in 1890. He retired in 1895. Almost the whole of his service, previous to his promotion to administrative rank, was spent in civil employment. From 1866 to 1874 he was civil surgeon of Akola, in Berar, with an interval when he acted in 1870-71 as sanitary commissioner of Berar; in April, 1874, he was appointed chemical examiner to the Government of Madras, and professor of chemistry in the Madras Medical College, and in March, 1886, he became principal of the college and professor of medicine. He was the author of a work entitled *Notes on the Pathology of Famine Diseases*, founded on experience in the great Madras famine of 1877.

THE Surgeon-General of the United States army has reported to the Military Affairs Committee of Congress against the admission of "drugless healers" to the medical corps of the army. He points out that the admission to the medical corps of osteopaths as such, and not having the degree of doctor of medicine, would meet with practically unanimous opposition from the medical profession of America and all allied countries. It would be justly regarded as lowering the standards, educational and professional, of the medical corps, and would have "a discouraging and detrimental effect upon efforts to secure officers for the corps both at present and in future, and on the general moral of the corps."

## Medical News.

WE referred a fortnight ago to the work of the Chemical Warfare Medical Committee in this country. It may be interesting to add that there is a similar committee in France under the chairmanship of Professor Achard, which has investigated the action of the various gasses used by the enemy, and has issued a pamphlet for the information of medical officers.

EXPERIMENTAL work in the United States relating to the manufacture of poison gas for use in war has been placed under the direction of Major-General W. L. Sibert, who till recently commanded the first division of the American regular army in France, and was assigned as chief of a special department on gas defence. Experiments on war gas and masks have been divided among several branches of the Government, including the Ordnance and Medical Departments of the army. The most extensive work has been done by the Bureau of Mines, which established a special laboratory at Washington.

THE Hellenic Association, consisting of Greek doctors who have studied in France, was established to promote union between French and Greek members of the profession, and to further the development of French medical science in Greece. It has established a Society of Biology, and this year founded the Medico-Chirurgical Society of Athens, which has held several meetings.

THE first annual meeting of the American Association of Thoracic Surgery was held at Chicago on June 10th under the presidency of Dr. Samuel J. Meltzer of New York. Dr. Willy Meyer of New York was elected president for the ensuing year. The association has at present a membership of seventy-one.

A COURSE of lectures on malingering and self-inflicted injuries has been established in connexion with the clinical institutes of Milan. The first lecture was recently delivered by Dr. Cesare Biondi, professor of medical jurisprudence in the University of Siena. Others will be given by Professors Besta, Denti, Bellotti, Morlani, and Daccò.

THE main objects of the newly constituted American Association of Clinical Psychologists are to aid in establishing definite standards of professional fitness for the practice of psychology and to encourage research in problems relating to mental hygiene and corrective education. There are forty original members, all holding the degree of doctor in psychology and engaged in the clinical practice of that speciality in the United States.

AMONG the changes in the military establishment of the United States embodied in the Army Appropriation Act, is an increase in the medical department, which includes one assistant surgeon-general for service abroad during the present war with the rank of major-general, and two assistant surgeon-generals with the rank of brigadier-general; all are to be appointed from the medical corps of the regular army. The President is also authorized to appoint two major-generals and four brigadier-generals in the medical department of the national army. Members of the Medical Reserve Corps, who hitherto could not reach higher rank than that of major, will in future be eligible for promotion to the rank of colonel.

OPPENHEIM (*Wien. med. Woch.*, lxxviii, 637-641) has adopted the following method of treating scabies at the Wilhelmina Hospital in Vienna. It only takes three hours and consists of four stages: (1) The naked body is rubbed over with soft soap for a quarter of an hour, the favourite sites for the runs, namely, the interdigital spaces, wrists, elbows, axillae, thighs, genitals, and nates, receiving special attention. (2) The patient is then put in a warm bath at 86° F. and scrubbed with soft soap for half an hour. (3) He then leaves the bath, and is smeared all over with Hardy's ointment (precipitated sulphur 25.0, potassium carbonate 10.0, vaseline 125.0), his body is wrapped round with a towel, and gloves and socks are worn. (4) At the end of two hours he is put in a bath again, the ointment is removed rapidly with soap, the skin dried and smeared with zinc paste (zinc oxide and talc  $\bar{a}$  15.0, vaseline 30.0). Moderate itching lasts, it is said, for a few days, and then disappears. After an experience of more than 1,200 cases so treated Oppenheim very rarely treats scabies by any other method, even in private practice.

THE principle of fireless cooking, which consists of the retention of heat for as long as possible in the cooking vessel after the contents have been brought to the boil, is illustrated at the British Scientific Products Exhibition at King's College, London, by an interesting device shown by



Dr. Cornwell Round of Sydenham Hill. The method employed is to build up around the cooking vessel a series of covers of some material which is approximately air proof, preferably newspapers for the sake of economy. These newspaper sheets, to the number of thirty or more, are nested one within the other but not too tightly around the vessel, and so neatly connected together that they may be lifted as a whole by means of the protruding handle of the food container at the top. A number of "dead air" spaces are formed between the layers of paper, and, confined air being a non-conductor of heat, the conditions are secured for conserving the heat in cooked food, and for readily conveying such food from place to place. Though Dr. Round is patenting his invention, he has no objection to any one making the nested covers for his private use according to instructions in a leaflet he has printed. The merit of the contrivance is that, with the exception of the camp saucepan, the materials required are only such as are available in the ordinary household, and here it has an advantage over the hay box. Specimens of covers in other materials, such as cloth and metallic foil, are also on view.

## Letters, Notes, and Answers.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Attilology, Westrand, London*; telephone, 2631, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Medisecra, Westrand, London*; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### QUERIES AND ANSWERS.

#### INCOME TAX.

CAPTAIN R.A.M.C.(T.F.) inquires whether the gratuity paid on completion of territorial medical service is taxable at the rate in force on the date when the gratuity is paid.

\* Yes, provided that the officer was serving for some portion of the financial year during which the gratuity was paid. Our correspondent possibly does not realize that the special "service" rates of income tax have been the same for the present and the two past years.

### LETTERS, NOTES, ETC.

#### TREATMENT OF MENINGITIS.

CAPTAIN H. M. CADE, R.A.M.C. (Officer in Charge District Cerebro-spinal Fever Laboratory, Ipswich), writes: What proof has Mrs. Fysh that iodine quickly absorbed through the unbroken skin finds its way into the cerebro-spinal fluid? I am very doubtful whether it would pass the barrier of the choroid plexus. Would she expect the endotoxins elaborated by the meningococcus to become neutralized by this method? Would she rely on sterilizing the throat as the sole means of treatment in a case of diphtheria? Mrs. Fysh has not brought forward any reliable evidence to cause me to change my opinion that iodine treatment in this class of disease is unscientific—it is empiricism at its worst.

\* \* We are prepared to receive a reply to the specific question in the first sentence above, but cannot, otherwise, continue this correspondence.

#### GOITRE, IN-CROOK ANKLE, AND STUNTED GROWTH.

DR. JAMES OLIVER (London, W.) writes: The three medical conditions which I have enumerated above are, even to the casual observer, now so apparent that it seems to me expedient to draw the attention of the medical profession specifically to them. They are conditions so far affecting females only, but from a national point of view their importance cannot be overrated. The goitrous enlargement of the neck may or may not be due to some mineralogical condition of the drinking water. The in-crook ankle, which is an inbending of the ankle-joint, is due to a weakened state of the capsular ligament of the ankle and is not necessarily associated with any alteration in the relationship of the plantar surface of the foot to the ground. It is most commonly unilateral. The bending is always inwards because the external malleolus descends lower than the internal malleolus on the astragalus. The phenomenon

is intensified by a weakened condition of the tendinous attachments; it is caused by some deficiency or lack of proportion in the mineral content of our foodstuffs. That too large a percentage of our women to-day between the ages of 18 and 30 are undersized there cannot be the least shadow of a doubt, and this untoward condition is in my opinion largely attributable to errors in feeding during the first twelve months of life.

#### RECTAL INJECTION IN WOUND SHOCK.

MAJOR W. HAIG, D.S.O., R.A.M.C.(T.) writes: The concluding paragraph of Captain Norman Ginnon's article on "Blood transfusion in a field ambulance" June 22nd, p. 696, recalls a very good result obtained in a regimental aid post from a rectal injection of saline solution. The patient was pulseless as the result of severe multiple shell wounds, and I feared he would die on the way to the field ambulance. Remembering the success of rectal saline in cases of post-partum haemorrhage in civil practice, I decided to try it. A teaspoonful of common salt was dissolved in a pint of hot water, and, by means of rubber tubing from a stethoscope and the barrel of a brass syringe (no enema syringe being available), this was slowly poured into the rectum. The result was most gratifying: the patient quickly revived, stood the journey to the field ambulance very well, and (I heard later) made a good recovery from his wounds. The method has the advantages of simplicity, rapidity, and freedom from risk of sepsis.

#### WOUND STRIPES.

DR. OSCAR HOLDEN (Southampton) writes: The modern military method of denoting upon the sleeves of soldiers the number of times they have been wounded in action is, as many other everyday incidents, not as new or original as may be imagined. In Schoolcraft's great work on *The History, Civilization, and Prospects of the Indian Tribes*, it is stated that upon the grave-posts of old-time Indian chiefs various emblems were drawn; being, in fact, an epitaph in the pictorial writing of these tribes. Amongst other matters of family interest and individual distinctions were short vertical lines drawn usually immediately beneath the Totem, to indicate the number of times the deceased had been wounded in battle. Our modern systems and civilization have, perhaps quite unknowingly, gone back to the old pictorial methods used by the Indian tribes in the seventeenth century.

#### INTESTINAL OBSTRUCTION DUE TO ASCARIS.

MR. T. A. R. AIYAR, L.R.C.P. and S. Edin., L.F.P. and S. Glasg. (Sitiawan, Lower Perak, F.M.S.), writes: *Ascaris lumbricoides* is of common occurrence among the Indian labouring classes, especially in children. Recently I had to certify as to the cause of death in a male child, aged 5 years. The body was ill nourished and wasted. The cause of death was found to be inanition due to acute intestinal obstruction; the whole of the small intestines were packed with these worms of all sizes; over 120 were counted.

#### THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

##### Subscriptions to the Second Appeal.

The following subscriptions and donations to the Fund have been received during the week ending August 17th:

	£ s. d.		£ s. d.
Dr. Alfred Cox (monthly)	1 1 0	Dr. J. R. Keith	1 0 0
Lieut.-Colonel W. M. Dawson, R.A.M.C.	2 2 0	Captain H. E. H. Oakeley, S.A.M.C.	10 0 0
Dr. S. W. Carruthers	1 1 0	Captain R. M. Stewart, R.A.M.C.	1 1 0
Dr. F. S. Palmer	2 2 0	Dr. Percy Hughes	3 3 0
Messrs. Steel Brothers and Co., Ltd.	105 0 0	Dr. W. H. Rowlandst	2 2 0
Sir James Barr	5 5 0	Dr. C. L. Howlandst	2 2 0
Staff Surgeon W. Kenneth Willis, R.N.V.R.	5 0 0	Dr. Anderson	2 2 0
Messrs. Burroughs, Wellcome and Co.	100 0 0	Dr. W. Kennerst	1 1 0
Dr. H. E. Belcher	2 2 0	Dr. Conkerst	1 0 0
Dr. L. B. Poole	2 2 0	Mr. Bellby	1 1 0
		Small sumst	0 11 0

\* Per Dr. Herbert Spencer. † Collected by Dr. Cameron Kidd.

Subscriptions to the Fund should be sent to the Treasurer, Dr. H. A. Des Vaux, at 14, Buckingham Gate, London, S.W.1, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited.

The appointment of certifying surgeon for Avoca (Wicklow) is vacant.

#### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Seven lines and under	0 6 0
Each additional line	0 0 9
Whole single column	4 0 0
Whole page	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE. It is against the rules of the Post Office to receive *postes restantes* letters addressed either in initials or numbers.



# THE British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

LONDON: SATURDAY, AUGUST 31st, 1918.

## EDUCATIONAL NUMBER. SESSIONS 1918-1919.

### THE PROFESSION OF MEDICINE.

THE present issue of the *BRITISH MEDICAL JOURNAL* is mainly intended for the guidance of two classes—those who need information as to the course which must be followed in order to become a legally qualified practitioner of medicine, and those who, having obtained a qualification to practise, are doubtful as to what particular part in medicine they should choose as a career after the war.

In the United Kingdom the conditions with which those who desire to enter the medical profession must comply are regulated by a statutory body, the General Medical Council, and a statement of its requirements will be found on page 211. The task of examining candidates as to their fitness to practise medicine is left to the universities and to certain corporations in England, Scotland, and Ireland. But the Council takes steps to ensure that the tests imposed do not fall below a certain standard, and that the persons examined have undergone certain definite courses of instruction at a recognized medical school. Successful candidates at such examinations eventually receive from the body holding them either degrees, in the case of the universities, or diplomas or licences, in the case of the corporations, entitling them to claim insertion of their names in the *Medical Register* kept by the General Medical Council. At one time the holders of diplomas and licences formed the great majority of all medical men, especially in England and Wales, but universities have greatly multiplied, and so many practitioners now hold degrees that, in almost all cases, the wisest plan for a medical student at the beginning of his career is to aim at a university degree in medicine, though it may be desirable to take also a diploma or licence.

Beyond the degrees and diplomas and licences, on the strength of which the General Medical Council admits to the *Medical Register*, most of the bodies in question bestow on candidates who have passed further examinations higher titles, such as "Fellow" and "Doctor of Medicine." It may be said that as a rule they are worth obtaining, though the difficulty of doing so, and the added professional status they confer, vary considerably. There are also certain diplomas in special branches of work, such as public health and tropical medicine, which are superfluous for most practitioners, but either useful or indispensable for those who wish to specialize in these subjects.

With regard to the question of cost, the expenditure involved in successfully completing a medical curriculum varies so much that no single precise statement can well be made. Apart from differences in the charges made by different medical schools for instruction, there are differences in the fees for examination, as well as in those payable for the certificates of qualification given to successful students. Besides this, not all students, however industrious, get through

examinations with equal facility. Since in any case professional education must continue for at least five years—a period exceeded by the vast majority—and since the cost of living in different parts of the kingdom varies much, and personal expenditure varies still more, it can only be said that no one should think of entering the profession in these days who is unprepared to spend at least £1,000 on his medical education.

When the medical graduate, diplomate, or licentiate has registered, many courses are open to him. He can aim at becoming a general practitioner; or at entering one of the Government services at home or abroad; or at specializing in public health or asylum work, or in pure science, or in one or other of the many modern subdivisions of medicine and surgery. Most of these different paths in medicine are considered in detail in the sections that follow, but a few observations may here be made as to the first and last of them.

A man becomes a general practitioner in one of three ways: By taking a house and waiting for patients to seek his services; or by acquiring through purchase the goodwill of a practice rendered vacant by retirement or death; or—perhaps best of all—by entering into partnership with some already established practitioner. The successful conduct of a private practice demands, however, a great deal of knowledge other than that acquired at the medical schools, and consequently no man is likely to be accepted as a partner, or to prove successful as an independent practitioner, unless he has first gained experience in private practice as an assistant. As for those whose ambitions lie in the direction of becoming consultants or specialists, their path is rugged. For them success will depend in the long run not only upon their mental attainments and capacity for hard work, but on their possession of the qualities which help to win for a man the confidence both of his colleagues and of the general public. Moreover, since it is certain that, however well equipped they may be, they will not for many years make as specialists enough to pay their outgoings, this path is only open to those with sufficient means to maintain themselves for an indeterminable number of years, or who are able, by teaching or in other ways, to make enough to defray their expenses.

It is not the purpose of this number to put forward any opinion as to what paths in medicine offer the greatest attractions, whether financial or scientific. Whatever the branch of practice chosen, it must be remembered that the large majority of doctors make but a moderate income, while the financial returns of even the most successful compare but ill with those obtained by persons of equal ability in other walks of life. The Insurance Acts stand for a movement that has done much to convert the general practitioner who is on the panel into a part of a piece of official mechanism, but does nothing to maintain or improve



the status of the medical profession, unless it be through the increased opportunities for scientific work afforded by the Medical Research Committee established under the Act of 1911. The full effect of the National Insurance scheme on the profession cannot even yet be estimated, for, in spite of modifications by many hundreds of successive orders, circulars, and regulations, it is still far from having reached any stable form. Further, the growing movement towards unification and co-ordination of the health services of the country, if and when it takes legislative shape, can scarcely fail to bring about an overhaul of the machinery set up and now controlled by the Insurance Commissioners.

The effects of four years of war upon the medical profession and upon medical education have inevitably been profound and far reaching; it will suffice to indicate a few of them briefly in this place. It was stated in Parliament two years ago that the Army and Navy together were employing the services of more than 12,000 medical men; but, mainly owing to the insatiable demands of the army, this figure must now be greater. For comparison we may point out that before the war some 3,800 medical officers were accredited to the Services year by year in the *Medical Directory*. Further, a great many practitioners in civil practice are devoting a share of their time to work at military hospitals of various kinds, and to attendance upon the disabled; while medical recruiting boards, and other professional duties arising directly out of the war, employ a considerable number of civilian doctors. From all this it is evident that the civilian population has now to do without a large part of the medical attendance it receives in normal times, while most of the civilian practitioners at home are very hardily worked. Indeed, had the recent epidemic of influenza occurred in winter a grave situation might well have arisen. More than a year ago the statutory professional bodies engaged in selecting civilian doctors for the army and safeguarding the medical needs of the civil community announced that scarcely any areas were left from which further doctors could safely be taken under existing conditions and powers.

During the latter part of 1917 the medical duties of the Army Recruiting Department were transferred to the Ministry of National Service, with a view to securing the better distribution of medical man power as between the fighting forces and the civil population, the husbanding of our resources of potential medical men, and the setting up of a more satisfactory system of medical examination and classification of recruits for the various kinds of national service. In this threefold task the Minister has had the assistance of a Medical Advisory Board, while the medical department of the Ministry has worked in close touch with the statutory professional committees in England and Scotland, and through them with the Local Medical War Committees. This, however, did not suffice to meet the demand for medical men for the forces, which was accentuated by the opening of the German offensive on March 21st last, and the new Military Service Act, which came into force on April 18th, raised the service age for the whole male population of Great Britain to 50 and for medical men to 55. Special regulations for medical practitioners have been made under the Act, and the central professional committees have been recognized as statutory medical tribunals. The work of the committees includes the difficult task of making plans for substitute medical practice, with the object of releasing from civil life young and fit doctors who could not otherwise be made available for military medical service. It is not as yet possible even to guess at

the yield of medical men which may be expected from the measures now being taken; but there can be little doubt that the hardly tried profession at home would submit more readily to further depletion and disturbance, and success would be correspondingly greater, if they could feel sure that the best use is made of his services by the army when once a doctor has been "combed out" of civilian practice.

The effect of the war upon the number of medical students in their different years of professional study has been described from time to time by the President of the General Medical Council. Between the years 1910 and 1914 the annual entry of first year medical students averaged roughly 1,440. Since the war the number of these entries has increased by five or six hundred a year. Thus the whole number of students actually pursuing medical studies in the medical schools of the United Kingdom has shown a steady upward movement. In May, 1916, the total was 6,103, in January, 1917, it was 6,682, in October, 1917, it was 7,048, while the latest figure, for May, 1918, was 7,630. But for some time the large withdrawals of male students from the medical schools for combatant service, or for service as surgeon probationers in the navy, more than nullified the increased entries and bade fair to produce a serious deficiency of new practitioners in the years 1918 and 1919. Urgent representations upon this matter were made to the Government. As a result something has been done to make good the threatened shortage, by the return of third year students from active service to complete their studies, by the retention in the medical schools of students on their way towards qualification who are liable to be called to the colours, and by limiting the period of service of surgeon probationers. The Minister of National Service has further undertaken to provide that, if possible, the supply of students in training shall be kept at a level sufficient to give an annual yield of at least 1,000 new practitioners. This is the official estimate, but it will be well to remember that though there has been heavy wastage among medical men through the hazards and hardships of war the declaration of peace will be followed by the release from military duty of the majority of the medical men now serving in the army and navy. Demobilization is a matter which affects the medical profession at least as much as other sections of the community. The method in which the demobilization of medical men may best be carried out is being carefully studied by the British Medical Association. They will no doubt be released gradually as the other branches of the army are demobilized, but many will be eager to return to civil life, and in any estimate of the numbers of the medical profession in this generation regard must be had to the fact that during the last three years practically all newly qualified practitioners have been taken into the army. Within some not very long time after the conclusion of war many of them will be liberated to return to civil life, and will naturally and properly have the first claim upon the public and upon public authorities.

Another feature of the last four years has been the great increase in the number of women going in for the study of medicine. In May last there were 2,250 women medical students in the United Kingdom—a figure 23 per cent greater than the total for January, 1917, and several times larger than in 1914. For this remarkable growth the war must be held mainly responsible. As for the professional instruction of these large numbers of students, men and women alike, there can be no doubt that the war, by diverting the activities of many of their teachers into other channels or other spheres, has considerably depleted



the staffs of the medical schools as well as of other educational institutions in which the preliminary subjects and various branches of medical science are taught. Nevertheless, the teachers who continue at their posts are making every effort to maintain the standard of instruction, in spite of war-time difficulties.

What will be the prospects of the medical profession when the war is over? The medical services have acquitted themselves extremely well in the war, and medical science will come out of it with an enhanced reputation. Military medicine and surgery have advanced, and not a few of the results of practice and research in the war zones will remain as permanent additions to knowledge. The treatment of wounds has steadily improved, orthopaedic treatment for the crippled and maimed is more successful than ever; preventive medicine in camp and trenches has scored great triumphs; the work of the pathological laboratory and of the bacteriologist has proved to be of the utmost value. In civil life the spirit of the times is all in favour of extension and co-ordination of the public health services. This is reflected in the widely-supported proposal for the setting up of a Ministry of Health, which has received fresh impetus during the past few months. The Minister of Reconstruction, according to rumour, has had a draft bill in his pocket since the beginning of the year, but it does not appear to have won the approval of the Committee of the Cabinet on Home Affairs. The possibilities of the future are large, but as yet ill defined. More medical care has been provided for expectant mothers, for infants, for children, and for the victims of venereal diseases; a great increase in the public work of pathological laboratories all over the kingdom may be confidently expected. All this means an increase in the official medical services. What ultimate fate is in store for the private practitioner we will not venture to foretell. Before the war, as we have pointed out above, his position had been profoundly affected by the Insurance scheme, which converted the majority of general practitioners into part-time civil servants, and subjected them to the discipline of Insurance Commissioners. Pecuniarily it has benefited some and impoverished others. One thing at least can be said: the immediate future is full of uncertainty, especially for the general practitioner. Forces which had long been at work beneath the surface have gained strength through the circumstances of war, and many believe that the State will gradually tighten its grip on the medical profession.

Every doctor should possess a strong sense of *esprit de corps*. Medicine is a profession which, when it comes to business dealings of any sort, the general public—as also public authorities—persistently regard as being of a semi-philanthropic character. Furthermore, it is a profession whose aims and requirements are very ill understood by persons who have not undergone a medical education. Hence the interests of the medical profession, both on its financial and scientific sides, are continually being attacked, sometimes openly, sometimes insidiously. It is all-important, therefore, that medical men and women should band themselves together for the common protection of themselves and the profession to which they belong, and to this end join the British Medical Association.<sup>1</sup> For the objects of this body are to promote the progress of medical science and the interests of the medical profession, and its past history shows that it has well fulfilled them.

<sup>1</sup> The ordinary subscription of members resident within the United Kingdom is £2 2s., but as from January 1st, 1915, those admitted within two years from the date of their registration pay only 25s. until the expiration of four years from such registration. Members resident outside the United Kingdom, including those serving in the military forces abroad, pay 7 25s. to the parent Association.

## THE GENERAL MEDICAL COUNCIL.

THE General Medical Council is a body which was called into existence by the first Medical Act of 1858. A certain number of its members are elected by the medical profession, and the rest—who form the great majority—are nominated by Government itself and by the universities and such medical corporations of the United Kingdom as have a statutory right to issue diplomas. Its head quarters are at 44, Hallam Street, Portland Place, W.1, and it has branch offices at 54, George Street, Edinburgh, and 35, Dawson Street, Dublin. Its duties are to control the medical and dental professions in the interests of the general public, and to that end to maintain a register of legally qualified practitioners. It is admission to this *Register*, and not the possession of a medical degree or diploma, that constitutes a person a legally qualified practitioner. The Council is bound to admit to the *Register* those who hold the degrees or diplomas granted by the bodies represented among its members, but it can prescribe the terms on which those bodies shall grant such diplomas or degrees, and it can erase from the *Register* the name of any medical man or dentist who has been convicted before a court of law of an ordinary crime or of a serious offence against public morality, or who is proved before the Council itself to have been guilty of certain actions which the Council regards as professionally infamous. Its disciplinary powers are strictly limited to legally qualified practitioners and it has no control whatever over irregular practitioners of any kind.

An account of the regulations that the Council has drawn up in respect of the education of medical students here follows. The important things to note first about them are that they entail (1) the production of proof of a certain degree of proficiency in subjects of preliminary or general education; (2) application for registration as a medical student either at the head quarters office in London or at one of the branch offices in Edinburgh and Dublin, although this latter requirement is not invariably enforced.

### PRELIMINARY EDUCATION.

The regulations with regard to the subjects of the preliminary examinations recognized by the Council have recently been modified. In November, 1916, the Council decided that in the matriculation examinations for the faculties of arts and science, and equivalent examinations, Latin should no longer be regarded as a compulsory subject. For practical purposes this means that all examinations accepted for matriculation in the faculties of arts and science in any university of the United Kingdom are approved by the Council as qualifying a successful candidate for admission to the *Students' Register*. This carries with it the recognition of degrees in arts and science of any university of the United Kingdom or of the British Dominions. This decision, however, applies only to the senior or higher grade student; so far as the junior or lower grade of candidates are concerned, it was decided, as a matter of expediency rather than of logic, that Latin should remain compulsory for these candidates, since they do not, as a rule, produce as evidence of general knowledge certificates of examination by a university.

The lists of educational bodies whose examinations are now accepted under the regulations made by the Council for the maintenance of the register of medical students, together with other particulars, are published with the *Students' Regulations*, which may be obtained from the various offices of the Council, price 6d.

### REGISTRATION OF MEDICAL STUDENTS.

In addition to showing that he has passed one of these examinations, any person applying for registration as a medical student must (1) produce satisfactory evidence that he has attained the age of 16 years; (2) show that he has commenced medical study at a university or school of medicine, or at a teaching institution recognized by one of the licensing bodies and approved by the Council. The commencement of professional study will not be reckoned as dating earlier than fifteen days before the date of registration.



Application for registration should be addressed to the Registrar for the division of the United Kingdom in which the applicant is residing—England and Wales, or Scotland, or Ireland. It must be made on a special form, which can be obtained on application at the offices either of the General Medical Council itself or of one of the various licensing bodies and medical schools, and when forwarded it should be accompanied by the certificates as to age and general education.

The regulations with regard to registration apply equally to medical and dental students, with the exception that in the case of the latter pupilage with a registered dental practitioner may be regarded as a commencement of professional study, and that applications for registration should be addressed to the London office only.

#### PROFESSIONAL EDUCATION.

The rule is that it is only from the date which appears against his name in the *Students' Register* that the medical student's career officially begins; thereafter five years must pass before he can present himself for the final examination for any diploma which entitles its lawful possessor to registration as a qualified medical practitioner under the Medical Acts.

There are, however, certain important exceptions to this rule: thus (1) to meet the circumstances brought about by the dates at which sessions of the medical schools commence and end, the close of the fifth year may be reckoned as occurring at the expiration of fifty-seven months from the date of registration. (2) Graduates in arts or science of any university recognized by the General Medical Council, who have spent a year in the study of physics, chemistry, and biology, and have passed an examination in these subjects for the degrees in question, may be held to have completed the first of the requisite five years. (3) The Council will accept as six months of that year six months passed, subsequent to obtaining a certificate in general education, as a student of chemistry, physics, or biology at any teaching institution recognized by a licensing body and approved by itself. In any case, the period of five years must be one of bona fide study, and during its course education in the following subjects must be pursued and examinations passed:

- (i) Physics, including the Elementary Mechanics of Solids and Fluids, and the rudiments of Heat, Light, and Electricity.
- (ii) Chemistry, including the principles of the science, and the details which bear on the study of medicine.
- (iii) Elementary Biology.
- (iv) Anatomy.
- (v) Physiology.
- (vi) Materia Medica and Pharmacy.
- (vii) Pathology.
- (viii) Pharmacology and Therapeutics.
- (ix) Medicine, including Medical Anatomy and Clinical Medicine.
- (x) Surgery, including Surgical Anatomy and Clinical Surgery.
- (xi) Midwifery, including Diseases peculiar to Women and to Newborn Children.
- (xii) Theory and Practice of Vaccination.
- (xiii) Forensic Medicine.
- (xiv) Hygiene.
- (xv) Mental Disease.
- (xvi) Anaesthetics.

The practical study of Subject xi shall not commence until the student has held the offices of Clinical Clerk and Surgical Dresser, and the work done in connexion with it must follow prescribed lines. The Council also expects that study of the Subjects (vii) to (xvi) shall extend over not less than twenty-four months subsequent to success at the examination in Subjects (iv) and (v). It also now recommends licensing bodies to require of candidates at their final examinations evidence of instruction in the administration of anaesthetics and in infectious diseases, and of sedulous attention in hospital wards, out-patient departments, and post-mortem rooms, as clerks and the like.

Wherever the first of the five years is spent, the next three must be passed at one of the schools of medicine recognized by any of the licensing bodies enumerated in the schedule of the Medical Act of 1858. The final or fifth year the Council recommends should be devoted to clinical work at any public hospital or dispensary at home or abroad which is recognized by any of the licensing bodies.

#### SPECIAL CONSIDERATIONS.

The requirements of the General Medical Council in respect of the education of those who desire to enter the medical profession have now been given in outline, but

before leaving this part of the subject the steps which the aspirant should take may finally be rehearsed in their due order:

- (1) Pass an examination in arts;
- (2) Enter himself at a medical school or other scientific institution recognized by the Council;
- (3) Get himself registered as a medical student;
- (4) Study for a minimum of five years certain prescribed subjects;
- (5) Meanwhile pass sundry intermediate examinations; and, finally, at the end of the fifth year, one which will entitle him to receive at the hands of a licensing body a legal authority to practise.

*The Arts Certificate.*—There are, however, other important considerations; thus, it is not a matter of indifference what certificate of proficiency in general education, or arts, the student obtains. The General Medical Council, it is true, will accept any of the large number of tests to which reference has been made, and this, too, is the case with practically all the college corporations in England, Scotland, and Ireland. But all the licensing bodies are not equally accommodating; some of the universities require that their own ordinary matriculation should be passed, others have special matriculation examinations for those wishing to join their medical faculty, and a third and larger number will accept any arts degree and certain matriculation examinations, as well as several other of the tests entered in the Council's list.

The first thing, therefore, the future medical student should, if possible, decide is at what degrees or diplomas he intends to aim, and then find out what arts certificate will be required. If he cannot decide the question in advance, the best course probably would be to matriculate at London University. It is a troublesome examination in many respects, but gives a wide choice of subjects, and has the advantage of being accepted as sufficient testimony to general education by a larger number of bodies than is any other analogous examination.

*The Minimum Period.*—Another point to remember is that the period of five years mentioned is a minimum; a good deal more will almost certainly be required even by the man of good abilities and reasonable industry. Besides these qualities, a student to obtain a registrable qualification in the minimum period of five years, or fifty-seven months, must have a considerable amount of good luck; in other words, he must keep in good health through every term, and never fail at a single examination. Otherwise it is almost inevitable that his career as a student should be prolonged for a greater or smaller number of months beyond the possible minimum. Thus, for instance, a student before presenting himself for any examination has to get what is called "signed up" for the subjects covered by that examination; this means that his teachers have to certify that he has attended the required number of lectures or classes in the subjects in question. If, however, the student happens to be ill during the term when such lectures or classes are taking place, he may miss a sufficient number of them to make it impossible for him to be "signed up." Then, again, should a student fail to satisfy the examiners at some examination, he cannot present himself again for re-examination for at least three months. This fact generally entails further consequences, because, apart from the student's success at the next stage in his career being imperilled by his having to give up some time to restudying the subjects in which he has failed, the Examining Boards in the majority of instances insist upon a definite interval elapsing between a student passing one examination and his presenting himself for that which should follow it. Then, again, many Boards refuse to recognize lectures and classes which have been attended at a date anterior to that at which the student has passed the requisite examination in earlier subjects. Failure at an examination may thus not only mean deferment of the date of examinations, but deferment of the commencement of the student's study of certain subjects. It is thus exceedingly easy for a student to fail to qualify in five years, and, as a matter of fact, the vast majority of students take very much longer.

Furthermore, in speaking of the minimum period, it is to be remembered that that time is only sufficient to gain a registrable qualification, such as a Bachelorship of Medicine or Surgery or a diploma of one of the Royal



Colleges. These are quite sufficient for the purposes of general practice, or for entering the Services, etc., but those who wish to take a higher qualification—for instance, the F.R.C.S. Eng.—must prolong their work for another year or more. So, too, must in some cases those who desire to convert their Bachelorship into an M.D. This may entail further formal examination, but at some universities the M.D. is obtainable on presentation of a thesis when the Bachelor has attained a certain age, and has practised his profession for a certain number of years. However, a student's career proper may be considered, perhaps, to have ended at the time he obtains his first registrable qualification, for while preparing himself for any further tests he can, and usually does, hold some junior appointment which more or less covers his expenses.

#### *The Normal Course.*

In conclusion, it may be convenient to sketch the general fashion in which the student will pass his five years or more, but discussion of this need not be prolonged, because once a student has entered at a school, and chosen the degrees or diplomas at which he wishes to aim, the dean of the school will guide his steps in every particular.

Whatever the precise final goal, the path thereto is in all cases identical in broad outline. Practically it is divided into three stages, the conclusion of each being marked by an appropriate examination. In the first stage the student acquires a more or less extensive knowledge of the preliminary sciences—chemistry, physics, and biology; in the second he studies anatomy and physiology; and the third he devotes to the real work of his future life—medicine and surgery and their branches. During each of these stages the student must attend not less than the prescribed number of lectures and classes to ensure getting "signed up" in the subjects of the stage, and also do a very considerable amount of practical work. As for the examinations at the end of the stages, these are known by different titles by different examining bodies, but "preliminary science," "intermediate," and "final" are in common use. Some bodies demand that the student should pass in all the subjects of one stage at one time; others allow the candidate to present himself in each of the subjects separately, thus multiplying the actual number of examinations, but limiting their scope. There are also differences in the requirements of the different licensing bodies as to the length of each stage, but practically all demand that the second shall be longer than the first, and the third not shorter than the second. By the length of the allotted stage the candidate may gauge the comparative importance the licensing body attaches to the subjects within the stage and the difficulty of the tests it will impose, and he may feel certain that the time allotted is none too much.

In any case it should be the aim of the student to get through his first two stages as quickly as his abilities and the regulations will allow; and, as a rule, he should have completed the first stage by the end of his first year, and may hope to complete the second stage not later than the end of his third year. He will then have two years in which to prepare for his final examination, and it will prove a very crowded period, for he has to get into it not only medicine, surgery, and midwifery proper, but many other allied subjects, such as pathology and bacteriology, forensic medicine, gynaecology, and therapeutics. In the first of the final two years he may be able to complete his formal lectures, and thus have the fifth year for entirely practical work and private study; during those two years, too, he will take part in the work of his hospital by holding clerkships and dresserships in the wards and out-patient department for the periods laid down by the licensing bodies. Then, at length, after perhaps a few weeks of special coaching, he will be ready to present himself for his final examination, which the regulations of most bodies will allow him to divide into two or more parts. The final examination passed in its entirety, he will be able to claim registration as a qualified medical practitioner at the hands of the General Medical Council, and become an independent personage. There is still room for him to continue a student's career if he will, for, apart from the higher qualifications to which reference has been made, it may seem to him worth while to devote time to acquiring greater knowledge of some particular branch of medicine, such as ophthalmology or laryngology, or to undergo the courses of study necessary to obtain a diploma of special proficiency

in questions of public health (page 241), or in tropical medicine (page 240). Points such as these, however, the student will be fully capable of deciding for himself when he has reached the stage to which our account has now brought him.

The next matters to be considered, therefore, are the requirements in detail of the different licensing bodies, and what they have to offer in the way of degrees and diplomas.

#### THE WAR.

The Council has advised the licensing bodies that its recommendations respecting the courses of medical study represent, in general terms, the minimum curriculum that should be required by the various licensing bodies. But it recognizes that during the present national emergency it may be advisable for them to modify or even suspend their regulations. It feels sure, however, that the licensing bodies concerned will recognize the importance, in the public interest, of maintaining unimpaired the present standard of knowledge and skill required of all who seek to be admitted to the status and privilege of registered practitioners. It will therefore be desirable to secure in every instance that the requirements of the minimum curriculum are to be substantially fulfilled. The standard of the qualifying examinations, in other words, is to be maintained.

## The English Universities.

THERE are eleven universities in England and Wales, and some account of each of them follows. With one exception they all have fully developed medical faculties. The exception is the University of Wales, whose constituent colleges are those of Aberystwith, Bangor, and Cardiff. It is in a position, however, to grant degrees, and has laid down a six years' curriculum for candidates for the M.B. degree, and it already provides, at the School of Medicine at Cardiff—of which an account will be found at page 230—thorough training in the work of the first three or four years.

#### UNIVERSITY OF OXFORD.

THE professional degrees conferred by this university are those of Bachelor of Medicine (B.M.), Bachelor of Surgery (B.Ch.), Doctor of Medicine (D.M.), and Master of Surgery (M.Ch.). It also grants a diploma in State Medicine and a diploma in Ophthalmology (examination suspended during the war). On receiving the B.M. the candidate is entitled to registration by the General Medical Council. In favourable circumstances this degree and the B.Ch. may be obtained in six or seven years from matriculation. Before receiving either, however, the candidate must have taken a degree in Arts (B.A.), for which three years' residence within the university is necessary. This, however, does not necessarily mean deferment of professional study for that period; for some of the subjects chosen for the final stage of the arts course may be the same as those in which examinations would in any case have to be passed for the medical degrees.

#### THE B.A. DEGREE.

A candidate may obtain the B.A. degree in either of the following ways:

(a) By passing Responsions (or one of the examinations which are accepted as equivalent), Moderations, a Scripture examination, or, in the event of a candidate objecting, an examination in some substituted book; and the Final Pass School in three subjects, two of which may be the same as two in the preliminary examinations in natural science.<sup>1</sup>

(b) By passing Responsions, an additional subject in Responsions, the Scripture examination, some of the preliminary examinations in the Natural Science School,<sup>1</sup> or the Preliminary Examination and the School of Jurisprudence, or the Honour School of Mathematics in the first public examination; and one of the final honour examinations.

<sup>1</sup> The four subjects of the medical preliminary examinations are four of the subjects in the natural science preliminary, and can be commenced directly after passing Responsions.



Responsions and the additional subject may be passed before a candidate is a member of the university; Moderations and Scripture can be passed in or after the second term; the final pass school may be taken any time after Moderations; a final honour school may be taken at the end of the third or within the fourth academical year—that is, twelve or sixteen terms respectively; the preliminary examinations of the Natural Science School may be taken as soon as Responsions have been passed.

#### PROFESSIONAL DEGREES.

To obtain the B.M., B.Ch. degrees the candidate must first pass in four of the subjects of the Preliminary Examination of the Natural Science School—namely, physics, chemistry, zoology, and botany.

He then has two further examinations to pass—the First M.B. and the Second M.B. These take place twice a year, the first on the Thursday, the second on the Wednesday, of the eighth week of Michaelmas and Trinity terms. Every candidate at the First M.B. is examined in human anatomy and also in physiology and in organic chemistry, unless he has previously taken a first or second class in the two latter subjects in the Natural Science School. Once he has passed this examination he can, on production of certain certificates, be examined as soon as he pleases in pathology, forensic medicine, and hygiene, materia medica, and pharmacology<sup>2</sup> (subjects of the second examination), but cannot present himself for the remaining subjects—medicine, surgery, and midwifery—until the twenty-fourth term from the day of his matriculation, and not until a period of at least twenty-two months have elapsed from the date of his passing the first examination, and he must take all the three subjects at one and the same time.

#### D.M. AND M.Ch. DEGREES.

A Bachelor of Medicine who wishes to proceed to the M.D. must have entered his thirty-ninth term and must present a dissertation for approval by the appointed examiners. If a candidate for the M.Ch., he must have entered his twenty-seventh term and must pass an examination which is held in June.

#### TEACHING.

The several colleges provide their undergraduate members with tutors for all examinations up to the B.A. degree. In addition, the university provides certain courses of instruction, including lectures, demonstrations, and practical work, which cover all the subjects of the Preliminary Examination and First M.B., and in part those of the Final Examination. For the diploma in State Medicine and the diploma in Ophthalmology certain of the courses can be taken in Oxford.

#### SCHOLARSHIPS.

The several colleges grant scholarships of £80 a year, tenable for four years, in natural science, chemistry, physics, and biology. Exhibitions of varying value are also awarded in these subjects. Particulars can be obtained on application to the college tutors. A Radcliffe Travelling Fellowship of £200 a year, tenable for three years, is conferred annually; candidates must have taken the B.M. degree. A Philip Walker Studentship in Pathology of £200 a year, tenable for two years, is awarded biennially for the encouragement of research in pathology, as also are the Rolleston Memorial Prize, for research in natural science (including pathology), and the C. Theodore Williams Scholarships in Anatomy and Physiology, and in Pathology, of the value of £50 each, tenable for two years. A Purney Yeo King's College Hospital Scholarship of £80 is awarded annually.

#### FEES.

An annual fee of £2 10s. is paid to the university for the first four years, being reduced to £1 when the B.A. has been taken. For the degree the fees are—the B.A., £7 10s.; the B.M. and B.Ch., £14; the D.M., £25; the M.Ch., £12. College fees, varying in amount, are paid for the first four years of membership and in taking degrees. Tuition fees vary from £21 to £30. The minimum annual cost of living during the three university terms may be regarded as not less than £120.

<sup>1</sup> Membership is constituted by matriculation and by becoming either a member of a college or a hall, or a non-collegiate student.

<sup>2</sup> A candidate who passed in materia medica and pharmacy under the old regulations in the First Examination before April 14th, 1909, is exempt from the examination in materia medica and pharmacology in the second examination.

#### UNIVERSITY OF CAMBRIDGE.

THE professional degrees given by this university are those of Bachelor of Medicine (M.B.) and Bachelor of Surgery (B.Ch.), which entitle the possessor to admission to the Register by the General Medical Council, and the higher degrees of Doctor of Medicine and Master of Surgery. It also grants diplomas in Tropical Medicine and Public Health to persons who are registered medical practitioners, but not necessarily graduates of the university.<sup>3</sup> A candidate for the M.B., B.Ch. degrees need not possess a degree in arts; it is sufficient if he has passed the Previous examination or some other examination accepted by the university as its equivalent.

#### PROFESSIONAL EXAMINATIONS.

To obtain the M.B. the candidate must pass three examinations, of which the latter two take place twice a year, in the Michaelmas and Easter terms; those who are finally successful receive the B.Ch. degree without further examination.

*First M.B. or Preliminary Examination in Science.*—This comprises (1) chemistry, (2) physics, (3) elementary biology. The parts may be taken together or separately. In either case the candidate before admission to examination must have satisfied the requirements in respect of the Previous examination, paid the matriculation fee, and entered on his first or some later term of residence. During the continuance of the war students may be admitted to this examination though they have not commenced residence. The other requirements must be satisfied. The examination is held three times a year—in October, December, and June.

*Second M.B.*—This examination, which cannot be passed until the first examination has been completed, comprises Part I, human anatomy and physiology; Part II, elementary pharmacology, including pharmaceutical chemistry and the elements of general pathology. No one may enter Part II unless he has passed Part I. The candidate must be signed up in both subjects and have dissected for six months. For 1918 the examination will be held in October and December. So far there has been no announcement of additional examinations in 1919.

*Third M.B.*—This is divided into two parts, to neither of which is the candidate admitted until he has passed the examinations previously mentioned. A candidate for the first part, which deals with surgery and midwifery, must have completed five years of medical study and be signed up in these subjects and have completed two years of hospital practice.

Before admission to the second part the candidate must have completed five years of medical study and be duly signed up in all subjects and have completed three years of hospital practice. He must also possess certificates showing that he has fulfilled all the recommendations as well as the requirements of the General Medical Council. The examination is in the principles and practice of physics, pathology, and pharmacology.

*Act for the M.B.*—Before receiving his degree, a candidate who has been successful at the Final M.B. has to write a thesis. This he reads in public on an assigned day, and is then questioned concerning it and other subjects of medicine by the Regius Professor of Physic. If approved at this test he is then certified as having "kept the Act" satisfactorily, and in due course receives his degree. Medical degrees may be taken in absence, the candidate sending a thesis to the Regius Professor of Physic, which is laid before the Board.

#### THE HIGHER DEGREES.

The M.D. degree may be taken by an M.B. of three years' standing after keeping a further Act and writing a short extempore essay, in which he may deal at his choice with either medicine, physiology, pathology, or State medicine. The M.Ch. degree may be granted to a candidate who has qualified for the B.Ch. at least three years previously; he is then examined in pathology, surgery, surgical anatomy, and surgical operations, or submits books or writings of his own which constitute original and meritorious contributions to the science and art of surgery.

#### FEES.

In addition to college fees, tutorial fees, and the expenses of living, the following examination fees are

<sup>3</sup> See pp. 240 and 242.



payable: First M.B., £4 4s.; Second M.B., £4 4s.; Third M.B., £9 9s. For schedules referring to the examinations, lists of schools recognized by the university, and other information, application should be made to the University Registry.

#### UNIVERSITY OF LONDON.

UNDER the regulations of the University of London, the degrees obtainable in the Faculty of Medicine are those of Bachelor of Medicine and Surgery, Master of Surgery in two branches, and Doctor of Medicine in six different branches. The university has its own matriculation examination, and this is of so peculiar a kind that candidates should secure and carefully study the booklets relating to it.

In no circumstances is a degree granted to any one in less than three years after the date at which he passed the Matriculation Examination or obtained registration in some other way; and unless they are already registered medical practitioners of a certain age and standing, all students must pass not less than five and a half years in professional study subsequent to matriculation.

#### PROFESSIONAL EXAMINATIONS.

**M.B., B.S.**—There are three examinations, the last two being subdivided. They are held twice a year.

The First Examination covers inorganic chemistry, general biology, and physics, there being two papers, a practical test, and a possible viva voce test in each subject. The names of successful candidates are placed in alphabetical order, with a note as to any subject in which a candidate has distinguished himself.

The Second Examination, Part I, cannot be passed within six months of the passing of the First Examination. It covers organic and applied chemistry, the candidate's knowledge being tested as in the earlier examination. It is a pass examination, but a mark of distinction may be won. Candidates for Part II must have passed the First Examination at least eighteen months previously besides having completed Part I of the Second Examination. The subjects are anatomy, physiology, and pharmacology, the tests being written, oral, and practical. Candidates who fail in one subject may offer themselves for re-examination in that subject alone if the examiners think fit.

No candidate is admitted to the Third M.B., B.S. Examination within three academic years from the date of his completing the Second Examination. The subjects are medicine (including therapeutics and mental diseases), pathology, forensic medicine and hygiene, surgery, and midwifery and diseases of women. They may be divided into two groups, one comprising medicine, pathology, forensic medicine, and hygiene, and the other surgery and midwifery and diseases of women. Either group may be taken first at the option of the candidate, or the groups may be taken together. Only candidates who show a competent knowledge of all the subjects comprising a group are passed. There is no separate examination held for honours, but in the list of successful candidates the names are divided into an honours list and a pass list, in each of which the names are placed in alphabetical order, and a university medal may be awarded the candidate who has most distinguished himself in the whole examination.

#### THE HIGHER DEGREES.

**M.D.**—An examination for the M.D. is held twice yearly—in December and July. Every candidate must have passed the examination for the M.B., B.S. unless he became M.B. before May, 1904. He may present himself for examination in any one of the following branches: (1) Medicine, (2) pathology, (3) mental diseases and psychology, (4) midwifery and diseases of women, (5) State medicine, (6) tropical medicine, and, if he wishes, may pass also in another branch at a subsequent examination.

The period that must elapse between acquiring the M.B. and sitting for the M.D. in any branch varies with the nature of the candidate's previous work between one year and two years, and in all cases evidence must be afforded of special study of the subject chosen, whatever the branch; both written and practical examinations must be passed, though exemptions can be obtained from the former in exceptional circumstances. In each branch the scheme

of examination is the same: two papers on its special subject, a paper on an allied subject—for example, medicine in the case of branch (4), pathology in branch (1)—an essay on one of two suggested topics connected with the special subject, and a clinical or other practical test. In any branch of the M.D. Examination a gold medal of the value of £20 may be awarded.

**M.S.**—The regulations with regard to the Mastership in Surgery are of a corresponding kind, but there are only two branches in which it may be obtained—General Surgery and Dental Surgery.

#### FEES.

For Matriculation: £2 for each entry. First Examination: £5 for each entry to the whole examination. For re-examination in one subject the fee is £2. Second Examination, Part I: £2 for the first and each subsequent entry. Second Examination, Part II: £8 for each entry to the whole examination. For re-examination in one subject the fee is £4. M.B., B.S. Examination: £10 for each entry to the whole examination, and £5 for examination or re-examination in either group. M.D. and M.S. Examinations: £20, and £10 on re-examination.

*Note.*—The University has made certain regulations with regard to the position of students called up for war service. As these must vary from time to time, inquiries should be addressed to the Registrar, the University of London, South Kensington, S.W.7.

#### UNIVERSITY OF BIRMINGHAM.

THIS university confers the ordinary medical and surgical degrees—M.B., Ch.B., M.D., and Ch.M., and also diplomas and degrees in State medicine and dentistry. It has a plan, too, by which, extending his study to six instead of five years, the M.B., Ch.B. candidate may become a Bachelor in Science as well. Of the five years' curriculum, the first four must be spent, as a rule, at the university itself, the fifth being passed at any approved school or schools. Occasionally, however, the Senate will reduce the period of enforced residence to three years and exempt from the First M.B. those who have passed elsewhere an examination considered to be its equivalent.

All students in the Medical Faculty must have passed (a) the matriculation examination of the Joint Board of the Universities of Manchester, Liverpool, Leeds, Sheffield, and Birmingham in (1) English composition and literature; (2) English history; (3) mathematics; (4) a foreign language; (5) either chemistry, mechanics, or physics; and (6) either another language or an additional science; or (b) some other examination recognized as equivalent to the matriculation.

Candidates for medical degrees are recommended to take Latin at the matriculation examination, although that subject is no longer compulsory.

The matriculation examination of the Joint Board is held in July and September in each year. The regulations regarding it, and the list of examinations accepted in lieu thereof, will be sent on application to the Secretary to the Board, Joint Matriculation Board, 24, Dover Street, Manchester.

#### PROFESSIONAL EXAMINATIONS.

The candidate for the M.B., Ch.B. degrees has five examinations to pass. In the second and final examinations the candidate must pass in all the prescribed subjects or undergo the whole examination again.

**First M.B.**—This deals with chemistry, physics, and elementary biology; it may be passed before the student commences residence at the university, provided the regulations as to matriculation have been met.

**Second M.B.**—This deals with anatomy and physiology, and the student must pass in both simultaneously.

**Third M.B.**—This deals with general pathology and bacteriology, materia medica, and practical pharmacy.

**Fourth M.B.**—This takes place at the end of the fourth year, the subjects being forensic medicine, toxicology, public health, therapeutics, and special pathology.

**Final M.B.**—This comprises medicine, surgery, midwifery and diseases of women, ophthalmology, and mental diseases. The candidate, in addition to more ordinary certificates, must be prepared with a certificate of having acted as a *post-mortem* clerk for three months, and received special instruction in anaesthetics and clinical instruction in diseases peculiar to women, asylum ward



work, and ophthalmology. In respect to the latter he must show that he has learnt refraction work. He also has to present to the examiners reports drawn up by himself on six gynaecological cases, and certificates drawn up by himself regarding four actual cases of lunacy, and notes respecting two others.

**M.D.**—An ordinary candidate for this degree must be a M.B., Ch.B., of not less than one year's standing. He presents an original thesis for approval, and then passes a general examination in the principles and practice of medicine. From the latter the Board of Examiners may exempt a candidate whose thesis is of exceptional merit. The regulations respecting the Ch.M. are of the same general character. Subject to certain requirements as regards special research or other post-graduate study, graduates of other universities may obtain the M.D. and Ch.M. in the same way as the holders of the Birmingham M.B., Ch.B.

#### FEES.

The fee for matriculation is £2, and for each of the first four professional examinations the same amount; M.B., Ch.B. degree fee, £8; M.D. and Ch.M. examination, £10 each. For further particulars application should be made to the Dean of the Medical Faculty.

#### UNIVERSITY OF BRISTOL.

The university grants the following degrees: In medicine and surgery, M.B. and Ch.B., M.D., Ch.M. (the M.D. may be taken in State medicine); in dental surgery, B.D.S., M.D.S. Diplomas in public health (D.P.H.) and dental surgery (L.D.S.) are also granted. Candidates for degrees must pass the Matriculation Examination (or some equivalent examination accepted in lieu thereof; see the Regulations for Matriculation), and study at the university itself for at least three years of the five and a half years' curriculum, two such years being subsequent to the passing of the Second M.B. Examination. The Matriculation Examination comprises five subjects: (1) Mathematics; (2) a language other than English; (3) English grammar and composition; (4 and 5) two subjects at choice, one of which must be a foreign language. It is held in July and September. The winter session opens on October 1st, 1918.

Candidates who possess a *Higher School Certificate* approved by the Board of Education in physics, chemistry and biology may count the first year of the curriculum and the first examination; the curriculum being thus reduced to four and a half years in the university.

#### PROFESSIONAL EXAMINATIONS.

**M.B., Ch.B.**—There are three examinations for this degree. They must be passed in proper order, and before admission to them the candidate must be duly certified as having attended in the subjects involved. The first M.B. comprises chemistry, physics, botany, and zoology. The second M.B. comprises organic chemistry, elementary anatomy (Part I), advanced anatomy, physiology (Part II). The two groups may be taken separately or together. The Final Examination includes materia medica and pharmacy, pharmacology, and therapeutics, general pathology, morbid anatomy and bacteriology (Part I), special pathology, forensic medicine, toxicology and public health, obstetrics (including diseases of women), surgery (systematic clinical, practical, and operative), medicine (systematic, clinical, and practical), including mental diseases (Part II). The two groups may be taken separately or together. At the option of the candidate, forensic medicine and toxicology may be taken either with Group I or Group II. First or second class honours may be obtained by a candidate whose work is deemed of sufficient merit, but cannot be awarded to one who has recorded against him a failure at any examination after the first M.B.

**M.D.**—A candidate for this degree must be a M.B. and Ch.B. of at least two years' standing. He has a choice between presenting an original dissertation, undergoing a general examination in medicine (including medical anatomy, medical pathology and bacteriology, systematic and clinical medicine), or passing an examination in State medicine.

**Ch.M.**—A candidate must have attended, since becoming M.B., Ch.B., and for not less than two years, a public institution affording opportunity for the study of practical

surgery, and produce certificates to that effect; the candidate shall be required to pass a general examination in surgery (including surgical anatomy, surgical pathology and bacteriology, operative and clinical surgery), and to present a dissertation in some department of surgery. He must be of two years' standing as a M.B., Ch.B.

Applications for other information should be addressed to the Dean of the Medical Faculty.

#### DENTAL DEPARTMENT.

The university grants the degrees of Bachelor and Master in Dental Surgery (B.D.S., M.D.S.) and a Diploma in Dental Surgery entitling to the letters L.D.S. The courses of the university are available equally for these qualifications and for those of other licensing bodies. Both courses are open to men and women alike.

#### UNIVERSITY OF DURHAM.

To its own graduates, who may be of either sex, this university grants the degrees of Bachelor and Doctor of Medicine (M.B. and M.D.) and Bachelor and Master of Surgery (B.S. and M.S.); it also grants special degrees and diplomas in State Medicine, Psychiatry, and Dental Surgery.<sup>1</sup> To become a graduate, however, at the university it is not necessary to pass the major portion of the five years' curriculum within its precincts, or even to commence that period by matriculation. It is sufficient if, before he presents himself for his final examination, the candidate has passed at least one year in study at the University of Durham College of Medicine, including the practice of the Royal Victoria Infirmary in the same city. The earlier examinations may be passed while the student works elsewhere, but not less than a year must elapse between the date when the student satisfies the requirements of the university as regards matriculation and his presenting himself for the Final M.B., B.S. Examination.

#### MATRICULATION.

The university has its own matriculation examination, but accepts the tests of a considerable number of other educational bodies as a full or partial equivalent. A list may be obtained on application.

#### PROFESSIONAL EXAMINATIONS.

There are four professional examinations for the M.B., B.S. degrees. Each is held twice a year—in March and June. The first deals with elementary anatomy and biology, chemistry, and physics; the second with anatomy and physiology; the third with pathology, elementary bacteriology, medical jurisprudence, public health, materia medica, and pharmacy. At the final M.B., B.S., the candidate is examined in medicine and clinical and psychological medicine; surgery and clinical surgery; midwifery and diseases of women and children; clinical and practical gynaecology; therapeutics; diseases of the throat, nose, and ear; diseases of the skin; and diseases of the eye.

**M.D.**—A Bachelor of Medicine who wishes to proceed to this higher degree must be of at least two years' standing, and satisfy the university that he knows either Greek or German. He then submits a typewritten essay dealing with original work or observations of his own, and is examined in its subject. If the candidate is not a M.B. of the university, he must be a practitioner of fifteen years' standing and submit to special tests.<sup>2</sup>

**B.S.**—A candidate for this degree must have passed the examination for the M.B. of the university, and have attended courses on operative surgery and regional anatomy. He must then perform operations on the dead body before the examiners.

**M.S.**—Candidates for this degree must, like those for the M.D., satisfy the authorities as to their knowledge of Greek or German, and must have been engaged in practice for at least two years subsequent to becoming B.S. Durham. They are submitted to an examination which covers the whole range of surgical knowledge.

#### FEES.

The following fees are payable: Matriculation or its equivalent, £1 10s.; First, Second, and Third M.B. Examinations, each £5; Final M.B., £10; M.D., B.S., and M.S., £5 for each examination and £6 6s. for each degree.



Further information respecting the examinations and degrees may be obtained from Professor Howden, at the University of Durham College of Medicine, Newcastle-on-Tyne.

#### UNIVERSITY OF LEEDS.

The degrees granted in the Medical Faculty of this university are Bachelor of Medicine, Bachelor of Surgery (M.B. and Ch.B.), and Bachelor of Dental Surgery (B.Ch.D.), Doctor of Medicine (M.D.), Master of Surgery (Ch.M.), and Master of Dental Surgery (M.Ch.D.). It also gives diplomas in public health, psychology, and in dental surgery.

Candidates for the M.B. must have attended courses of instruction approved by the university for not less than five years, two at least of such years having been passed in the university subsequently to the date of passing the first examination. They must also have matriculated by satisfying the examiners in (1) English (composition and literature); (2) English history; (3) mathematics; (4) three of the following, one of which must be a language: (a) Latin, (b) Greek, (c) French, (d) German, (e) some other modern language approved by the Board, (f) either mechanics or physics, (g) chemistry, (h) geography, (i) natural history or botany. Exemption from the examination may be granted to applicants holding certificates of having passed examinations of a standard deemed by the Matriculation Board to be at least equal to the Board's examination.

#### PROFESSIONAL EXAMINATIONS.

The examinations for the M.B., Ch.B. number three. The first deals with (1) physics and chemistry, (2) biology. In each subject laboratory work is included, but the two parts can be taken separately. For neither can the candidate present himself until after matriculation, and at least two or three terms' approved work in the respective subjects indicated.

*Second M.B.*—This may be taken in two parts: (a) anatomy and physiology, including practical work; (b) materia medica and pharmacy, including actual compounding of drugs. The candidate's certificates must show, among other things, that he has dissected during at least five terms.

*Final M.B.*—This may be divided into three parts. The first part, pathology and bacteriology, may be taken at the end of the tenth term; the second part, forensic medicine and public health, and the third part, medicine, surgery, and obstetrics, cannot be taken before the end of the fifth year; and before being admitted to the examination in its subjects the candidate, in addition to ordinary certificates, must produce proof that he has done both intern and extern maternity work, and received clinical instruction in gynaecology, in diseases of the eye, skin, or larynx, and in the administration of anaesthetics. This division covers all branches of surgery, medicine (including mental diseases and diseases of children), and obstetrics and gynaecology. Passages for translation from French and German are included in the papers on medicine. First and second class honours may be obtained in this division.

*M.D.*—A candidate for this degree must be a M.B., Ch.B. of at least one year's standing. He presents a dissertation embodying the results of personal observation or original research, and, if this is approved, passes an examination which consists in the writing of an extemporary essay, and answering questions on the history of medicine and the subject of his dissertation.

*Ch.M.*—The candidate for this degree must have been admitted to the M.B., Ch.B. not less than a year previously, and during that time must have held for at least six months a surgical appointment in a public institution affording full opportunity for the study of practical surgery. In addition, he must have attended certain special courses, including one on ophthalmology and one on bacteriology; he is then examined in the subject of surgery in all its branches.

#### FEES.

The matriculation fee is £2, and on readmission £1 10s. For each of the other examinations £5, and £2 on readmission. On conferment of the degree of Ch.M. £5 is payable, the same remark applying to the M.D. degree.

#### UNIVERSITY OF LIVERPOOL.

This university, besides granting degrees in medicine (M.B. and M.D.) and in surgery (Ch.B. and Ch.M.), gives degrees in dental surgery (B.D.S. and M.D.S.), a degree in hygiene (M.H.), and degrees in veterinary science (B.V.Sc., M.V.Sc., and D.V.Sc.). Diplomas are awarded in dental surgery (L.D.S.), tropical medicine (D.T.M.), public health (D.P.H.), and veterinary hygiene (D.V.H.).

#### MATRICULATION.

The Matriculation Examination is governed by the Joint Matriculation Board, 24, Dover Street, Manchester, which accepts under certain conditions the tests of several other bodies as its equivalent. These include the Matriculation of London University, the Senior Local Examination of Oxford and Cambridge, the Higher Certificate of the Joint Oxford and Cambridge Board, Responsions of the University of Oxford, the Previous Examination of the University of Cambridge, the Leaving Certificate of the Scottish Education Department, and the Senior Certificate of the Central Welsh Board. Of the five years' curriculum, not less than two must be passed in the university itself, one such year being subsequent to the date of passing the First M.B. Examination.

#### PROFESSIONAL EXAMINATIONS.

Candidates for the M.B., Ch.B. degrees have three examinations to pass, the first including (1) chemistry, inorganic and organic; (2) biology, including zoology and botany; (3) physics. Section 2 may be taken alone or in conjunction with Sections 1 and 3.

*Second M.B.*—This test covers (a) (1) anatomy, (2) physiology, including physiological chemistry and histology; and (b) (3) materia medica and pharmacy, (4) pharmacology. Candidates may present themselves in (a) and (b) separately.

*Final M.B.*—This examination deals with six subjects, which may be taken all together or divided into three parts: (1) General pathology, morbid anatomy, and bacteriology; (2) therapeutics; (3) forensic medicine, toxicology, and public health; (4) obstetrics and diseases of women; (5) surgery, systematic and clinical, including mental diseases and diseases of children.

*M.D. and Ch.M.*—Candidates for these degrees must have received the M.B. and Ch.B. at least a year previously. The M.D. candidate submits for approval a dissertation covering original work, the M.Ch. candidate undergoing an examination. Other information concerning the diplomas of this university and its medical school will be found on page 231.

#### FELLOWSHIPS, SCHOLARSHIPS, AND EXHIBITIONS.

The university awards Fellowships annually to students of distinguished merit, as follows:

(1) Alexander Fellowship in Pathology and Bacteriology, value £100 and tenable for one year. (2) Ethel Boyce Fellowship in Gynaecology, value £100 and tenable for one year, open to fully qualified medical students of either sex. (3) John W. Garrett International Fellowship in Bacteriology, value £100 and tenable for one year. (4) Robert Gee Fellowship in Human Anatomy, value £100 and tenable for one year. (5) Holt Fellowships in Physiology and Pathology, two in number, value £100 each and tenable for one year. (6) Johnston Colonial Fellowship in Biochemistry, value £100 and tenable for one year. (7) Thelwall Thomas Fellowship in Surgical Pathology, value £100 and tenable for one year.

There are, in addition, scholarships and exhibitions open to medical students.

#### VICTORIA UNIVERSITY OF MANCHESTER.

This university grants the four ordinary degrees in medicine and surgery, M.B. and Ch.B. and M.D. and Ch.M.; a diploma and a degree (B.Sc.) in public health; a certificate in factory and in school hygiene; a diploma in psychological medicine; and a degree and diploma in dental surgery. Candidates for degrees must pass the special Matriculation Examination prescribed by the Faculty of Medicine (or some equivalent examination accepted in lieu thereof; see the prospectus of the Joint Matriculation Board), and study at the university itself for at least two years of the five years' curriculum, one such year being subsequent to the passing of the First M.B. Examination. The Matriculation Examination comprises (1) Latin, (2) mathematics, (3) the English language, its



literature and history; (4) English history; (5) two subjects at choice, one of which must be a language approved by the Joint Board, the other being elementary mechanics, or physics, chemistry, geography, natural history, or botany. It is held in July and September.

#### PROFESSIONAL EXAMINATIONS.

**M.B., Ch.B.**—There are four examinations for this degree. They must be passed in proper order, and before admission to them the candidate must be duly certified as having attended in the subjects involved. At all examinations the subjects, or groups of subjects, prescribed can be taken separately or together, as the candidate pleases. The First M.B. is divided into Part 1, inorganic chemistry and physics; Part 2, biology (including animal and vegetable morphology, physiology, and laboratory work); Part 3, elementary organic chemistry and biochemistry. The parts may be taken separately or together. At the Second M.B. the candidate is examined in anatomy and physiology; at the Third in pathology, hygiene, and pharmacology and therapeutics (including materia medica and practical pharmacy). The Final Examination includes medicine, systematic and clinical (separate papers being given on mental diseases), and diseases of children, surgery (systematic, clinical, and practical, with a separate paper on ophthalmology), obstetrics and gynaecology, and forensic medicine and toxicology.

**M.D.**—A candidate for this degree must be a M.B. of at least one year's standing. He has a choice between presenting an original dissertation or undergoing a written (as well as practical and clinical) examination in medicine, and a written and practical examination in pathology, and one other subject to be selected by the candidate.

**Ch.M.**—A candidate must have held, since becoming Ch.B., and for not less than six months, an appointment in a public institution affording opportunity for the study of practical surgery, and produce certificates of having attended certain courses of study. The examination comprises the general field of surgery, including ophthalmology and bacteriology.

#### FEES FOR EXAMINATIONS.

The following fees are payable: Matriculation, £2; on readmission, £1 10s. Each M.B. examination, £5; on re-admission, after failure, £2. M.D., including the conferring of the degree, £10. Ch.M., £5 each for the examination and degree. Application for further information should be addressed to the Dean of the Medical Faculty.

#### UNIVERSITY OF SHEFFIELD.

The degrees of this university (M.B., Ch.B., and M.D. and Ch.M.) and the diploma in public health are open to candidates of either sex. Candidates for a degree must have matriculated in the university or have passed such other examination as may be recognized for this purpose.

#### PROFESSIONAL EXAMINATIONS.

A candidate for the degrees of M.B., Ch.B. must produce certificates that he will have attained the age of 21 years by the day of graduation; that he has pursued the courses of study required by the university regulations during a period of not less than five years subsequently to the date of his matriculation, or exemption from matriculation, three of such years at least having been passed in the university, one at least being subsequent to the passing of the first examination. He or she has eventually to pass the following examinations in due order:

**First Examination.**—The subjects are chemistry, physics, and biology. The Intermediate examination in science—chemistry, physics, and zoology—will, on payment of the required additional fee, be accepted instead of this examination. Candidates on presenting themselves for this examination are required to furnish certificates of having attended for not less than one year approved courses of instruction, after matriculation, in (i) chemistry, inorganic and organic; (ii) physics; (iii) biology.

**Second Examination.**—The subjects are anatomy and physiology. The candidate must have completed the third winter session of professional study, must have passed the First Examination, and must have attended (1) lectures on anatomy, and dissections during five terms; (2) lectures on physiology during four terms; practical,

experimental, and chemical physiology during four terms, and histology during one term.

**Third Examination.**—The subjects are pathology and pharmacology. Candidates must have completed the fourth year of medical study and completed the requisite courses in these subjects, including *post-mortem* clerkship for three months.

**Final Examination.**—The subjects are medicine (including forensic medicine, public health, mental diseases, and diseases of children), surgery, and obstetrics (including gynaecology). Candidates must satisfy the examiners in all subjects at the same examination. Candidates must have completed the fifth year of study.

**M.D.**—Candidates for the degree of Doctor of Medicine must have passed the examination for the degrees of M.B., Ch.B. at least one year previously, must present a thesis embodying observations in some subject approved by the Professor of Medicine, and must pass an examination in the principles and practice of medicine.

**Ch.M.**—Candidates for the degree of Master of Surgery must have passed the examination for the degrees of M.B., Ch.B. at least one year previously, and must, since taking the degrees of M.B., Ch.B., have held for not less than six months a surgical appointment in a public hospital or other public institution affording full opportunity for the study of practical surgery. The subjects of examination are systematic, clinical, and operative surgery, surgical anatomy, surgical pathology, and bacteriology.

Other information concerning this university will be found in the section devoted to Provincial Medical Schools.

#### UNIVERSITY OF WALES.

The Supplemental Charter and statutes of the University of Wales provide for a Faculty of Medicine and for the granting of the following degrees: Bachelor in Medicine (M.B.), Bachelor in Surgery (B.Ch.), Master in Surgery (M.Ch.), and Doctor in Medicine (M.D.).

A candidate for the M.B., B.Ch. cannot be admitted to examination until the completion of not less than six academic years subsequent to matriculation in the university, and of these years at least three must have been passed as a student in one of the constituent colleges of the university. He must also hold an Arts or Science degree of the University of Wales, or of some other university approved for this purpose. Some of the courses of study pursued for a B.Sc. or B.A. degree may be counted as part of the courses required for the degrees in the Medical Faculty.

The courses for the M.B., B.Ch. are divided into two sections, of which the first include the preliminary subjects—physics, chemistry, botany, zoology; and the ancillary subjects—organic chemistry, human anatomy, and physiology. Study of the preliminary subjects must extend over at least one academic year; study of the ancillary subjects must extend over at least two academic years, and, excepting organic chemistry, cannot be commenced until all the preliminary courses have been completed; hence the first section of the course must occupy not less than three years. The second section includes courses in pathology, bacteriology, pharmacology, medicine, surgery, and obstetrics, and cannot be commenced, except in the case of pharmacology, until the examinations relating to the preliminary and ancillary courses have been passed. Examinations in the earlier subjects are held at the end of each academic year, and in the subjects of the second section each July.

During the continuance of the war clinical service at a medical unit of the forces, or at an approved hospital, will be recognized as hospital practice, under certain conditions, for the purpose of the M.B. degree.

#### English Medical Corporations.

THERE are three medical corporations in England—the Royal College of Physicians, the Royal College of Surgeons, and the Society of Apothecaries of London. The first two combine for certain purposes to form what is known as the "Conjoint Board." Details concerning this body, its component colleges, and the third licensing body here follow.



## THE CONJOINT BOARD.

This body deals with the qualifications of all candidates for the Licence of the Royal College of Physicians of London and for the Membership of the Royal College of Surgeons of England. It prescribes for them certain periods of study, and recommends those who satisfy it for the licence and diploma of Membership respectively. The successful candidate is then entitled to admission to the *Medical Register* as a L.R.C.P.Lond., M.R.C.S.Eng. It performs the same task in connexion with diplomas in State medicine and tropical diseases jointly issued by the two colleges in question. It obliges all candidates to pass one of a large number of examinations which it considers satisfactory tests of general education, and thereafter to pass five years in professional study at a recognized medical school, allowing, however, six months to be spent at any institution which may be recognized by the Board as giving efficient education in chemistry and physics. A list of such institutions, as also of the tests accepted in regard to general education, can be obtained from the Secretary of the Board at the Examination Hall, Queen Square, Bloomsbury, W.C.1.

## PROFESSIONAL EXAMINATIONS.

There are three examinations for the Conjoint diploma, or L.R.C.P., M.R.C.S., which are commonly known as First Conjoint, Second Conjoint, and Final.

*First Conjoint.*—This examination is in four parts: (1) Chemistry, (2) physics, (3) elementary biology, (4) practical pharmacy.

A candidate must present himself for examination in Parts (1) and (2) together until he has reached the required standard to pass in both, or in one of these parts, but he will not be allowed to pass in one part unless he obtains at the same time half the number of marks required to pass in the other part. A candidate may take Parts (3) and (4) separately, or he may present himself for the whole examination at one time.

Before admission to either part the candidate must show that he has undergone certain courses of theoretical and practical instruction, but these courses need not be completed within one year, nor need they run concurrently, and they may be commenced or attended before the candidate passes the required preliminary examination in general education. A candidate referred in any part or parts will not be admitted to re-examination for three months. If referred in chemistry, physics, or biology, he must produce evidence of further instruction. Those who are already graduates in medicine, or who have passed an examination in the same subjects before a university board for a degree in medicine, may obtain exemption from re-examination in those subjects at this examination.

*Second Conjoint.*—This examination deals with anatomy and physiology, and both subjects must be passed at the same time. A candidate must have attended at a recognized medical school lectures on anatomy, physiology, and a course of practical physiology and histology, and have dissected for twelve months during the ordinary sessions. The study of anatomy and physiology before passing in two of the first three parts of the first examination is not recognized. If rejected, a candidate, before being admitted to re-examination, must continue his studies at a recognized medical school for not less than three months.

*Final Conjoint.*—This examination consists of three parts: Part I, medicine, including medical anatomy, pathology, practical pharmacy,<sup>1</sup> therapeutics, forensic medicine, and public health; Part II, surgery, including pathology, surgical anatomy, and the use of surgical appliances; Part III, midwifery and gynaecology. The examination may be passed at one time or in each part separately. Evidence of attendance at courses of instruction in the subjects of the three parts must be produced, and also of having conducted twenty labours. A candidate will be admissible to Parts I, II, and III of the Third or Final Examination at the expiration of two years (twenty-four months) from the date of passing the Second Examination, and on production of the required certificates of study, provided that the examination is not completed before the expiration of five years (five winter and five summer sessions) from the date of passing the Preliminary Examination. A rejected candidate must produce evidence of further instruction during three months.

<sup>1</sup> Candidates who have previously passed in practical pharmacy will not be re-examined in that subject at the Third Examination.

NOTE.—A person holding a Colonial, Indian, or foreign qualification which entitles him to practise in the country where such qualification has been obtained is, after a course of study and examination equivalent to those required by the Regulations of the two Royal Colleges, admissible to the Second and Third or Final Examinations without any interval. Members of an English, Scottish, or Irish university are under certain conditions eligible for admission to the Third or Final Examination two years after passing at their university the subjects included in the First and Second Examinations of the Board.

A member of an Indian, Colonial, or foreign university recognized for the purpose, who shall have passed examinations at his university for the degree of Doctor or Bachelor of Medicine or Surgery in the subjects of the First and Second Examinations of the Conjoint Board, will be eligible for admission to the Third or Final Examination two years after passing in the said subjects.

No special conditions relating to the war have been laid down, beyond allowing candidates to take midwifery before the completion of the fifth year of study. The committee of management, however, are willing to consider special cases where it has been difficult to fulfil certain details of the curriculum.

## FEES.

First examination, £10 10s. Re-examinations, Parts I and II, £3 3s.; Parts III and IV, each £2 2s. Second examination, £10 10s. Re-examination, £6 6s. Third examination, £21. Re-examination, Part I, medicine, £5 5s.; practical pharmacy, £2 2s. Part II, surgery, £5 5s. Part III, midwifery and diseases of women, £3 3s. Members of an English, Scottish, or Irish university, £5 5s. for examination and £36 15s. for the diplomas.

## ROYAL COLLEGE OF PHYSICIANS OF LONDON.

This College has three grades—its Licentiates, its Members, and its Fellows. The Licence is now only issued through the Conjoint Board. The Membership is only granted to those who have passed the final examinations for the Licence; or those who are registered practitioners and graduates of a recognized university; in any case they must be persons over 25 years of age, who do not practise in partnership, dispense medicines, or engage in trade. Candidates are examined in pathology and the practice of physic, partly in writing and partly viva voce. Those under 40 are also examined in Latin, and either Greek, French, or German. The examination fee is £6 6s., the Membership fee being £42, or the difference between that sum and what the candidate has already paid if a Licentiate. The body of Fellows is maintained by election from among the Members.

## ROYAL COLLEGE OF SURGEONS OF ENGLAND.

This College has two grades—Members and Fellows. The Members are admitted as stated in the section dealing with the Conjoint Board. The Fellowship is granted after examination to persons at least 25 years of age who have been engaged in professional studies for six years. There are two examinations—the first in anatomy and physiology, which may be passed after the third winter session; the second, chiefly directed to surgery, which may be passed after six years of professional study. Candidates must pass the Final Examination of the Examining Board in England and be admitted Members of the College before admission to the Second Examination for the Fellowship, except in the case of graduates in medicine and surgery of not less than four years' standing of universities recognized by the College for the purpose, who are required to attend for one year the surgical practice of a general hospital recognized by the College after obtaining their degrees. The College also issues a diploma in dentistry.

*Fees.*—At first examination: £5 5s. At second examination: £12 12s. Diploma fee: Members, £3 3s.; non-members, £13 13s.

## SOCIETY OF APOTHECARIES OF LONDON.

This body confers a registrable diploma in medicine, surgery, and midwifery, now known as the L.M.S.S.A., on those successful at the following examinations:

*Primary Examination.*—This is divided into two parts, of which Part I includes elementary biology, chemistry, chemical physics, practical chemistry, pharmacy. Part II includes anatomy, physiology, and histology, and cannot be passed before the completion of twelve months' practical



anatomy with demonstrations. Candidates will be excused any or all the subjects of the primary examination on producing evidence that they have passed equivalent examinations before an examining body recognized by the Society. Candidates referred in anatomy will be required to produce evidence of further work in the dissecting room before being admitted to re-examination.

**Final Examination.**—This is divided into two sections, the first of which is subdivided into three parts. Part I includes the principles and practice of surgery, surgical pathology, operative manipulation, surgical anatomy, instruments and appliances. Part II includes: (a) The principles and practice of medicine (including therapeutics, pharmacology, and prescriptions), pathology, and morbid histology; (b) forensic medicine, hygiene, theory and practice of vaccination and mental diseases. Part III includes midwifery, gynaecology, and diseases of newborn children, obstetric instruments and appliances. Section 2 consists of clinical surgery and clinical medicine and medical anatomy.

#### FEES.

Primary examinations, £5 5s.; final, £15 15s. Further information may be obtained from the Secretary, Court of Examiners, Apothecaries' Hall, Blackfriars, E.C.4.

## The Scottish Universities.

THERE are in Scotland four universities, each of them possessing a faculty of medicine, and having the right to confer degrees which admit the holder to the *Medical Register*. In essential points the regulations in their medical faculties for undergraduates are on all fours with one another, so that an account can be given of all of them together.

The universities are those of Edinburgh, Glasgow, Aberdeen, and St. Andrews, and in point of standing and repute it is not easy to differentiate between them. The provision each of the cities in which these universities are situated makes for the education of medical students will be found in the section on Medical Schools in Scotland; here it need merely be said that degrees in medicine from Scotland as a whole have always enjoyed an excellent repute.

The degrees granted in medicine and surgery to candidates of either sex are four in number—Bachelor of Medicine (M.B.), Bachelor of Surgery (Ch.B.), Doctor of Medicine (M.D.), Master of Surgery (Ch.M.). The two former are not obtainable one apart from the other. Besides these degrees a diploma in tropical medicine and hygiene is obtainable from the University of Edinburgh, as also a diploma in psychiatry. As for public health, registrable degrees in this subject are granted both by the University of Edinburgh and that of Glasgow, while diplomas in public health may be obtained from the universities of St. Andrews and Aberdeen.

#### PRELIMINARY EXAMINATION.

There is a special preliminary examination for medical students, the subjects being English, Latin, elementary mathematics, and either Greek or French or German. Candidates are required to pass in all these subjects either at one or at not more than two examinations, but they can present themselves as often as they please. Many corresponding tests held by other bodies are accepted as the equivalent of this examination, which will shortly be modified.

#### PROFESSIONAL EDUCATION.

The regulations comply in all respects with the requirements and recommendations of the General Medical Council, and in addition necessitate definite study for stated periods of diseases of children, of the larynx, ear and nose, of the skin, of ophthalmology, and of mental diseases. In respect of the various courses certificates must be obtained showing that the student has not only attended regularly, but has duly performed the work of the class. Out of the necessary five years of medical study, not less than two must be spent at the university whose degrees the student hopes to obtain, and the balance at any place officially recognized for such purpose. In each academic year there are two sessions—one lasting from the beginning of October to the middle of March, and the other from the middle of April to the end of June.

#### PROFESSIONAL EXAMINATIONS.

The distinctive feature of the Scottish curriculum is that, though nominally there are only four examinations, each of these may be, and habitually is, split up by the student into sections. Hence, a student may complete some stage of his career during the course of nearly every session. Thus, by the end of the first winter session the student may pass in physics and chemistry. At the end of the first summer session he can finish with botany and zoology, and with anatomy and physiology at the end of the second. Practical materia medica may be taken at any period of examination after the necessary course of instruction has been attended. Pathology and materia medica he will pass at the end of the third year, and so on, until the final examination in midwifery, surgery and medicine, and the corresponding clinical subjects at the end of the fifth year of study. At each examination the candidate may pass "with distinction," and a record is kept of the merit displayed, so that, when the time comes for the candidate to graduate, one who has done well throughout can be declared as graduating with first or second class honours. A further point in the system is that the student's own teachers commonly take some part in his examination.

Of the four examinations, the first deals with physics, botany, zoology, and chemistry; the second with anatomy and physiology; the third with materia medica and pathology; the fourth with medicine and surgery (clinical and systematic), midwifery, forensic medicine and public health, and clinical gynaecology. The first three examinations are held three times a year; the final twice a year.

Exemption from the first professional examination can be obtained by candidates who have passed an arts or science degree examination in its subjects at any recognized university. When a candidate presents himself for an examination in several of its parts, but is not successful in all of them, he is credited at the next examination with those subjects in which he has previously been approved.

#### THE HIGHER DEGREES.

It is open to those who are already M.B., Ch.B., to proceed either to the M.D. or the Ch.M. A candidate for the former must have been engaged for not less than one year in work in the medical wards of a hospital, or in scientific research in a recognized laboratory, or in the Naval or Military Medical Services, or have been at least two years in general practice, and he must be 24 years of age. He has to write a thesis on any subject not exclusively surgical, and is examined in clinical medicine and in some one or other of its special departments. The regulations for candidates for the Ch.M. are of a corresponding character, a period of surgical work in a hospital or elsewhere being substituted for medical work, and the thesis being on a surgical rather than a medical subject. He is examined in surgical anatomy, clinical surgery, operative surgery, and in some of the special departments of surgery.

#### FEES.

It is estimated that the class, examination, and other fees for the M.B., Ch.B. come altogether to about £160, the separate examination fees included in this calculation being as follows:

	£	s.	d.
First Professional ... ..	6	6	0
Second Professional ... ..	5	5	0
Third Professional ... ..	4	4	0
Final ... ..	7	7	0

Re-entry in any subject in which the candidate has failed entails a fresh payment of £1 ls. Candidates for the M.D. and Ch.M. pay £15 15s., and on re-entry £5 5s.

More detailed information with regard to the University of Edinburgh can be obtained from the *Medical Programme*, price 2d., which is published by Mr. Thin, 55, South Bridge, Edinburgh, or on application to the Dean of the Faculty of Medicine. Similar information about Glasgow should be sought from the Assistant Clerk, Matriculation Office, Glasgow. With regard to Aberdeen, application may be made to the Secretary of the Medical Faculty, Marischal College. In respect of St. Andrews information can be obtained either from the Secretary of the University, or, alternatively, the Secretary of the United College, St. Andrews, or the Secretary of University College, Dundee, these being the two constituent colleges of the University of St. Andrews.



Finally, it should be mentioned that in connexion with all the Scottish universities there are valuable bursaries and scholarships, some information as to which will be found in the article on Medical Schools.

Owing to the war, special final examinations may be held for such students as have fulfilled the requirements of the curriculum of the General Medical Council.

## The Scottish Corporations.

THERE are three medical corporations in Scotland—the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons of Glasgow. Their licences can be separately obtained only by persons who are already in possession of a recognized qualification—in surgery in the case of the College of Physicians, and in medicine in the case of the College of Surgeons and the Faculty of Physicians and Surgeons of Glasgow. All others must submit to the examinations held by the Conjoint Board which the three corporations have combined to form. Details concerning this Board and its component colleges follow. The conditions on which their higher qualifications are granted will be found set forth separately in connexion with each corporation.

### THE CONJOINT BOARD IN SCOTLAND.

THIS body has charge of all questions connected with candidates for the Conjoint Licences of the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons of Glasgow. Those finally approved by it are entitled to registration and to the initials denoting the Licences of the three bodies concerned—namely, L.R.C.P. Edin., L.R.C.S. Edin., and L.R.F.P.S. Glasg. The Board requires all candidates to comply with the regulations of the General Medical Council. It has an arts examination of its own, but is prepared to accept in its place any of the other educational tests approved by the General Medical Council.

#### PROFESSIONAL CURRICULUM.

Subsequent to registration as a medical student, the candidate must pass not less than five years in medical study, each comprising a winter and a summer session. The Board does not exact that candidates shall pursue their study at any particular place, and is prepared to accept certificates of having attended the necessary courses from any recognized medical school.

Its examinations are four in number, each of them being held four times every year—three times in Edinburgh and once in Glasgow during the present war emergency; and it is open to candidates to present themselves for examination at either place. The first examination deals with physics, chemistry, and elementary biology; the second with anatomy and physiology, including histology; the third with pathology and materia medica, including pharmacy; and the final with (1) medicine, including therapeutics, medical anatomy, and clinical medicine; (2) surgery, including surgical anatomy, clinical surgery, and diseases and injuries of the eyes; (3) midwifery and diseases of women and of newborn children; and, if it has not been passed previously, (4) medical jurisprudence and hygiene. Candidates may also be examined on diseases of children, diseases of the ear and throat, insanity, vaccination, etc.

These examinations must be passed in due order, and before admission to any of them the candidate must supply certificates showing that he has completed the due periods of study of their subjects. He can present himself in any single subject of the first three examinations. As regards the final examination, a candidate can present himself in medical jurisprudence and hygiene at any time after completion of the third examination and of his study of these subjects; but in medicine, surgery, and midwifery he cannot present himself until the completion of five years' study, and he must take them all simultaneously. A candidate who takes up several subjects of an examination or the whole of the subjects at one time, but fails in some of them, is credited at the next examination with those subjects in which he has been approved.

Part or entire exemption from the three first examinations may be granted to those who have already passed before other bodies examinations deemed by the Board equivalent to its own; but all candidates for the conjoint licence must sit for the final examination, and at no examination can a candidate present himself within three months of his rejection by some other licensing body.

#### FEES.

It is estimated that the total cost of lectures and fees for the conjoint licence is about £152. The separate examination fees are as follows: First, Second, and Third Professional, £5 each; Final, £15. On re-entry for any of the first three examinations £3, and on re-entry for the Final, £5. If the re-entry is only in one or two subjects, the fees are smaller.

Information concerning this Board should be sought either from Mr. D. L. Eadie, 50, George Square, Edinburgh, or from Mr. Walter Hurst, Faculty Hall, 242, St. Vincent Street, Glasgow.

### ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

THIS College has three grades—Licentiate, Membership, and Fellowship; to the two latter women are not admissible. The regulations applying to candidates for the Licentiate have already been generally indicated. If desirous of receiving it apart from those of the other two corporations, they must be holders of a surgical qualification recognized by the College, and must pass an examination corresponding to the medical part of the Final Examination of the Conjoint Board, and conditioned in the same way, and also an examination in materia medica. The fee for examination is 15 guineas, a special examination being obtainable on due cause being shown, and on payment of 5 guineas extra. Ordinary examinations take place monthly on the first Wednesday, except in September and October. A candidate for the Membership must be either a Licentiate of a British or Irish College of Physicians, or alternatively a graduate in medicine of a university within the British Empire, approved by the Council, and in either case not less than 24 years of age. He is examined in medicine and therapeutics, and in one further subject at his choice. This may be either (a) one of the departments of medicine specially professed; (b) psychology; (c) general pathology and morbid anatomy; (d) medical jurisprudence; (e) public health; (f) midwifery; (g) gynaecology; (h) diseases of children; or (i) tropical medicine. Licentiates of the College pay £21, others £36 15s. The examination is held quarterly, and application for admission to it must be made a month previous to its date. For the Fellowship, the candidate must have been a member of the College for at least three years, and, if accepted, pays fees amounting altogether to a little less than £65. Any further details required can be obtained on application to the Secretary of the College.

### ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THIS College has two grades—its Licence and its Fellowship. Licentiates may be of either sex, but for the Fellowship women are not eligible. As an original qualification the Licence is only granted after fulfilment of the regulations of the Conjoint Board, but as an additional qualification it can be obtained by those already possessed of a registrable qualification in medicine. In this case the candidate has to pass a written, oral, and clinical examination in surgery and surgical anatomy, and may be asked to operate on the dead body. The fee is £15 15s., of which £10 10s. is returned to unsuccessful candidates. On due cause being shown, a special examination may be granted, the fee being £20, of which £10 is returned to a candidate if he is not approved.

Candidates for the Fellowship must be not less than 25 years of age, and have been in practice subsequent to registration for at least two years, and must hold either a surgical degree from a university recognized for that purpose by the College, or a registrable diploma obtained as the result of an examination which includes surgery as well as medicine and midwifery. Candidates are examined in surgery, including clinical and operative surgery, surgical anatomy, and one other subject which they may choose from among the following: Ophthalmology, laryngology



including aural and nasal surgery, dental surgery, advanced midwifery with obstetric surgery, gynaecology, surgical pathology and operative surgery, and advanced anatomy. The examination is written, oral, and clinical or practical. A candidate who desires to be examined must give one month's notice, his application for admission being supported by two Fellows of the College, one of whom must be resident in Edinburgh, or, in default, by testimonials obtained specially for the purpose.

No changes in the curriculum or examinations have been made in consequence of the war.

Licentiates of the College pay £35, and others £45. For further information application should be made to the Clerk of the College, Mr. D. L. Eadie, 50, George Square, Edinburgh.

#### ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

THIS body possesses two classes—Licentiates and Fellows. The regulations applying to the former correspond with those respecting candidates for the Licence of the Royal College of Surgeons of Edinburgh. Candidates for the single Licence are examined in surgery (including clinical surgery and surgical anatomy). The fee is £15 15s., and examinations are held quarterly. Candidates for the Fellowship must be qualified medical men of not less than two years' standing and 24 years of age. Candidates approved at this examination are then eligible for election as Fellows. Special regulations are in force for medical practitioners serving in the present war. The Faculty can also elect four Fellows annually without previously submitting them to examination, provided they "have highly distinguished themselves in medical science or practice." They must be of not less than ten years' standing and 40 years of age. Further information can be obtained from Mr. A. Duncan, B.A., LL.D., Faculty Hall, St. Vincent Street, Glasgow.

## The Irish Universities.

THERE are three universities in Ireland, and each of them has a medical faculty. These are the University of Dublin, usually known as Trinity College, Dublin, the Queen's University of Belfast, and the National University of Ireland. The two former teach students, examine them, and grant degrees; while the third is an academic body only, inasmuch as its practical work is divided among three constituent colleges, situated, one at Cork, another at Galway, and the third in Dublin. Information as to the arrangements for the education of medical students will be found in the section relating to Irish Medical Schools.

#### UNIVERSITY OF DUBLIN: TRINITY COLLEGE.

THIS university grants two degrees in medicine (M.B. and M.D.), two in surgery (B.Ch. and M.Ch.), two in midwifery (B.A.O. and M.A.O.), and diplomas in the same subjects and in public health. It also grants a post-graduate diploma in obstetrics and gynaecology for which one year's study is required. The degrees are granted to those who, besides having passed the Professional Examination, have graduated in arts.

#### PROFESSIONAL EXAMINATIONS.

A candidate for the Final Examination for the M.B., B.Ch., and B.A.O. degrees must be a matriculated student of at least five years' standing. At least three years of the five years' medical curriculum must be pursued at the School of Physic of the university. The examinations which students must pass are the Preliminary Scientific, the Intermediate Medical, and the Final. Before admission to any of these examinations students must be duly signed up as regards study in the subjects involved.

*Preliminary Scientific.*—This covers (a) chemistry, (b) physics, (c) botany and zoology; the three divisions may be taken together or at different times.

*Intermediate Medical.*—This is divided into two parts: (a) anatomy, physiology, organic chemistry, and histology; (b) applied anatomy and applied physiology. The two parts may be taken separately or together.

*Final Examination.*—*Part I:* Hygiene and medical jurisprudence, pathology, materia medica and therapeutics. *Part II:* (a) Midwifery and gynaecology; (b) medicine and mental diseases; (c) surgery in all branches, including clinical ophthalmology. The three sections of Part II may be taken separately or together. In either case the full curriculum must have been completed, and the final cannot be completed before the end of the fifth year.

*M.D.*—The candidate must have passed all the qualifying examinations in medicine, surgery, and midwifery, and have taken, or have been qualified to take, the degree of B.A. three years previously. He must read a thesis before the Regius Professor of Physic.

*M.Ch.*—The candidate must be a B.Ch. of not less than three years' standing, and have been engaged in practice for two years.

*M.A.O.*—The candidate must be a B.A.O. of not less than two years' standing and must produce satisfactory evidence of having been engaged for two years in obstetric science. The examination is specially directed to obstetrics and practical gynaecology.

For the university diplomas mentioned above the candidate must have completed two years in arts and five in medical studies. The examination and courses required are the same as for the degrees.

*Dental Degrees.*—The University of Dublin gives two degrees in dental science, namely, B.Dent.Sc. and M.Dent.Sc. The course for the former has a minimum duration of four years; for the latter five years.

Further information regarding courses of instruction, etc., may be obtained from the Registrar of the School of Physic, Trinity College, Dublin.

#### QUEEN'S UNIVERSITY, BELFAST.

THE degrees granted by the Medical Faculty of this university are as follows: Bachelor of Medicine (M.B.), Bachelor of Surgery (B.Ch.), Bachelor of Obstetrics (B.A.O.), Doctor of Medicine (M.D.), Master of Surgery (M.Ch.), Master of Obstetrics (M.A.O.). The university also confers a diploma in public health. The first three degrees mentioned serve as a qualification for admission to the *Medical Register*, and are not granted separately. In addition to matriculating and passing his professional examinations, a candidate for these degrees must have passed three of the regulation five years as a student at the Belfast School of Medicine.

#### PROFESSIONAL EXAMINATIONS.

The examinations for the M.B., B.Ch., B.A.O., are four in number. The first deals with: (1) Inorganic, organic, and practical chemistry, (2) experimental and practical physics, (3) botany and practical botany, (4) zoology and practical zoology. It is divided into two parts, of which botany and zoology form one. The Second Examination covers anatomy and physiology, and may be taken at the end of the second year of the student's career. The Third Examination includes: (1) Pathology, (2) materia medica, pharmacology and therapeutics, (3) medical jurisprudence, and (4) hygiene. To be valid a certificate in regard to the study of the subjects of this examination must show that the work has been done after the First Examination has been passed.

The Final Examination includes: (1) Medicine, (2) surgery, (3) midwifery, (4) ophthalmology and otology. The student may pass in all subjects at once at the end of his fifth year, or he may divide the examination into two parts—namely, (1) systematic, (2) clinical, practical, and oral. The first part may be taken at the end of the fourth year, but for the second part the candidate may not present himself until the end of his fifth year. No certificate in regard to the study of the subjects of this examination will be valid unless the work was done subsequent to passing in all the subjects of the Second Examination.

#### THE HIGHER DEGREES.

Candidates for the degree of Doctor of Medicine must be graduates in medicine of at least three years' standing, unless they hold also a degree of the university in arts or science. In that case a standing of two academic years will suffice. Moreover, candidates must be able to show that the interval has been passed in the pursuit of such courses of study or practical work as may



be prescribed. The degree may be conferred either (a) after a formal examination, or (b) in recognition of the merits of a thesis or of some piece of original study or research carried out by the candidate, followed by an oral or other examination in its subject. When an ordinary examination is imposed it will include (1) a written paper on the principles and practice of medicine, (2) a commentary on a selected clinical case, (3) a clinical and *viva voce* examination, and (4) a written paper and clinical or practical and *viva voce* examination on a subject chosen from the following list: (1) Human anatomy, including embryology, (2) physiology, (3) pathology, (4) pharmacology and therapeutics, (5) sanitary science and public health, (6) forensic medicine and toxicology, (7) mental diseases. The regulations for the degrees of M.Ch. and M.A.O. are of the same general nature.

#### NATIONAL UNIVERSITY OF IRELAND.

The National University of Ireland carries on most of its educational work through three constituent colleges—one in Dublin, one in Cork, and one in Galway. Each of these provides a full medical curriculum, and all candidates for the medical degrees of the university must pass three of their five years of study at one or other of them. These years do not count except after matriculation or recognition as a student of the Medical Faculty obtained in some other fashion. The candidates at each constituent college are examined thereat by the university, and a common standard of education is secured by all courses of instruction and the regulations concerning them having to be approved by the Senate, after considering report thereon from the Board of Studies of the University. In addition to the ordinary degrees in medicine and surgery, the university grants those of Bachelor and Master of Obstetrics, Bachelor and Doctor of Science in Public Health, and Bachelor and Master in Dental Surgery, as well as diplomas in Public Health, in Mental Diseases, and in Tropical Medicine.

#### PROFESSIONAL EXAMINATIONS.

There are four examinations. The first, which should be passed at the end of the first year, includes Part A (chemistry and physics) and Part B (botany and zoology), which parts candidates may take separately or together. At the end of the second year they should pass in anatomy and physiology; and at the end of the third year in pathology, *materia medica* and therapeutics, hygiene and public health, forensic medicine, and toxicology. The final examination is divided into three parts, each of which may be taken separately—namely, (a) medicine, including mental diseases; (b) surgery, including ophthalmology and otology; (c) midwifery and gynaecology.

The higher degrees are obtainable either by examination or on presentation of an approved work, but in each case not less than three years must have elapsed since the candidate acquired the corresponding degree of Bachelor. Further information as to the constituent colleges will be found in the section relating to Irish Medical Schools.

## The Irish Corporations.

THERE are three licensing bodies other than the Medical Faculties of the Universities, and, just as in London, there are two Royal Colleges of Physicians and Surgeons and an Apothecaries' Hall. In Ireland, as in London, the two colleges have formed an examining Conjoint Board, which is responsible for the recommendation of candidates to the two bodies for their respective licences. The Apothecaries' Hall gives its Licence separately.

#### THE CONJOINT BOARD IN IRELAND.

This body requires of candidates the passage either of its own preliminary examination in the subjects of general education, or proof that the candidate has passed one of the tests accepted by the General Medical Council.

#### PROFESSIONAL EXAMINATIONS.

There are four professional examinations, the first of which cannot be passed earlier than the end of the first winter session, nor the fourth before the conclusion of full five years of medical study, and before being admitted to any of them the candidate must show that he has studied the different subjects in practice and theory for the requisite periods, certificates to this effect being accepted from the authorities of most of the recognized medical schools at home and abroad. The first and second examinations deal respectively with (a) chemistry and physics, and (b) biology; and (a) anatomy, and (b) physiology and histology. All parts of these examinations, as also of the following one, which deals with (a) pathology, (b) *materia medica*, pharmacy, and therapeutics, (c) public health and forensic medicine, may be taken separately.

*Final Examination.*—This is divided into three divisions, which cannot be completed until at least four years have passed in medical studies other than those for the first examination, and five years, at least, since the beginning of the curriculum. The divisions are (a) medicine, including fevers, mental diseases, and diseases of children; (b) surgery, including ophthalmic and operative surgery; (c) midwifery, including diseases of women and newborn children, and the theory and practice of vaccination. Candidates are recommended to present themselves in all the subjects of the Final Examination at one time, but a candidate at or after the end of the fourth year may present himself in any one of the divisions (a), (b), or (c), provided he has completed his curriculum as far as concerns the division in which he presents himself.

*Fees.*—Preliminary Examination, £2 2s.; re-examination, £1 1s. First Professional Examination, £15 15s.; Second, £10 10s.; Third, £9 9s.; Final, £6 6s.; re-examination fee is £2 2s. for each division.

Further information can be obtained from Mr. Alfred Miller, Secretary of the Committee of Management, Royal College of Surgeons, 123, St. Stephen's Green, Dublin.

#### ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

Those whose names already appear on the *Medical Register* can obtain the separate Licence in Medicine of this College, and its Licence in Midwifery. In either case an examination has to be passed in the subjects indicated, questions on midwifery, hygiene, and jurisprudence being included in the examination for the Licence in Medicine. For the Licence in Midwifery practitioners of over five years' standing are exempted from examination by printed questions. The other grades of the College are Members and Fellows. The former are admitted after an examination which is open to all university graduates in medicine and Licentiates in medicine of Royal Colleges of Physicians, and deals with the general subjects of medicine. Fellows are selected, by vote, from among the Members of the College, irrespective of sex.

*Fees.*—For the Licence in Medicine, 15 guineas; for the Licence in Midwifery, 5 guineas; or 16 guineas for both if they are taken within an interval of a month. Special examinations cost in each case 5 guineas extra. For the Membership, 20 guineas to a Licentiate of the College; 35 guineas to others; a special examination costing 10 guineas extra. The Fellowship £35, in addition to stamp duty, £25. Information as to special examinations and other points can be obtained from the Registrar, the Royal College of Physicians, Kildare Street, Dublin.

#### ROYAL COLLEGE OF SURGEONS IN IRELAND.

This body, besides granting a Licence in Surgery, admits those possessed of registrable surgical qualifications to its Fellowship under certain conditions. Its Licence is usually granted conjointly with that of the College of Physicians, but it is given separately to holders of a registrable qualification in medicine, provided that the College is satisfied that adequate courses of study have been pursued, and provided its own provisional examination is passed. This examination is held on its behalf by the Conjoint Board, and is identical with the ordinary surgical portion of the examinations imposed by that body.

*The Fellowship.*—Candidates for the Fellowship must pass two examinations, of which the first is in anatomy



(including dissections), physiology, and histology; and the second in surgery (including surgical anatomy) and pathology. Both examinations are partly written, partly practical, and partly viva voce; while the final examination includes the performance of operations. All subjects of either examination must be passed at one time, and to neither can a candidate be admitted who has been rejected in any of its subjects by any other licensing body within three months. Candidates are not admitted to the Primary Examination except on evidence that they have already passed an examination in anatomy, physiology, and histology, held by some university or other body whose degrees or licences entitle the holder to admission to the *Register*; if, however, the candidate is a person whose name is on the Colonial or foreign medical *Register*, at the discretion of the Council. Candidates for the Final Examination must be over 25 years of age, produce a certificate of general good conduct signed by two or more Fellows of the College, and, if successful, must make a declaration before admission to the effect that they do not conduct dispensing practices, and will not do so as long as they are Fellows.

*Fees.*—Candidates for the Licence pay 5 guineas for examination, which sum, if they pass, is counted as part of the fee payable on admission to the Licence, this being 25 guineas. Candidates for the Fellowship pay 5 guineas for each examination, the total of 10 guineas being reckoned as part of the fee payable on admission to the Fellowship. That fee is 25 guineas in the case of those who are already Licentiates, and 40 guineas in the case of others.

#### APOTHECARIES' HALL OF IRELAND.

A DIPLOMA is granted by this Hall which entitles the holder to be registered as a practitioner of medicine, surgery, and midwifery, and confers also the privileges of an apothecary. Two periods of dissection, each not less than six months, must be included, and twenty-seven months of hospital attendance, or its equivalent. Three professional examinations have to be passed; they are held three times a year. The Primary Examination deals with biology, physics, and chemistry, practical and theoretical; the Intermediate Examination is in practical anatomy and physiology, and histology and *materia medica*. A candidate who has passed tests in any of the subjects of these examinations before another licensing body is exempt from further examination in such subjects. The Intermediate Examination, Part II, consists of pathology, medical jurisprudence, and hygiene. The Final Examination deals with medicine, surgery, midwifery, and pharmacy. The Hall's own examination in all these subjects must be passed. Women candidates are eligible.

*Revised Fees.*—Primary Examination, £5 5s.; Intermediate Examination, £10 10s.; Final Examination, £15 15s.; Final alone, when the others have been passed elsewhere, £21. Application for other information should be made to the Registrar, 40, Mary Street, Dublin.

## MEDICAL SCHOOLS AND COLLEGES.

### LONDON.

INFORMATION as to the fees at each of the various metropolitan medical schools, and the scholarships, prizes, and junior appointments which they offer, will be found in the following pages. The courses they provide are fundamentally the same, and in all of them the arrangements made are such as to meet the requirements of students of every class—of those who are aiming at the diplomas of the Conjoint Board or the Apothecaries' Society, not less than of those who have London or other university degrees in view. At all, too, special facilities are offered to men who have commenced their professional education at Oxford and Cambridge. Apart from these facts, the only point to which attention can usefully be directed is that on personal inquiry and investigation reason may perhaps be found for regarding the teaching accommodation and general arrangements for students at some schools as superior to those at others.

### CHARING CROSS HOSPITAL.

This school, with its hospital, is situated in the centre of London, and is easily accessible. Primary and intermediate students attend lectures and practical work at King's College. The final studies are taken in the school and hospital, where systematic lectures, demonstrations, and tutorial classes are arranged to cover all the subjects necessary for the qualifying examinations. Departments are also available for the other final subjects of bacteriology, clinical pathology, *materia medica*, toxicology, public health, operative surgery, and for research work. A fine series of laboratories in the school has been taken over by the University of London King's College, to which a full professorial and teaching staff has been transferred. The course of instruction for the Diploma in Public Health is given in these laboratories.

Women students are accepted by the school and hospital upon the same terms and conditions as men, and after qualification are eligible for resident hospital appointments. A separate common room and a female attendant are provided, but beyond this no further distinction is made.

An entrance fee of 10 guineas and 8 guineas is payable by full-course and final-course students respectively, and an annual fee of 25 guineas covers all other expenditure, with the exception of 7 guineas for vaccination, dispensing, and fever hospital attendance, which must be taken outside the hospital. Membership of the Students' Club is included in these fees.

Further information may be obtained on application to the Dean, Medical School, Charing Cross Hospital, London, W.C.2.

### GUY'S.

THE hospital contains 643 beds in constant occupation. Thirty-three beds are set apart for diseases of the eye and 40 for the most urgent and interesting medical cases, which form the subjects of the weekly clinical lectures. There is a special ward of 32 beds for the reception of cases of diseases of women and for cases of difficult labour. Beds are also allotted to the throat and ear departments, the orthopaedic department, the department for the treatment of diseases of the genito-urinary system, and the children's department; there are as well some special beds for the treatment of syphilis. One of the wards has been set apart for the reception of officers of the navy and army wounded in the war.

The medical college fronts the east gate of the hospital, providing accommodation for 60 resident students. This contains a dining-hall, reading rooms, a library of general literature, and a gymnasium for the use of the residents and of the members of the Clubs Union. The athletic ground at Honor Oak Park is reached from the hospital in twenty minutes. The Gordon Museum of Pathology, the Wills Library, the newly built Departments of Chemistry, Physics, Pathology, and Pharmacology, and the school buildings in general, afford unrivalled opportunities for a liberal education and for research. Special classes are held for the First and Second Examinations for Medical Degrees of the University of London and for the first F.R.C.S.Eng. Special teaching is provided to meet the requirements of the universities of London, Oxford, and Cambridge in general pathology and pharmacology.

*Appointments.*—All appointments are given to students without extra payment, and according to the merits of the candidates, as determined by a committee of the medical staff. Sixteen out-patient officers, eight house-physicians, twenty assistant house-surgeons, eight house-surgeons, two ophthalmic house-surgeons, and nine resident obstetric assistants are appointed annually. The house-physicians and house-surgeons, obstetric residents, and ophthalmic house-surgeons hold office for six months each, and receive free board and lodging in the college. Every student is provided with rooms and commons in the hospital during the period of his "take in" as dresser. In addition to the clerkships and dresserships in the medical and surgical wards, students are appointed to the posts of clinical assistant, dresser, or clerk in the special departments of ophthalmology, laryngology, gynaecology, diseases of children, diseases of the nervous system, dermatology, otology, electricity, anaesthetics, and dentistry. More than 150 additional appointments have been added to the list of those annually open to students of the hospital, the majority of them being in the special departments.



*Scholarships, Prizes, etc.*—The following entrance scholarships are awarded annually in the month of September: A. Junior Scholarships in Arts, Classics, Mathematics, and Modern Languages, and Science, of the value of £120, £160, and £50, open to candidates under 21 years of age. B. Senior or University Scholarships of the value of £75 and £35, open to candidates under 25 years of age who have completed their study of Anatomy and Physiology. Subjects, any two of the following: Anatomy, Physiology, Pharmacology, General Pathology, Organic Chemistry. Junior prizes for general proficiency, £20, £15, £10; Hilton prize for Dissection, £5; Michael Harris prize for Anatomy, £10; Sands-Cox Scholarship for Physiology, £15 for three years; Woolldridge Memorial prize for Physiology, £10; Beane prize for Pathology, £34; Treasurer's gold medal in Medicine, Treasurer's gold medal in Surgery, and the Golding-Bird gold medal and scholarship for Bacteriology (£20) are awarded annually after competitive examination. The Gull Studentship in Pathology, and the Beane Scholarship in Materia Medica, of the annual value of £150 and £31 10s. respectively, are awarded without examination to enable research to be carried on in these subjects. An Arthur Durham Travelling Scholarship of £100 is awarded triennially. The Douglas Research Studentship in Pathology, value £300 per annum, is awarded without examination.

Various modifications have been rendered necessary by the war. In agreement with the practice of the universities, an allowance will be made for military service performed by candidates for the Entrance Scholarships.

*Fees.*—An annual composition fee is paid by all students until a registrable qualification is obtained. Further information may be obtained from the Dean of the Medical School.

#### KING'S COLLEGE HOSPITAL.

The medical school carried on in connexion with this institution, at Denmark Hill, deals with the advanced or final subjects of the medical curriculum. The arrangements for education in these subjects are complete. The hospital is new and up-to-date; many of its beds are now given up to the 4th London General Hospital (T.F.). There are special departments for diseases of women and children, nervous diseases, ophthalmology, otology, laryngology, dermatology, radiology, dental surgery, etc.; pathological and vaccine departments are also included.

*Appointments.*—Sixteen resident medical and surgical officers are appointed yearly, as well as dressers and clerks in the wards, out-patient departments, *post-mortem* room, and special departments. Each of the special departments has several clinical assistants. There are three registrars and three tutors, all of whom receive salaries. The Clubs and Societies Union combines athletics, music, and other societies connected with the school, and provides also a common room.

*Fees.*—The composition fee is 70 guineas if paid in one sum, or 72 guineas in two instalments (one of 40 guineas at entrance, and the other of 32 guineas at the commencement of the second year). Entrance fee ten guineas.

The prospectus of the school can be obtained on application to the Dean, H. Willoughby Lyle, M.D., B.S.Lond., F.R.C.S., or to the Secretary, S. C. Ranner, M.A.Cantab., King's College Hospital, Denmark Hill, S.E.5.

#### THE LONDON.

This hospital, with its medical college and dental school, are situated in the Mile End Road, E.1. The hospital contains 933 beds, and, during 1917, 16,053 patients passed through the wards and 102,130 patients received treatment in the out-patient departments. The number of major operations which were performed amounted to 6,656.

From the beginning of the war to the close of 1917 4,771 military patients were admitted, while the naval patients (who were first admitted at the end of September, 1915) totalled 396.

All the departments are modern and adapted for the teaching of all subjects in the curriculum. A residential hostel on hospital ground is provided for the convenience of students who wish to live near the wards and casualty departments. The athletic ground is at Highams Park, and is open to all members of the Clubs Union.

The hospital and college are open to men students for the whole course and to women students who have passed the second professional examination.

*Appointments.*—The salaried appointments open to students are those of medical registrar (3), surgical registrar (3), obstetric registrar, registrar in the ear,

nose, and throat department (2), medical, surgical, and obstetric tutors; senior dressers to out-patients; clinical assistants in the medical, surgical, ophthalmic, antral, light and skin, orthopaedic, and electrical departments. There are 2 resident accoucheurs, 6 resident house-physicians, and 9 resident house-surgeons, 7 receiving-room officers, 2 emergency officers, 1 assistant director of Pathological Institute, and 3 pathological assistants, also paid and unpaid clinical assistants in the various special departments. In addition there are numerous assistantships, clerkships, and dresserships in the various departments.

*Scholarships and Prizes.*—The following is a list of scholarships and prizes:—At Entrance: Price Scholarship in Science, £100; in Anatomy and Physiology, £52 10s.; Entrance Scholarship in Science, £50; Epsom Scholarship, "Free Medical Education"; Buxton Scholarship in Arts, £31 10s. After Entrance: Anatomy and Physiology Prize, £25; Letheby Prizes, £25; Prizes in Clinical Medicine, Surgery, and Obstetrics, £20 each; Duckworth Nelson Prize, £10; Hutchinson Prize, £40; Sutton Prize, £20; Sir Andrew Clark Prize, £26; Anderson Prizes, £9; Dressers' Prizes, £40; Practical Anatomy Prizes, £10; Wynne Baxter Prize, £5 5s.; Arnold Thompson Prize, £5; Harold Fink Prize in Dental Surgery, £5 5s.; Prize in Dental Microscopy, £5. The London Hospital Medical College and the Eliza Ann Alston Medical Research Funds amount to over £25,000.

*Fees.*—Entrance fee, 10, 15, or 30 guineas, according to examinations passed; annual fee 30 guineas. Full information may be obtained from the Dean at the London Hospital Medical College, Mile End, E.1.

#### THE MIDDLESEX.

The school and hospital are in Mortimer Street, W., close to Oxford Circus, Goodge Street, and Great Portland Street stations. There is a residential college for a limited number of students overlooking the hospital garden, a gymnasium within the precincts of the hospital. The hospital contains 449 beds, including a wing containing 92 beds for patients suffering from cancer, and special cancer investigation laboratories, which offer unrivalled opportunities for the study of this disease, both in its clinical and pathological aspects. In connexion with the investigation laboratories there are several valuable scholarships awarded.

There are special wards for maternity and gynaecological cases, and for diseases of children and of the skin and eye.

The Bland-Sutton Institute of Pathology is under the charge of a director. The institute includes a pathological and anatomical museum, a lecture theatre, large pathological and public health laboratories, and smaller rooms for original investigation. Bacteriological, chemical, and microscopical examinations of material from the wards, operating theatres, and out-patient departments are carried out in the laboratories. Senior students are eligible for clerkships in the laboratories of the institute, and every facility is given for original investigation.

In the electro-therapeutical department special attention is given to the treatment of lupus and cancer by the x ray, and opportunities are afforded to students wishing to become acquainted with the use of the apparatus employed in this method of treatment. An electro-cardiographic department has also been established.

*Appointments.*—Twenty-two resident appointments are open annually for competition among students of the hospital. The officers reside and board in the residential college free of expense. Two casualty medical and two casualty surgical officers, and two resident officers to the special departments, are appointed annually. Eight house-surgeons are appointed every year at intervals of two months, after examination; six house-physicians are also appointed annually at similar intervals. An obstetric and gynaecological house-surgeon is appointed every six months. In the out-patient departments the appointments are: clerk and dresser to the physicians and surgeons to out-patients; clerk in the departments for diseases of the skin and nervous diseases; dressers to the department for diseases of women, to the ophthalmic surgeon, to the throat and ear department, and to the dental surgeon. Extern midwifery clerks and *post-mortem* clerks are also appointed. The appointments are so arranged that every student may, during his course, hold all the out-patient and in-patient clerkships and dresser-ships. Students must have held an out-patient clerkship



and dressership before being eligible to hold in-patient clerkships or dresserships. Non-resident qualified clinical assistants are appointed in the Medical, Surgical, Skin, Neurological, Ophthalmic, Throat and Ear, Odontological, Children's, and Electro-therapeutical Out-patient departments.

**Scholarships.**—Three Entrance Scholarships, value £100, £50, and £25 respectively, are open to students commencing their medical studies in April or October, 1915. An annual Entrance Scholarship, of the value of £50, is open to students of the universities of the United Kingdom who have completed the curriculum for, or passed the examinations in, anatomy and physiology. The examination for these scholarships will take place on September 16th, 17th, and 18th. Application for admission must be made on or before September 7th. Students joining the school in the previous April are eligible. The Freer Lucas Scholarship is annually awarded on the nomination of the head master to a pupil of Epsom College who has passed the first examination for medical degrees (Preliminary Scientific Examination). There is also a scholarship, value £50, awarded annually to students from New Zealand. In addition to the Entrance Scholarships, there are numerous other valuable scholarships, prizes, and exhibitions open to students of the hospital, including the Brodrip Scholarships, value £60 and £40; Lyell Gold Medal and Scholarship, value £55 5s.; Freeman Scholarship, value £30; John Murray Gold Medal and Scholarship, value £25; Hetley Clinical Prize, value £25; Leopold Hudson Prize, value 11 guineas; and the Second Year's Exhibition, value 10 guineas.<sup>1</sup>

**Fees.**—The composition fee for students taking the University of London degree is 145 guineas, or by five equal annual instalments of £32 11s. For those who have passed the first examination for medical degrees the fee is 120 guineas, or by four equal annual instalments of £34 2s. 6d. Students taking the Conjoint Board diplomas pay £135 guineas, or by five equal annual instalments of £30 9s. Students who have passed the First Professional Examination pay 115 guineas, or by four equal annual instalments of £32 16s. 3d. For members of universities and others who have completed their anatomical and physiological studies the fee is 70 guineas, or three equal annual instalments of £26 5s.

Further information may be obtained on application to the Dean.

#### ST. BARTHOLOMEW'S.

This institution lies one side of Smithfield and Giltspur Street, sharing with the Post Office buildings a large island of ground separated practically from all other buildings; it is on the edge of the City, and easily reached from all parts of London. The hospital contains 750 beds. Extensive new buildings, opened in July, 1907, occupy part of the ground acquired from the old Bluecoat School, and these materially enhance the attractions of the hospital as a place of medical study. The medical school buildings, including the library and the chemical, physical, biological, and physiological laboratories, and anatomical department, have now at their side a very large building, which includes club rooms for the Students' Union, a writing room, luncheon and dining halls, new quarters for the resident staff, and an out-patient department and accommodation for special departments of such large size as to be unsurpassed by any hospital in the kingdom. During the year 1909 a second block of new buildings was completed. These form the pathological department, and include, in addition to a new and extensive *post-mortem* room, large and well-equipped laboratories for clinical pathology, pathological histology, bacteriology, and chemical pathology, altogether forming the most complete pathological department in the country. Within the precincts of the hospital also there is a residential college for a large number of students. The Students' Union owns, moreover, grounds of some 10 acres in extent for recreative purposes at Winchmore Hill, which is easily accessible from the hospital.

Special classes are held for students preparing for the Preliminary Scientific and other examinations, for the M.B., M.D. of the Universities of London, Oxford, and Cambridge, and for the higher surgical degrees at the same universities, including the M.Ch.Oxon., M.Ch.Cantab., M.S.Lond., and F.R.C.S.Eng. Special laboratory instruction for the D.P.H. of Cambridge, Oxford, Durham, and London is also given.

**Appointments.**—Clinical clerks to the physicians and to the physician-accoucheur, and dressers to the surgeons

and in the casualty department, are chosen from the students; clerks and dressers are also selected from the students to attend in the out-patient rooms, in the special departments (Ophthalmic, Orthopaedic, Gynaecological, Children's, Laryngological, Aural, Dermatological, Venereal, Electrical, and Dental), and in the *post-mortem* room. Chief assistants and clinical assistants are selected from qualified men appointed yearly to help in the general medical, surgical, and in the special departments. Ten house-physicians and ten house-surgeons are appointed annually. During their first six months of office they act as "Junior" house-physicians and house-surgeons, and receive a salary of £25 a year. During their second six months they become "Senior" house-physicians and house-surgeons, and are provided with rooms by the hospital authorities, and receive a salary of £80 a year. A resident midwifery assistant, an ophthalmic house-surgeon, a house-surgeon to the skin and venereal department, and a house-surgeon for diseases of the throat, nose, and ear are appointed every six months, and are provided with rooms and receive a salary of £80 a year. Two resident assistant anaesthetists are appointed annually, and receive salaries of £120 and £100 a year respectively. An extern midwifery assistant is appointed every three months, and receives a salary of £80 a year.

**Scholarships.**—Four entrance scholarships are annually awarded after an examination held in September. The subjects of examination and conditions of eligibility for these scholarships are: (1) One scholarship, value £75, in not fewer than two and not more than three of the following subjects—Chemistry, Physics, Botany, Zoology, Physiology, and Anatomy, limited to students under 25 years of age who have not entered on the medical or surgical practice of any London medical school. (2) One scholarship, value £100, in not fewer than three of the following subjects—Chemistry, Physics, Botany, Zoology, and Physiology, limited to students under 21 years of age who have not entered on the medical or surgical practice of any London medical school. (3) The entrance scholarship in Arts, of the value of £100, will be given in Latin and mathematics, with one other language—Greek, French, or German. (4) The Jeaffreson Exhibition in Mathematics, Latin, and one other language—Greek, French, or German—and of the value of £50. The value of the scholarships and prizes is over £900 annually.

Further information and a handbook can be obtained on application to the Dean of the Medical School, St. Bartholomew's Hospital, E.C.1.

#### ST. GEORGE'S.

This school is at Hyde Park Corner, and is carried on in connexion with St. George's Hospital, an institution having a service of 436 beds, of which 100 are at the convalescent hospital founded by Atkinson Morley at Wimbledon. It provides for the instruction of its students in the preliminary and intermediate subjects of the curriculum at the teaching centres of London University established at King's College and University College. As a temporary measure for the duration of the war a small and strictly limited number of women students have been admitted to the clinical course in the school. The school at Hyde Park Corner is devoted entirely to the teaching of clinical subjects, great attention being paid by the members of the staff to individual teaching. A number of special courses are given, in which the requirements of university and all other examinations receive careful attention.

The St. George's Hospital Club consists of an amalgamation club, with smoking and luncheon rooms on the hospital premises, and other students' clubs, with an athletic ground at Wimbledon. Students have the advantage of a well-filled library of medical and scientific books. A register of accredited apartments, and a list of medical men and others willing to receive St. George's men as boarders, may be seen on application to the Dean.

**Appointments.**—Dresserships to the surgeons and clinical clerkships to the physicians are open without fee to all students of the hospital. There is a large number of resident appointments, which may be held for six, twelve, or eighteen months, and are open without fee to every perpetual student of the hospital, and are made strictly in accordance with the merits of the candidates. Besides this, after the student has held a house appointment, the following are, among others, open to him: Medical registrarship at £200 per annum; surgical registrarship at £200 per annum; assistant curatorship of the museum at £100 per annum; obstetric assistantship, resident, at

<sup>1</sup> Certain of these scholarships have been modified for the period of the war, particulars of which can be obtained on application.



£50 per annum; the post of resident anaesthetist at £100 per annum; the post of senior anaesthetist at £50 per annum; the posts (2) of junior anaesthetists, each at £30 per annum.

**Scholarships.** Two university entrance scholarships in anatomy and physiology (70 guineas and £50) are awarded at the commencement of each winter session. The William Brown Exhibition of the value of £112 per annum (tenable for two years) is awarded by examination to a perpetual pupil of the hospital every second year. The William Brown Exhibition of £42 (tenable for three years) is awarded by examination to a perpetual pupil of the hospital every third year. Other prizes to the value of £200 are awarded annually to the students of the hospital.

**Fees.**—First year (preliminary science or first conjoint), £26 5s., or £21, according to course. Second and third years, £63 in two equal instalments. For the course of clinical study, in the fourth and subsequent years, entrance fee, £10 10s.; annual composition fee, £31 10s. No entrance fee is payable by St. George's students who have studied at King's and University Colleges.

Further information may be obtained from the Dean of the Medical School.

#### ST. MARY'S.

This school and its hospital are situated in Prad Street, in the neighbourhood of the residential districts of Paddington, Bayswater, and North Kensington, and are thus especially convenient to students who wish to reside in the immediate vicinity. A register of approved lodgings is kept in the office of the Medical School.

The hospital contains 305 beds.

The Medical School provides complete courses in the preliminary and intermediate subjects of the curriculum which are recognized by the University of London as approved courses for internal students. Students may join in October, January, or April.

The departments of biology, chemistry, anatomy, physiology, and pathology are under the direction of full-time lecturers, and special courses are provided twice yearly for the Primary F.R.C.S. In addition, special tuition is provided for the Intermediate and Final Examinations of the universities of Oxford, Cambridge, and London, and for the Final F.R.C.S.

All clinical appointments in the hospital are free to students of the school, and the resident medical officers are chosen by competitive examination. Six house-physicians, six house-surgeons, and four obstetric officers are appointed each year, and receive board and residence in the hospital. A large number of salaried appointments are open annually to qualified students, including those of medical registrar, surgical registrar, casualty physician, casualty house-surgeon, resident assistant anaesthetist, assistant curator, together with several demonstratorships. In the inoculation department there are nine assistantships, the salaries of which amount to £1,600 per annum.

**Scholarships.**—There are Entrance Scholarships in Natural Science; one of £100, one of £50, one of £25, and two University Scholarships of £52 10s. awarded annually by competitive examination in September.

**Fees.**—The composition fee for students is £140 if paid in one sum, or £145 if paid in four instalments. University students who have completed their examinations in anatomy and physiology are admitted on payment of a composition fee of 65 guineas (£68 5s.) paid in one sum, or 70 guineas (£73 10s.) if paid in two annual instalments. A system of annual fees is also in operation for students who prefer it. Separate courses of lectures, laboratory work, or hospital practice may be taken.

The School Calendar and full information can be obtained from the Secretary, St. Mary's Hospital Medical School, Paddington, W.

#### ST. THOMAS'S.

This school and hospital are situated in Lambeth, the joint buildings on the Thames facing the Houses of Parliament, and forming one of the well-known architectural features of London.

The school buildings, which are separated from the hospital by a quadrangle, comprise lecture theatres, laboratories, and class-rooms well adapted for the modern teaching of large bodies of students in the subjects of the medical curriculum. A splendid library and reading room and a complete museum are open to all students from

9 a.m. to 5 p.m., on Saturdays to 2 p.m. The Students' Club premises contain a dining room and smoking and reading room supplied with daily and illustrated weekly papers, and a gymnasium. Good meals are obtainable at a moderate tariff. The Terrace affords facilities for exercise and recreation. A cloak-room with lockers, and a lavatory with bath-rooms, are in the main school building. Students are thus able to spend the whole day at the school. The sports ground of more than nine acres in extent is at Chiswick. It can be reached in forty minutes from the hospital; it is admirably adapted for football, cricket, lawn tennis, and athletic sports.

The hospital proper contains 664 beds, and temporary huts erected in the quadrangles afford accommodation for 350 additional patients. In addition to the ordinary provisions of a great hospital there are connected with the out-patient department physicians' and surgeons' rooms provided with ample sitting accommodation, so that large numbers of students are enabled to follow closely the practice and teaching of the out-patient staff. There is a full complement of special departments, and connected with the hospital a special tuberculosis department gives opportunity for instruction of students. There is a clinical theatre, centrally situated, so as to facilitate the illustration of lectures by patients from the wards and out-patient room; it is arranged also for lantern demonstrations. The maternity ward, containing 20 beds, gives students full facilities for maternity training, under supervision, within the precincts of the hospital. This obviates any necessity for supplementary instruction elsewhere, and fully prepares the student for the extern maternity practice of the hospital district. The revised regulations of the examining bodies can thus be fully complied with.

**Appointments.**—All hospital appointments are open to students without charge. A resident assistant physician and a resident assistant surgeon are appointed annually at a salary of £150 each, with board and lodging. Two hospital registrars, at an annual salary of £50 each, are appointed yearly. The tenure of these offices may be renewed for a term not exceeding two years. An obstetric tutor and registrar is appointed each year at an annual salary of £50. Eight resident casualty officers and anaesthetists are appointed every six months. Four house-physicians, four house-surgeons, two obstetric house-physicians, two ophthalmic house-surgeons, and eight clinical assistants in the special departments are appointed every three months, and hold office for six months if recommended for re-election. Two research assistants (bacteriological and chemical) are paid £200 per annum each. Clinical clerkships and dresserships to the in-patient and out-patient departments are available to the number of 400 each year.

**Scholarships.**—There are five entrance scholarships: Two in Arts, giving one year's free tuition; one of £150 and one of £60, in Chemistry, Physics, and Biology, for students who have not received instruction in Anatomy or Physiology; one of £50 in any two of the following subjects: Anatomy, Physiology, or Chemistry, for students who have completed their examinations in Anatomy and Physiology, for a medical degree in any of the universities of the United Kingdom, and have not entered as students in any London medical school. Valuable scholarships, prizes, and medals are open for competition throughout the whole career of a student, including a Fellowship of £100 given by the Salters' Company for research in Pharmacology, and the Louis Jenner Research Scholarship of the annual value of £60 for Pathological research.

**Fees.**—The entrance fee for second year's students is 20 guineas; for third year's students 10 guineas. The annual composition fee is 30 guineas. For Preliminary Science students the fee is 15 guineas. The fees cover all tutorial classes given by the school teachers, and there are no extra charges made for materials required in practical courses. Special courses of instruction are given for various examinations, and a register of lodgings is kept at the school. A list of medical practitioners, clergymen, and others who receive students is also available. Further information may be obtained from the Secretary of the School, St. Thomas's Hospital, Albert Embankment, S.E.1.

#### UNIVERSITY COLLEGE HOSPITAL.

The school, which forms part of the Corporation of University College Hospital, is in immediate proximity to the hospital in University Street, and opposite University College. It comprises departments of medicine and



clinical medicine, surgery and clinical surgery, midwifery and gynaecology, pathology including morbid anatomy, clinical pathology and bacteriology, cardiography, forensic medicine, mental physiology and mental diseases, dental surgery, practical pharmacy, and other departments for the study of special diseases, such as those of the eye, skin, ear, and throat, and for instruction in anaesthetics, electro-therapeutics, and skiagraphy. The Hospital and School have acquired the National Dental Hospital and College as their Dental Departments, thus providing every facility for the study of dental subjects. The Royal Ear Hospital, Dean Street, Soho, has also been amalgamated as the Ear, Nose, and Throat Department.

The school thus provides the final course of study for the degrees of the universities of London, Oxford, Cambridge, and Durham, and for the diplomas of the Royal Colleges of Physicians and Surgeons in Medicine and Dental Surgery, and the Licence of the Society of Apothecaries. Special bacteriological classes are also held in preparation for the various diplomas of public health. Each department is also equipped for more advanced work, and provides facilities for research.

A student may enter the medical school at the commencement of his career, in which case he will pursue his preliminary and intermediate studies at the University of London, University College, and his final studies in the school. He may also enter the school for the final studies after having completed his preliminary and intermediate studies at any recognized university or school. It has been decided to admit women as medical students to this hospital and medical school on and after October 1st, 1918. They will now be able to pursue the whole of their medical education at University College and University College Hospital, and will be eligible for all scholarships and exhibitions at the medical school.

**Scholarships.**—The following scholarships and prizes are open to competition: Two Entrance Exhibitions of 80 guineas each, awarded after a competitive examination in anatomy and physiology; the Graham Scholarship in pathology of a sum not exceeding £200 per annum; the Atkinson Morley Scholarship of £45 a year for three years, awarded after examination in the theory and practice of surgery; the Atchison Scholarship of £55 a year for two years for general proficiency in medical studies; the Magrath Clinical Scholarship, value about £100; the Filliter Exhibition in pathology of £30; the Percival Allyn Prize for the advancement of surgery by research, value about £60; the Graham Gold Medal for research work; four Fellowes Medals in clinical medicine; Liston Medals in clinical surgery; the Bruce Medal in pathology and surgery; two Tuke Medals in pathology, and the Erichsen Prize for practical surgery.

Special arrangements have been entered upon which, when completed, will enable students of University College Hospital to carry out a portion of their clinical studies at the National Hospital for Nervous Diseases, Queen Square; the Children's Hospital, Great Ormond Street; and the Central London Ophthalmic Hospital, Judd Street.

**Appointments.**—All the appointments at the hospital are reserved for students of the school, the dresserships and clerkships being open, of course, to those who have still to qualify. The qualified appointments, in addition to a number of posts as house-physicians and house-surgeons and obstetric assistants, include the appointments of resident medical officer, surgical registrars, obstetric registrar, casualty medical officers, casualty surgical officers, assistant in ear, nose, and throat departments, assistant in ophthalmic department, registrar in anaesthetic department, and deputy anaesthetists.

**Fees.**—The fee for the full course of final studies at the school is 80 guineas if paid in one sum, or 82 guineas if paid in two instalments.

Particulars of general and special courses can be obtained on application to the Dean of the Medical School.

#### WESTMINSTER.

This school, with its hospital, situated in Broad Sanctuary, opposite Westminster Abbey, provides for the education of its students in the preliminary and intermediate subjects of the University of London at King's College. The rest of the work is done in the school buildings near the hospital, which contains upwards of 200 beds, and affords most ample facilities for instruction in all branches of medicine and surgery.

**Appointments.**—A medical and surgical registrar are

<sup>1</sup> The appointments mentioned in this paragraph are made when conditions are normal, but are necessarily subject to modification during the war.

appointed annually, each with a salary of £50. Two house-physicians, three house-surgeons, one assistant house-physician, one assistant house-surgeon, and a resident obstetric assistant are appointed after examination, and are provided with rooms and commons, except the assistant house-physician and the assistant house-surgeon, who are provided with commons only. The assistant house-physician after three months' service becomes house-physician for a further period of six months, and the assistant house-surgeon, after two months' service, becomes house-surgeon for a further period of six months. Clinical assistants to the assistant physicians and assistant surgeons, and to the officers in charge of special departments, are appointed from among qualified students. Every student must perform the duties of out-patient dresser for four months, and afterwards hold the office of in-patient dresser for four months. He is also required to serve two terms of four months each as medical clinical clerk to in-patient physician and one term as gynaecological clinical clerk. Two pathological clerks are appointed every four months to assist in the post-mortem room. No student is eligible as an in-patient dresser or clinical clerk until he has passed the Second Examination of the Conjoint Board, or an equivalent examination. Clerks and dressers in the special departments of hospital practice are periodically appointed. So far as vacancies permit, students of other hospitals are admitted to in-patients' dresserships or clerkships.

**Scholarships.**—The following scholarships are offered for competition during the year 1918-19: In the summer session two natural science scholarships, £60 and £30, and one in Arts, £60. In the winter session two scholarships in anatomy and physiology, £50 each. In the spring two scholarships in anatomy and physiology, £50 each.

**Fees.**—The annual composition fee is 26 guineas, and an entrance fee of 10 guineas is payable by all students—namely, primary and intermediate students, £10 10s.; students entering for the final subjects, £8 8s. These fees include subscriptions for membership of the Clubs Union.

Further information can be obtained on application to the Dean at the Westminster Hospital, Westminster, S.W.1.

#### LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.

This school is carried on at 8, Hunter Street, Brunswick Square, W.C.1, in connexion with the Royal Free Hospital. An agreement has also been made under which students of the school receive clinical instruction at St. Mary's Hospital, Paddington. It is, like all the other London schools which have so far been mentioned, one of the constituent schools of the Medical Faculty of London University. The school buildings have recently been enlarged. The laboratories are extensive and well lighted, and are fully equipped for the examination courses of the University of London. Research laboratories are attached to all departments.

A large, well-equipped library, common-room, union-room, and refectory are provided for the use of students. There is also some residence accommodation for students in the school buildings, and in chambers provided by the school.

The Royal Free Hospital, Gray's Inn Road, W.C.1, has 184 beds, all of which are available for clinical instruction. A new block (at present used as a hospital for officers) contains the Maternity Department, with a lying-in ward of 8 beds, new and enlarged students' quarters, a new Out-patients' Department, with special operating theatre, and departments for massage, electrical and x-ray work, dentistry, and casualty. There are also separate departments for gynaecology and obstetrics, and diseases of the eye, ear, and skin. Instruction is given in anaesthetics, bacteriology, etc., in addition to the ordinary clinical lectures and demonstrations and tutorial classes. Students attending at St. Mary's Hospital (305 beds) are admitted to the full clinical course and educational facilities of the hospital. Students attend the practice of one of the fever hospitals of the Metropolitan Asylums Board, and receive special instruction in lunacy at Bethlem Hospital; they are also admitted to the practice of a number of special hospitals.

The work of the school includes preparation for the M.B., B.S. Lond., and the diplomas of the Royal Colleges of



England (including the Primary Fellowship examination), also for the medical school and general hospital course for dental students.

**Appointments.**—Qualified students of the school can obtain appointments as house-physicians and house-surgeons, obstetric assistants, surgical and medical registrars, pathologists, anaesthetists, medical electrician, skiagrapher, curator of museum, and clinical assistants and demonstrators in various subjects.

**Scholarships.** The Isabel Thorne Entrance Scholarship value £30, the St. Dunstan's Medical Exhibition value £60 a year for three years, which may be extended to five years, and the Mabel Sharman-Crawford Scholarship value £20 a year for four years, are offered for competition in each year. The Sir Owen Roberts Memorial Scholarship, of the value of £75 a year for four years, the Mrs. George M. Smith Scholarship of the value of £50 a year for three years, which may be extended to five years, and the Sarah Holborn Scholarship of the value of £20 a year for three years, which may be extended to five years, are awarded in alternate years. The Bostock Scholarship, value £60 a year for two or four years, is awarded by the Reid Trustees on the result of an examination held in May by the University of London. The holder of the scholarship must enter the London School of Medicine for Women. The Agnes Guthrie Bursary for Dental Students, value £50, is awarded each year for the present. The Ellen Walker Bursary of £25 for two years is awarded each year to a student beginning her fourth year of study. The John Byron Bursary of £20 a year for two years, the Helen Pridcaux Prize of £40, the Mabel Webb Research Scholarship of £30 for two years, the Fanny Butler Scholarship of £14 10s. a year for four years, together with many other scholarships and prizes, are offered on sundry conditions. The Dr. Edith Pechey-Phipson Post-Graduate Scholarship of £40 is awarded annually. Various missionary societies also offer scholarships on certain conditions, and assist ladies who wish to go to India and other countries as medical missionaries.

**Fees.**—Courses for the University of London, diplomas of the Conjoint Board in England, and other qualifications: First medical examination, £28, course for second and third, £141; course after the second medical examination, £81. These sums include library and laboratory fees.

The Students' Union exists to promote corporate action of the students on matters of common interest, and to promote and maintain athletic and other clubs. All students are required to become members of the Union.

Further information can be obtained from the Warden and Secretary.

#### KING'S COLLEGE.

SINCE the incorporation of King's College in the University of London, the instruction given to medical students is carried out there in the classes of the Faculty of Science (Medical Division), and deals only with the subjects of the preliminary and intermediate parts of the curriculum. King's College Hospital (see p. 225) is now a separate institution, and the studies for the final examinations only are carried out there.

A special class for the Matriculation Examination is also held.

There is a large athletic ground at Wormwood Scrubbs, managed by the Students' Union Society.

**Scholarships.**—The entrance scholarships are: 1. Three Warneford Scholarships, each £25 for four years; subjects—mathematics, classics, divinity. 2. One Sambrooke Exhibition of £25 for two years, open; subjects of examination—mathematics, elementary physics, inorganic chemistry, botany, and biology. The holders of the preceding awards must proceed to King's College Hospital. 3. Rabbeth Scholarship, value £20, in July, for the best student of the first year. 4. Second year's scholarship, value £20, for the best student of the second year.

**Fees.**—Information as to fees can be obtained from the Dean of the Medical Division of the Faculty of Science at the College (Professor W. D. Halliburton, M.D., F.R.S.).

**Women Students.**—King's College is now open to women students for the Preliminary and Intermediate portions of the medical curriculum. Application for admission should be made to the Dean.

Information as to scholarships and subjects of examinations can be obtained from the Secretary of the College.

#### UNIVERSITY COLLEGE.

THIS institution, one of the principal component parts of the University of London, possesses a Faculty of Medical Sciences whose work covers all the subjects included in the group commonly known as the preliminary medical sciences—namely, physics, chemistry, botany, and zoology;

and also the intermediate medical sciences—namely, anatomy, physiology, and pharmacology. These courses in intermediate medical sciences were opened to women students on the same terms as to men in October, 1917. The preliminary medical science courses have for many years been open to women students. The Department of Hygiene and Public Health prepares for the diplomas in public health of the Royal Colleges and of the various universities. Research work is undertaken in all the above-named departments, as well as in pathological chemistry, the work of which is entirely post-graduate. It undertakes the education of students in all the subjects mentioned, leaving them free to complete their education in the strictly professional subjects—medicine, surgery, and the like—at any one of the recognized schools of advanced medical studies. The work is somewhat differently arranged, according to whether the student has in view the degrees of the University of London or the diplomas of the Royal Colleges. In either case the whole work to be done is divided into courses devised to meet the requirements of different examinations, and students can join the College for any of them. The general arrangements for the benefit of students include membership of the Union Society, with its gymnasium and athletic ground. There is also a collegiate residence for about forty men students at Ealing.

**Scholarships.**—The scholarships and exhibitions obtainable include the Bucknill Scholarship, value 135 guineas, in chemistry, physics, botany, and zoology (the successful student must complete his work at University College Hospital Medical School), and two entrance exhibitions in the same subjects, each of the value of 55 guineas.

**Fees.**—The fees for the courses covering the work of the First Examination for medical degrees of the University of London, and in both parts of the Second Examination, amount to 84 guineas. The fees for the courses covering the corresponding examinations held by the Conjoint Board in England come together to 79 guineas. These fees may be divided into payments for the different courses which it may be desired to take out, but do not cover tuition for more than a stated period.

A handbook specially relating to this faculty may be obtained on application to the Secretary of University College.

#### COOKE'S SCHOOL OF ANATOMY.

THIS school is prepared to admit to its supplementary work all who may wish to join the same, but in regard to its curriculum work it does not receive more than half a dozen students in the course of the year; these have special advantages, both as regards anatomy and physiology. The operations of surgery are performed on the dead body. Special classes in surgery are constantly held.

The school, which is open all the year round, possesses a good collection of anatomical models, physiological and chemical apparatus, and gentlemen preparing for the higher examinations (F.R.C.S. Eng., M.B. Cambridge, Oxford, London, etc.) receive special instruction in the more difficult subjects. Other information may be obtained from Mr. Knight, 46, Mecklenburgh Square, W.C.1.

#### THE PROVINCES.

THERE are in England and Wales, not counting London, ten medical schools, each, with one exception, supplying instruction in the full medical curriculum. Accounts of them here follow. In several cases there is appended information concerning other hospitals than those directly connected with the school in question; such hospitals, officially and unofficially, play a part in the education which the students of the school receive, and in any case serve as places of additional or post-graduate study.

#### OXFORD AND CAMBRIDGE.

BOTH at Oxford and Cambridge there are medical schools which furnish unsurpassed opportunities for obtaining a good knowledge of the preliminary sciences and of anatomy, physiology, and pathology. The laboratories are excellently equipped, and the teaching staffs most distinguished. Both schools provide a full medical curriculum, and there is no essential reason why the student should not complete his career at either of them, but this is not commonly done. The local hospitals are comparatively small, so the



authorities encourage the students, as soon as they have completed the earlier examinations, to join some London school, and thus spend the time of their preparation for the final examination in a city where the opportunities for gaining clinical knowledge are greater and more varied.

#### BIRMINGHAM.

THE school in this city is carried on by the Medical Faculty of the University of Birmingham, its students having an adequate number of good laboratories, classrooms, and other necessities devoted to their use by the university. The clinical work is done at the General and Queen's Hospitals, which are amalgamated for this purpose. Together they have upwards of 500 beds for medical, surgical, and special cases, and with an array of special departments of all kinds, including one for lying-in women. Clinical instruction is given in the wards and out-patient and special departments daily, and formal clinical lectures delivered weekly throughout the winter and summer sessions. Special tutorial classes are also held alike for the degrees of Birmingham and some other universities and for the diplomas of corporations.

**Appointments.**—The large number of appointments open to past or other students includes the following:—At the General Hospital: One resident medical officer, salary £100 a year; one resident surgical officer, salary £100 a year; one resident pathologist, salary £50 a year; two non-resident casualty assistant physicians, salary £50 a year; three non-resident surgical casualty officers, salary £50 a year; two non-resident anaesthetists, salary £50 a year; four house-surgeons, office tenable for nine months, £50 a year; one house-surgeon to the gynaecological and one to the ophthalmic and aural departments, each tenable for six months, £50 a year; three house-physicians, post tenable for six months, £50 a year; one resident medical officer at the Jaffray Branch Hospital, salary £150 a year; one resident assistant at the Jaffray Branch Hospital, tenable for three months. At the Queen's Hospital: three house-physicians and three house-surgeons (posts vacant in January and April); one obstetric and ophthalmic house-surgeon (posts vacant in April and October). These appointments are tenable for six months. Salaries at the rate of £90 per annum, with board, lodging, and washing. One resident dresser, tenable for three months; candidates must previously have attended their third-year lectures, etc., and need not be qualified. Honorary, £13 13s. on completion of duties. At the Maternity Hospital: one house-surgeon, salary £50 a year. At the City Workhouse and Workhouse Infirmary: five resident medical officers. At the Birmingham General and Branch Dispensaries: twelve resident surgeons. At the Birmingham Lunatic Asylums: five assistant medical officers. At the City Fever Hospitals: three assistant medical officers. At the Children's Hospital: one resident surgical officer, one resident medical officer. At the Birmingham and Midland Eye Hospital: four resident surgeons. At the Orthopaedic and Spinal Hospital: two clinical assistants (non-resident). At the Ear and Throat Hospital: one house-surgeon, £70 a year; four clinical assistants (non-resident). There are also four non-resident Poor Law appointments in the gift of the Board of Guardians.

**Scholarships.**—There are numerous money and other awards for students of sufficient merit, among them being the following: The Walter Myers Travelling Studentship of £150; the Sands-Cox Scholarship of £42 (an entrance scholarship in the Faculty of Medicine, awarded on either matriculation or First M.B. marks); four Queen's Scholarships of £10 10s. each, awarded annually at the second, third, fourth, and final university examinations respectively; one or more Sydenham Scholarships, allotted on entrance to students who are the sons of deceased medical men. The Ingleby Scholarship of £10 for proficiency in midwifery and diseases of women. There is also an entrance scholarship of £37 10s. for students proceeding to a degree in dental surgery. University Clinical Board Prizes are awarded annually as follows: Senior Medical Prize, Gold Medal; Senior Surgical Prize, Gold Medal; Midwifery Prize, Gold Medal; Junior Medical Prize, Silver Medal; Junior Surgical Prize, Silver Medal.

**Fees.**—The composition fee for university classes is £85. This covers all the work required for the degrees of Birmingham and some other universities, and for the ordinary qualifications of licensing corporations, but not the additional courses required for the Fellowship of the Royal College of Surgeons of England, the diploma and degrees of the university in State medicine, and some

other special work. The total cost for the five years' curriculum, including hospital and examination fees, is estimated at £158 2s. 6d. Other information should be sought from the Dean of the Medical Faculty.

#### BRISTOL.

THE school is carried on by the Faculty of Medicine of the university, and provides full instruction for all its degrees and diplomas. The allied hospitals (Bristol Royal Infirmary and Bristol General Hospital) have between them about 600 beds and extensive out-patient departments, special clinics for diseases of women and children, and those of the eye, throat, and ear, in addition to arrangements for dental work and large outdoor maternity departments. At each of these institutions there are well arranged pathological departments, comprising large pathological museums, post-mortem rooms, and laboratories for morbid anatomy. There are also laboratories for work in clinical pathology, bacteriology, and cytology, in which special instruction is given in these subjects. Departments are provided and well equipped for x-ray work both in diagnosis and treatment, the various forms of electrical treatment, including high-frequency currents, electric baths, Finsen light treatment, and massage.

The students of the school have also the advantage of attending the practice of the Royal Hospital for Sick Children and Women, containing 108 beds, and that of the Bristol Eye Hospital, with 40 beds. Excellent facilities are thus afforded to students for obtaining a wide and thorough acquaintance with all branches of medical and surgical work. Each student has the opportunity of personally studying a large number of cases and acquiring practical skill in diagnosis and treatment. All classes are open to women.

**Appointments.**—(1) Undergraduate: Clinical clerkships, dresserships, also ophthalmic, obstetric, and pathological clerkships are tenable at the Bristol Royal Infirmary and the Bristol General Hospital. In these institutions the dressers reside in rotation free of charge. (2) Post-graduate.—At the Bristol Royal Infirmary: Four house-surgeons, £100 each per annum; four house-physicians, £100; resident obstetric and ophthalmic house-surgeon, £100; throat, nose, and ear house-surgeon, £100; dental house-surgeon, £100. All these appointments are made for twelve months. From the resident officers a senior resident officer is appointed at an additional salary of £30. At the Bristol General Hospital: Senior house-surgeon, £200 per annum; casualty house-surgeon, £100 per annum, if another resident appointment has been previously held; two house-physicians, £80 per annum; house-surgeon, £80 per annum; obstetric house-surgeon, £80 per annum; dental house-surgeon, £200 per annum. All these appointments are for six months, except those of senior house-surgeon and dental house-surgeon, which are for two years.

**Scholarships.** The following are among the scholarships and other awards open to students of the school: Two Martin Memorial Pathological Scholarships of £10 each; the Tibbits Memorial Prize, value 9 guineas, for proficiency in practical surgery; the Committee's Gold and Silver Medals for fifth-year students for general proficiency; the Augustin Prichard Prize, value 7 guineas, for proficiency in anatomy; the Henry Clark Prize, value 11 guineas, for general proficiency; the Crosby Leonard Prize, value 7 guineas, for proficiency in surgery; the Supple Surgical Prize, a gold medal and 7 guineas; the Supple Medical Prize, a gold medal and 7 guineas; the Henry Marshall Prize, value £12, for dressers; the H. M. Clarke Scholarship, value £15, for proficiency in surgery; the Sanders Scholarship, value £22 10s., for general proficiency.

**Fees.**—The fee for all the courses required for the medical curriculum, including hospital practice, is 135 guineas if paid in one sum. It amounts to 150 guineas if paid by annual instalments.

#### CARDIFF.

THE school in this city is carried on by the University College of South Wales and Monmouthshire, and devotes itself at present principally to training students during the first three or four years of the medical curriculum, all classes being open to women students. The courses of instruction given are recognized by all licensing bodies in Great Britain, and after passing the tests corresponding to the first three years of the curriculum, the student can complete his course, for whatever degree he is aiming at, in London or elsewhere. Besides this, there is an arrange-



ment with the Management Committee of the infirmary by which students at the school can take advantage of the opportunities for acquiring experience afforded in the wards of this large, well-ordered hospital. Hence many students, especially from Wales and Monmouthshire, find it convenient to avail themselves of the advantages of being able to pursue the earlier part of their medical curriculum near home. They can also obtain instruction in vaccination and in the administration of anaesthetics, and with a little additional work can qualify for the B.Sc. degree of the University of Wales. This degree includes the subjects which comprise the first three years of a medical student's curriculum, and it (or the B.A.) is a compulsory degree for those students who propose to sit for the M.B., Ch.B. of the University of Wales. There is also a department of public health, in which all the work for diplomas in State medicine, whether for the University of Wales or other Examining Boards, can be done. A Chair of Pathology and Bacteriology has been established. It is hoped that before long a complete Welsh-National School of Medicine will be established at Cardiff, owing to the munificent offer of Sir William James Thomas to erect and present to the college a school of preventive medicine and medical school buildings, in addition to the Physiological Laboratory he has already provided.

Post-graduate vacation courses are carried on in association with the Cardiff Infirmary.

*Scholarships.*—There is a considerable number of scholarships connected with the college, and open to students of the School of Medicine, information as to which can be obtained on application.

*Fees.*—The composition fee for the three years' courses required for students proceeding to the M.B.Lond. is £63; that for the two years' courses for students proceeding to a diploma of the licensing corporations being £41 10s. The composition fee for D.P.H. classes is £30. Further information may be obtained on application to the Dean of the Faculty of Medicine.

#### UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.

THIS, the Medical School of the Faculty of Medicine of the University of Durham, is in the neighbouring city, Newcastle-on-Tyne. Its classes and lectures are arranged to meet the requirements of the university in all the degrees which the latter grants, and also those of the other examining bodies. The students do their work in the preliminary sciences at Armstrong College, also part of the university, and their clinical work in the new Royal Victoria Infirmary, an institution with over 400 beds and special accommodation for the benefit of students. In a new wing of the school itself there are the departments of bacteriology and physiology. There are also in this wing a gymnasium and a set of rooms for the use of the Students' Union.

*Appointments.*—Assistant demonstrators of anatomy and prosectors for the professor of anatomy, assistant physiologists, pathological assistants, assistants to the dental surgeon, and assistants in the eye department, throat and ear department, and department for skin diseases, are elected annually. Four times in the year clinical clerks and dressers are appointed for three months.

*Scholarships.*—A University of Durham Scholarship, value £100, for proficiency in arts, open annually at the beginning of the winter session to intending students. The Pears Scholarship, value £150, for proficiency in arts (when vacant). The Dickinson Memorial Scholarship, interest of £400, with a gold medal, for medicine, surgery, midwifery, and pathology, open to perpetual students in their fifth year. The Tulloch Scholarship, interest of £400 annually, for elementary anatomy, biology, chemistry, and physics, for students at the end of their first year. The Charlton Memorial Scholarship, interest of £700 annually, open to full students entered for the class of medicine, at the end of their fourth or fifth winter. The Gibb Scholarship, interest of £500 annually, for pathology, at the end of summer session. Gibson Prize, interest of £250 stock, for midwifery. Outterson Wood Prize, interest of £250, for psychological medicine. The Goyder Memorial Scholarship, proceeds of £325; subjects: clinical medicine and clinical surgery. Luke Armstrong Memorial Scholarship, proceeds of £680, for best essay in some subject in comparative pathology. The Stephen Scott Scholarship in Surgery, interest of £1,000 annually. The Heath Scholarship in Surgery, interest of £4,000, awarded every other year. First award in 1896.

*Fees.*—The composition fee for lectures at the college is 80 guineas. Composition fee for hospital practice

35 guineas, plus £2 2s. yearly for three years payable to the Committee of the Royal Victoria Infirmary. Other information should be sought from the Secretary of the School at Newcastle.

*Other Hospitals.*—The Hospital for Sick Children and the Infirmary for Diseases of the Eye throw open their various departments to students.

#### LEEDS.

THE School of Medicine—which is open to both male and female students—in this city forms the teaching centre of the Medical Faculty of the University of Leeds, and is situated in immediate proximity to the General Infirmary, where students sufficiently advanced receive their clinical instruction. The buildings were opened in 1894, and contain excellent dissecting rooms, several well arranged laboratories for physiology, pathology, and bacteriology, three lecture theatres, and several similar class-rooms. In addition, there are a library and reading room and two museums, one being devoted to pathology and the other to anatomy. The comfort of the students is secured by common rooms and a refectory in which they can take meals. It is estimated by the authorities that the approximate cost of medical education to a student in this university is £202, plus, of course, the expenses of living during the five years covered by the curriculum. The General Infirmary has 532 beds, and includes gynaecological and ophthalmic wards and a large out-patient department. The Ida and Robert Arthington Semi-convalescent Hospitals, Cookridge, attached to the infirmary, has 88 beds. The West Riding Lunatic Asylum at Wakefield is also open for the study of mental diseases. Students can, in addition, attend the practice of the Leeds Public Dispensary (where the practical instruction in dental subjects is also given), the City Fever Hospitals (100 beds), the Hospital for Women and Children, and the Leeds Maternity Hospital.

*Appointments.*—One senior anaesthetist, £50; seven assistants, £25 each; medical and surgical tutor, at £125 each per annum; one resident medical and one surgical officer, each at £150 per annum; one casualty officer, at £125 per annum; one resident ophthalmic officer, at £100 per annum; one resident aural officer, at £100 per annum; one resident obstetric officer, at £50 (attached to the gynaecological ward and an extensive external maternal department); one ophthalmic house-surgeon, at £50 per annum; three house-physicians, each holding office for six months, and four house-surgeons, holding office for six months. Surgical dressers are appointed every six months; physicians' clerks, ophthalmic and aural dressers, gynaecological ward clerks, gynaecological out-patient clerks, maternity clerks, assistant physicians' clerk, dermatological clerk, and assistant surgeons' dressers, dressers in the casualty-room, *post-mortem* clerks, and laboratory assistants every three months. A clinical pathologist (£300 per annum), together with an assistant clinical pathologist (£150), has charge of the pathological laboratory. A resident medical officer (honorarium, £30) is also appointed every six months for the Ida Semi-convalescent Hospital. Appointments are also open to students at the Leeds Public Dispensary (one senior and four junior resident medical officers, with salaries commencing at £80), at the Hospital for Women (two house-surgeons, at £50 per annum, and two anaesthetists, £20), and at the West Riding Asylums.

*Scholarships.*—The university awards annually a scholarship in the form of a free admission to the lectures and classes given in the university, which are covered by the composition fee. The infirmary also awards a scholarship on the results of the first examination, of the value of 40 guineas, in the form of a free admission to the clinical teaching of the infirmary.

*Fees.*—The fee for a complete course for the First M.B. is £27 11s.; the composition fee for the course for the second and third examinations is £73 2s. 6d. (for students who have passed the second examination, £48 16s. 6d.), and for the clinical work at the infirmary, £42.

Further information can be obtained from the Dean and Clinical Subdean, School of Medicine, Leeds.

#### LIVERPOOL.

THE Medical School of this city is part of the university, and, owing to the enlightened liberality of several men of wealth, is exceptionally well provided with special laboratories, as well as with ordinary spacious and well-equipped



class-rooms and laboratories for the instruction of students proceeding to medical degrees and diplomas in special and ordinary subjects. All the laboratories and other rooms are situated close to one another and intercommunicate, together forming large blocks of buildings. The work of students throughout all stages of their career is arranged upon very satisfactory lines, and the teaching hospitals, of which an account is given below, have amalgamated to form the clinical school of the university.

*Appointments.*—The nature of the appointments open to past and other students at this school will be gathered from the account which follows of the hospitals forming its clinical department.

*Scholarships.*—The awards made each year to successful students total over £1,000. They include the following: Two Holt Fellowships, one in Pathology, the other in Physiology; a Robert Gee Fellowship in Anatomy; an Alexander Fellowship for Research in Pathology and Bacteriology; a John W. Garrett International Fellowship in Bacteriology; a Johnston Colonial Fellowship in Biochemistry; an Ethel Boyce Fellowship in Gynaecology; and a Thelwall Thomas Fellowship in Surgical Pathology, all of the value of £100; a University Scholarship of £25, awarded on the results of the Second M.B. Examinations; a Scholarship in Mechanical Dentistry of £20; two Lyon Jones Scholarships, of the annual value of £21 each for two years, one for the junior and the other for senior students; the Derby Exhibition of £15; the Clinical School Exhibition of £15; the Owen T. Williams Prize; the Torr Gold Medal in Anatomy; the George Holt Medal in Physiology; the Kanthack Medal in Pathology; the Robert Gee Prize of £5 5s. in Children's Diseases; two Robert Gee Entrance Scholarships, each of the value of £25 per annum for two years; Orthodontia Prizes, Senior £3 3s., Junior £1 1s.; one Thomas H. Bickerton Prize in Anatomy; Dental Operating Prizes, Senior £4 4s., Junior, £2 2s.; Ash's Prize in Dental Surgery, value £2 2s.; and other Entrance Scholarships.

*Fees.*—Information as to the fees paid for the courses of instruction provided by the schools should be sought from the Dean of the Medical Faculty.

#### *The Clinical School.*

As many as nine hospitals have combined to form the clinical school of the university, these being: The Royal Infirmary, the David Lewis Northern Hospital, the Royal Southern Hospital, the Stanley Hospital, the Infirmary for Children, the Hospital for Women, the Eye and Ear Infirmary, St. Paul's Eye Hospital, and St. George's Hospital for Diseases of the Skin. Between them they provide about 1,140 beds.

#### MANCHESTER.

THE staff of the Medical School in this city constitutes the Medical Faculty of the Victoria University, all the arrangements for the instruction of students, both in their earlier and their later studies, being of an elaborate nature. The clinical work of the undergraduates is done chiefly in connexion with the Royal Infirmary, an institution which itself contains about 592 beds, and has associated with it a large convalescent home and the Royal Lunatic Asylum at Cheadle. Instruction in practical gynaecology and midwifery is given at the Royal Infirmary and the St. Mary's Hospitals.

*Appointments.*—The following are among the appointments open to past and present students of this school in connexion with its arrangements for clinical tuition: A surgical registrar, at £75 per annum; a pathological registrar, at £100 per annum; a medical registrar, at £75 per annum; a surgical tutor, at £30 per annum; a director of the clinical laboratory, at £250 per annum; and one assistant director at £75; three assistant medical officers and three assistant surgical officers, each at £35 per annum; one assistant surgical officer, aural department, at £35 per annum; five anaesthetists, at £50 per annum each; one medical officer for skiagraphy and electricity, £100 per annum; one medical officer for home patients, one year, £150 per annum; one resident medical officer, one year, £150 per annum; ditto, at Cheadle, one year, £150 per annum; one resident surgical officer, one year, £150 per annum; two resident medical officers for Central Branch, £100 per annum; one accident room house-surgeon, six months, £100 per annum; one assistant medical officer at the Convalescent Hospital at Cheadle, appointed every six months, at a salary of £80 per annum; eight senior and eight junior house-surgeons and ten house-physicians, appointed during the year for a term of six months. Resident officers are appointed to the Gynaecological, the Eye,

and the Ear and Throat departments every six months. Four or more clinical clerks are attached to each physician and assistant physician, and four or more dressers to each surgeon and assistant surgeon, to the Gynaecological surgeon and assistant Gynaecological surgeon, to the Ophthalmic surgeon, and to the surgeon for the Ear and Throat department, and four or more clerks to the Pathologist, two clerks to the Director of the Clinical Laboratory, and a number of clerks, not exceeding six, are appointed to assist the medical officer for home patients. Accident-room dressers are appointed every three months, three senior dressers and twelve or more junior dressers.

*Entrance and other Scholarships.*—The following are among the scholarships obtainable by students of the school: Rogers and Seaton Scholarships in Arts (in alternate years), £40 per annum, tenable for two years. Two Dalton (entrance) Scholarships in Mathematics, tenable for two years, value £40, one being awarded annually, except in such years as a Cartwright Scholarship is awarded. Cartwright Scholarship, £35 per annum, tenable for three years. Three Hulme Scholarships, tenable for three years, of £35, one being awarded annually for proficiency in subjects of general education. Two James Gaskill Scholarships of £35, tenable for two years, one being awarded annually for proficiency in the branches of Mechanics and Chemistry. A Dora Muir Scholarship, £50 per annum, tenable for three years, and open to the competition of women students only. This is awarded triennially. Sir J. P. Kay-Shuttleworth Scholarship, £30 per annum, tenable for three years, open to the competition of scholars from Sedbergh School, Giggleswick School, and Burnley Grammar School. Subjects: Mathematics, Chemistry, and Mechanics. Dreschfeld Memorial Scholarship, value £30, tenable for one year and awarded triennially on the result of the Entrance Examination. A Theodore's Modern Languages Exhibition, £20, awarded annually. Two Dauntsey Medical Scholarships, value £45 and £35, tenable for one year, for candidates who have not commenced the second year of study leading to a medical qualification. Subjects: Zoology, Botany, and Chemistry. Two Entrance Scholarships in Medicine, value £100, awarded annually for proficiency in Arts or Science respectively. Two Research Fellowships in Public Health of £50 each, awarded annually. Tom Jones Exhibition in Anatomy, £25, offered annually. Robert Platt Physiological Exhibitions: Two, about £15 each, offered annually. A Robert Platt Physiological Scholarship of £50, tenable for two years. A Robert Platt Zoological and Botanical Scholarship, £50. A Leech Fellowship of £100 for original research after graduation. A Graduate Scholarship in Medicine, value £25, tenable for one year, awarded annually for proficiency shown at Final M.B. Examination. A Dumville Surgical Prize, value £15, awarded annually at graduation. The Tom Jones Memorial Surgical Scholarship, value £100, tenable for one year, awarded usually triennially. The Turner Medical Scholarship, value £20, awarded annually for proficiency in certain subjects of the Final M.B., Ch.B. Examination. The John Henry Agnew Scholarship of £30, awarded annually for proficiency in the Diseases of Children. The Bradley Memorial Scholarship in Clinical Surgery of £20. The Ashby Memorial Scholarship, tenable for one year (£100), for research in the Diseases of Children; offered triennially. Sidney Renshaw Exhibition in Physiology: One, offered annually. The details and regulations of the Dickinson Scholarships—(1) for Anatomy, (2) for Pathology, (3) Research Scholarship in Surgery, and (4) Travelling Scholarship in Medicine—will be announced later. The Sam Gamble Scholarships—the trustees are prepared to award four scholarships of not less than £40 per annum, tenable for not more than four years, to women students who have passed the First M.B. Examination. The conditions under which these scholarships are awarded can be obtained from the Registrar. The Knight Prize of £50 for original research in the psychological factors concerned in the causation of mental disorder—open to holders of the Diploma in Psychological Medicine or medical practitioners who have been registered in the University as candidates for that diploma.

*Fees.*—The composition fee for the university course in medicine is 70 guineas, payable in three instalments of 30, 20, and 20 guineas, but this sum does not include the fee to cover the work required for the first M.B. Examination. This is £25, payable in one sum. A prospectus and further information about the school and scholarships may be obtained on application to the Registrar.

*Clinical Work.*—The Royal Eye Hospital, the Manchester Northern Hospital for Women and Children, the well-known Hospitals for Children at Pendlebury, and St. Mary's Hospital for Diseases of Women and Children all make arrangements for the instruction of students.

#### SHEFFIELD.

In this city the Medical School is one of the departments of the University, being conducted and controlled by its Medical Faculty, and occupying practically the entire



north wing of the quadrangle of the university buildings overlooking Weston Park. The laboratories and lecture rooms connected with the subjects of the first and second examinations—namely, chemistry, physics, biology, anatomy, and physiology—are, both as regards structural arrangements and scientific equipment, on the most modern and complete lines. No expense has been spared in the matter of apparatus for teaching or research work, and the facilities for practical study in these subjects are as excellent as all the other arrangements of the school.

For students of pathology and bacteriology there are laboratories replete with everything necessary for the most advanced work, and a large pathological museum, which is open daily. In addition, there is a museum devoted to *materia medica* specimens, and a large library and reading room. There are a number of recreation, athletic, and other societies, all under the management of an annually elected students' representative council, and large and comfortable common rooms both for men and women students. In the university buildings there is a refectory open to all students of the school, and a university journal, *Floramus*, edited by a joint committee of the staff and students, is published each term. The ordinary clinical work of the school is done at the Royal Infirmary and Royal Hospital, which have amalgamated for the purpose of clinical instruction, and provide over 500 beds for the treatment of medical, surgical, and special cases, including diseases of the eye.

In addition, the Royal Infirmary has special departments for the treatment of diseases of the skin and ear, with beds assigned to them; whilst at the Royal Hospital there are special out-patient departments for diseases of the throat, ear, skin, orthopaedics, and mental diseases. The medical and surgical staffs attend daily, and give clinical instruction in the wards and out-patient rooms. Clinical lectures in medicine and surgery are given weekly. Instruction in the practical administration of anaesthetics is given at either institution by the anaesthetists, and the *post-mortem* examinations at both institutions are in charge of the Professor of Pathology, and afford ample material for study of this subject. Students also have the advantage of being able to attend the practice of the Jessop Hospital for Diseases of Women and the Hospital for Sick Children, while special courses on fever are given at the City Fever Hospital, and on mental diseases at the South Yorkshire Asylum.

**Appointments.**—The following appointments are open to all students who have passed their examinations in anatomy and physiology: (1) Casualty dresserships, (2) surgical dresserships, (3) medical clerkships, (4) pathological clerkships, (5) ophthalmic clerkships, (6) clerk to the skin department, etc. Except in the case of casualty dressers, these appointments are made for three months, commencing on the first day of October, January, April, and July. The casualty dresserships last two months, beginning on the first of any month. All students are required to hold them, and to have attended the tutorial classes for casualty dressers, before being eligible for any other of the above appointments.

**Scholarships.**—Entrance Medical Scholarship, value about £130, open to both sexes. Four Edgar Allen Scholarships of £100 a year for three years may be held by students taking the degree course in Medicine. Two Town Trustees' Scholarships, each of the value of £50, tenable for three years, for boys or girls under the age of 19 years who have been educated in a Sheffield secondary school for a period not less than two years immediately preceding the examination. Four Town Trustees' Scholarships, value £50, for boys or girls under 19 years of age, educated in any school in Sheffield, secondary or otherwise. Town Trustees' Fellowship, value £75, tenable for one year. Mechanics' Institute Fellowship, value £50 (with remission of fees), tenable for one year, and renewable for a second year. The Frederick Clifford Scholarship, value about £50, tenable for two years. Kaye Scholarship, for proficiency in anatomy and physiology, value £22 10s. Gold and bronze medals are also awarded for proficiency in various subjects.

**Fees.**—Students in the Faculty taking their complete course in the university pay an inclusive composition fee of £30 for each of the five years. The fees for special courses taken separately can be ascertained by inquiry of the Dean.

#### SCOTLAND.

As will be gathered from the following paragraphs, the facilities for acquiring a medical education in Scotland are very ample, whether the student be proceeding to a

university degree or to a diploma. To the descriptions of the different Scottish medical centres is in some cases added an account of hospitals which either play an official part in the education given to students as yet unqualified or offer valuable opportunities for post-graduation work.

#### ABERDEEN.

The school is conducted by the Faculty of Medicine. This comprises twelve chairs, from which instruction is given in all the main branches of medical science—namely, botany, zoology, physics, chemistry, anatomy, physiology, *materia medica*, pathology, forensic medicine, surgery, medicine, and midwifery. Courses of instruction in public health and in tropical medicine are conducted by lecturers appointed by the University Court. Special opportunities for practical instruction are afforded in the laboratories and museums attached to the departments.

Clinical instruction is obtained in the Royal Infirmary (accommodating 270 patients), the Royal Lunatic Asylum (900 patients), the Sick Children's Hospital (85 patients), the City Fever Hospital (250 patients), the General Dispensary, Maternity, and Vaccine Institution (10,000 out-patients annually) and the Ophthalmic Institution (3,000 patients annually). Courses of practical instruction are given in diseases of children at the Sick Children's Hospital; in fevers at the City Fever Hospital; in insanity at the Royal Asylum; in diseases of ear, nose, and throat at the Infirmary and Dispensary; in diseases of the eye at the Infirmary and Eye Institution; in diseases of the skin at the Royal Infirmary.

Bursaries, Scholarships and Fellowships, to the number of fifty and of the annual value of £1,180, may be held by students of medicine in this university. They range from £8 to £100 per annum, and are tenable in most cases for two or three years.

**Fees.**—The fee for each university course is, as a general rule, £4 4s.; and for a second attendance, £3 3s. An inclusive fee of 90 guineas is now payable, covering the necessary instruction within the university. Matriculation fee, both sessions, £1 1s.; summer session alone, 10s. 6d. Royal Infirmary, perpetual fee, £10; or, first year, £5 10s.; second year £5. The winter session begins on October 10th.

#### EDINBURGH.

There are three Schools of Medicine: the School of the University, the School of Medicine of the Royal Colleges of Physicians and Surgeons of Edinburgh, and the Edinburgh School of Medicine for Women.

**THE UNIVERSITY SCHOOL.**—This school, in addition to other resources of the university, has the following means of affording practical instruction: Royal Botanic Garden, Herbarium, and Museum; Zoological Laboratory and Museum of Science and Art; Physical Laboratory; Chemical Laboratories; Dissecting Room, Bone Room, and Anatomical Museum; Physiological Laboratory; Medical Jurisprudence Laboratories; John Usher Institute of Public Health; *Materia Medica* Museum and Laboratory; *Post-mortem* Department of the Royal Infirmary and University Pathological and Bacteriological Laboratory; Tutorial Classes of Practice of Physic, of Clinical Medicine, and Clinical Surgery, Surgery, and Midwifery; and the practice of certain other hospitals.

**Fees.**—The sessional fee for zoology, botany, chemistry, anatomy lectures, physiology, pathology, *materia medica*, medical jurisprudence, surgery, medicine, midwifery and gynaecology is £4 4s. each. Second course £3 3s. Third free. A perpetual ticket taken at the beginning of the first year is £6 6s. Physics, practical chemistry, advanced practical physiology, practical pathology, practical anatomy (winter), operative surgery, obstetric operations, practical *materia medica*, including pharmacy, pathological bacteriology, experimental pharmacology, vertebrate morphology and comparative embryology, are £3 3s. Clinical surgery, £2 2s. per term. Clinical medicine, first term, £3 13s. 6d.; subsequent terms, £2 2s. No perpetual ticket in these subjects. Practical botany (besides garden fee of 5s.), elementary practical zoology, practical physiology (experimental), practical physiology (histological), practical botany (advanced), practical zoology (advanced), practical anatomy (summer), anthropology, anatomy, demonstrations,



diseases of children, diseases of the eye, diseases of the larynx, ear, and nose; diseases of tropical climates, clinical instruction on diseases of the skin, regional anatomy, invertebrate zoology, organic chemistry, mental diseases, £2 2s. Physiological chemistry, applied anatomy (medical and surgical), £1 1s. Vaccination, £1 1s.

*Scholarships.*—There are many funds for the assistance of students by means of bursaries, scholarships, exhibitions, and money awards from the beginning to the end of their undergraduate career. In addition there are funds which help those who have taken a first degree in medicine and surgery to continue at work as research students. The value of these awards, and the conditions attaching to them, are so varied that those interested should consult the prospectus of the school itself. No other university is in a better, even if in as good, a position to smooth the financial path of earnest students.

**THE SCHOOL OF MEDICINE OF THE ROYAL COLLEGES.**—This school is composed of lecturers licensed by the Royal College of Physicians and the Royal College of Surgeons, and also recognized by the university through their *licentia docendi*; for the sake of convenience they lecture in separate buildings near to the Royal Infirmary, but form a single corporate body governed by a board consisting of five members elected by the Royal College of Physicians, of five members elected by the Royal College of Surgeons, and of five members elected by the lecturers in the school. This board, with the assistance of the standing committees of the school, supervises the whole management and especially the maintenance of the efficiency and discipline of the school. The different buildings at present utilized for the purposes of lecturing are the following: (1) Surgeons' Hall, Nicolson Street; (2) New School, Bristo Street; (3) Nicolson Square; (4) Marshall Street; and other places. The teaching is similar to that of the Scottish universities, and the students receive similar certificates at the close of each session. The courses on the special subjects not included in the curriculum of the Examining Boards are also conducted by teachers specially qualified in each branch, and have for the last quarter of a century formed a special feature of the school. The fees payable for class and other instruction, and including the sums payable on admission to the examination of the Conjoint Board for the triple qualification, amount to about £120. The Calendar, giving full information regarding classes and fees, can be obtained gratis on application to Major D. G. Marshall, I.M.S., Dean of the School, 11, Bristo Place, Edinburgh.

**WOMEN STUDENTS IN EDINBURGH.**—Until the close of the summer session of 1916 women students intending to proceed to graduation in the University of Edinburgh, as well as those entering for the triple qualification of the Royal Colleges of Edinburgh and Glasgow, received their training in the Edinburgh School of Medicine for Women. Now women students study under the same conditions as men, and may obtain either the university degree or the diploma of the Royal Colleges. In the university systematic lectures are given to them by the professors in the ordinary classes, which are therefore mixed; but in the subjects of midwifery and gynaecology the women are lectured to separately from the men. All the practical classes are taught to men and women separately save in a few advanced classes. The women students also have the same privileges as in the past have been given to the men of attending a certain proportion of the extramural classes taught by the lecturers of the School of Medicine of the Royal Colleges.

#### GLASGOW.

There are five medical schools in this city: The two schools of the university, one of which (Queen Margaret College) is for women students; St. Mungo's College (the school of the Royal Infirmary), Anderson's College, and the Western Medical School. (The last is closed.)

**THE UNIVERSITY SCHOOL FOR MEN.**—The whole course of study required for graduation (M.B., Ch.B.) at the University of Glasgow can be taken here. Besides ample provision for lectures there is practical and clinical work at the hospitals, and practical courses are conducted in the laboratories of the following departments: Surgery,

Pathology, Public Health, Pharmacology, Physiology, Anatomy, Chemistry, Zoology, Physics, and Botany; the Botanic Garden and the Hunterian Museum (Zoology and Pathology) are also open to students. New buildings and equipments have been provided for botany, for practical anatomy, for operative surgery, as well as for pathology; the very large additions made a few years ago to the Chemical Laboratory rendered it one of the most extensive in Scotland. The class-rooms and laboratories for the departments of Physics, Physiology, Pharmacology and Materia Medica, and Medical Jurisprudence and Public Health, are also of recent erection, and are elaborately equipped. Four additional chairs of Medicine, Surgery, Obstetrics, and Pathology have been recently established, the Professors being specially attached to the Royal Infirmary; and a number of University Lectureships in Clinical Medicine, Clinical Surgery, Venereal Diseases, Laryngology, Dermatology, Otolaryngology, and Psychological Medicine have been founded there. The university, in short, has made great and successful efforts to extend and improve the accommodation of the medical departments, to strengthen the teaching staff, and to encourage post-graduate and research work. Three very extensive general hospitals in the city afford exceptional opportunities for clinical instruction—namely, the Western Infirmary (600 beds), near the university, to which the Regius Professors are attached; the Royal Infirmary (630 beds); and the Victoria Infirmary (260 beds); while the Royal Asylum (460 beds), the Royal Hospital for Sick Children (200 beds), the Royal Maternity and Women's Hospital (108 beds), the Glasgow Eye Infirmary (100 beds), the Ophthalmic Institution (35 beds), the fever hospitals at Belvidere (680 beds) and Ruchill (540 beds), and other institutions afford facilities for the practical study of special branches. In each year, since the beginning of the war, special qualifying examinations in Medicine, Surgery, and Midwifery have been held, in order that candidates who had completed their full curriculum might be enabled to graduate without delay. Practically all the successful candidates have received commissions in the R.A.M.C.

*Bursaries.*—Bursaries confined to the Medical Faculty amount in annual value to about £1,000, while bursaries in any faculty amounting to about the same annual sum, may be held by students of medicine, a number of both sets being open to women. Several valuable scholarships may be held by medical students who have graduated in Arts.

The following bursaries are open to undergraduates of both sexes: The Gibson Bursary, annual value £36, tenable for four years. This is open to medical students who are preparing for service as medical missionaries in connexion with the Church of Scotland, and will be awarded to the eligible candidate who has gained the highest number of marks in the First Professional Examination. One Logan Bursary, annual value £16, tenable for four years; appointment by the Senate. The MacIntosh Mental Science Bursary in medicine, of the value of £31, is awarded annually to the student (of either sex) attending the class of insanity who stands first in an examination in that subject, the bursar to continue the practical study of the subject to the satisfaction of the Faculty of Medicine. The Gardiner Bursary, annual value £14, tenable for two years, will be awarded after the autumn professional examination to the candidate who has passed in physiology at the Second Professional Examination, and whose aggregate of marks in that subject and in chemistry and physics of the First Professional Examination is the highest. The following are tenable in any faculty: Two Pratt Bursaries (each £20 and tenable for four years); and two Taylor Bursaries (each £10 and tenable for four years). Andrew and Bethia Stewart Bursaries (£50 each, tenable for three years); candidates must have taken the M.A. degree of Glasgow. There is a special examination. Nine Glasgow Highland Society's Bursaries, for students of Highland descent, of the annual value of £25, and tenable for five years; two vacant each year.

The Carnegie Trust for the Universities of Scotland is empowered to pay the whole or part of the university ordinary class fees of students of Scottish birth or extraction, under conditions given in the *University Calendar*. The Dobbie Smith Gold Medal is awarded for the best essay on a prescribed subject within the science of botany. The Brunton Memorial Prize of £10 is awarded annually to the most distinguished graduate in medicine of the year. The University Commissioners issued an ordinance to make regulations for the admission of women to certain bursaries, scholarships, and fellowships. Scholarships and Fellowships are offered by the Carnegie Trust in science and medicine for post-graduate study. There are also four McCunn Medical Research Scholarships (£100 for one year) for graduates in medicine of the Scottish universities.

*Fees.*—The matriculation fee for each year is £1 1s. In most cases the fee for each university class is £4 4s., but



in some cases it is £3 3s. For hospital attendance students pay an entrance fee of £10 10s. at the Western Infirmary, with an additional fee of £5 3s. for each winter and £2 2s. for each summer clinical course; at the Royal Infirmary the fees are somewhat similar. The university fee for the four professional examinations is £23 2s. (£6 6s. each for the first and second examinations, and £5 5s. each for the third and fourth). For the whole curriculum the fees for matriculation, class attendance, hospital attendance, and professional examinations amount to £150.

For further information apply to the Registrar, Glasgow University.

**QUEEN MARGARET COLLEGE.**—In this, the Women's Medical School of the University of Glasgow, the courses of study, degrees, regulations, fees, etc., are the same as for men. Women students have their own buildings, with class-rooms, reading-room, library, etc. They are taught in some classes apart from male students, in others together with them, but in either case have all the rights and privileges of university students. Their clinical studies are taken in the Royal Infirmary, where wards containing 520 beds are available for their use, and in its dispensary; also in the Royal Hospital for Sick Children, the Glasgow Ear Hospital, the Royal Asylum, Gartnavel; the Ophthalmic Institution, the City of Glasgow Fever Hospitals, Belvidere and Ruchill; and the Glasgow Royal Maternity and Women's Hospital.

**Scholarship.**—The Arthur Scholarship, annual value £20, tenable for three years. Open to competition by medical students of first year at the First Professional Examination in October, 1919. This scholarship is the gift of Mrs. Arthur of Barshaw, and is restricted to women medical students.

Full information can be obtained from the Mistress Queen Margaret College.

**Board for Students.**—A house of residence for women students, Queen Margaret Hall, is situated near the college. The cost of board and residence is from 20s. to 25s. 6d. per week, according to accommodation. Apply to the Lady Superintendent, Queen Margaret Hall, Bute Gardens, Glasgow.

Another hostel near college is South Park House, gifted to the Student Christian Movement, and open to women students of all colleges in Glasgow. Cost of board is from 22s. to 25s. weekly. Applications to be made to the Warden, South Park House, Ann Street, Glasgow.

**ST. MUNGO'S COLLEGE.**—This is the Medical School of the Royal Infirmary, which is the largest in Glasgow. The infirmary is situated in Cathedral Square, Castle Street, and has communication with every part of the city. St. Mungo's College is in the infirmary grounds.

The infirmary has (including the ophthalmic department) over 660 beds, the average number occupied in 1917 being over 600. There are special beds and wards for diseases of women, of the throat, nose, and ear, venereal diseases, burns, and septic cases. In the out-patient department the attendances in 1917 numbered over 180,000. In addition to the large medical and surgical departments, there are departments for special diseases—namely, diseases of women, of the throat and nose, of the ear, of the eye, of the skin, and of the teeth. There is also a fully equipped electrical pavilion, and year by year the latest and most approved apparatus for diagnosis and treatment is added.

**Appointments.**—Five house-physicians and ten house-surgeons, who must be fully qualified, are appointed every six months, and board in the hospital free of charge. Clerks and dressers are appointed by the physicians and surgeons. As many cases of acute diseases and accidents of a varied character are received, these appointments are very valuable.

**Fees.**—The average class fee is £2 2s. The fees for all the lectures, practical classes, and hospital attendance necessary for candidates for the diplomas of the English or Scottish Colleges of Physicians and Surgeons amount to about £70. The classes are open to male and female students.

**THE ANDERSON COLLEGE OF MEDICINE.**—This school provides education in all subjects of the curriculum both for medical and dental students. The school buildings are situated in Dumbarton Road, immediately to the west of the entrance of the Western Infirmary, within two

minutes' walk of that institution and four minutes' walk of the university. The hospital practice and clinical lectures are provided in the Western or Royal Infirmary; pathology in the Western or Royal Infirmary; vaccination and dispensary practice in the Western or Royal Infirmary Dispensary. These classes are recognized by all the licensing corporations in the United Kingdom, and also by the Universities of London, Durham, Glasgow, and Edinburgh (the latter two under certain conditions which are stated in the school Calendar). The courses (lectures and laboratory) in public health are also recognized by the Scottish Licensing Board, Queen's University of Belfast, the Irish Colleges, and the University of Cambridge.

**Fees.**—The fees for the lectures and practical work required by ordinary students range between 1 and 5 guineas a session. In the Public Health Department the fee for a six months' course is £12 12s. The Carnegie Trust pays the fees of students at Anderson's College on conditions regarding which particulars may be obtained from the Secretary, Carnegie Trust Offices, Edinburgh.

A Calendar will be sent on receipt of a post-card by the Secretary to the Medical Faculty, the Anderson College of Medicine, Glasgow, W., who will forward any further information which may be desired.

**GLASGOW WESTERN MEDICAL SCHOOL.**—This school has been closed until after the war.

#### ST. ANDREWS AND DUNDEE.

THE medical departments in these two teaching centres cater specially for students proceeding to the degrees of the University of St. Andrews, but admit other students as well. In the former city the United College provides education in all subjects of the first two years. In Dundee, University College provides for the needs of students from the beginning to the end of the five years' curriculum. Its buildings are modern, and contain fully equipped laboratories. The clinical work of the school is facilitated by various institutions. The class fees are 4 guineas for systematic classes, and 3 guineas for practical classes. The hospital ticket is £1 1s. for three months, £3 3s. a year, or perpetual £10 in one sum or £10 10s. in instalments. Added up, the fees for the curriculum, exclusive of the examination fees, amount to £136 10s. In connexion with both institutions there are bursaries and scholarships of considerable value, which are awarded after competitive examination. Information as to these can be obtained from the Secretary of the University of St. Andrews. Information regarding the clinical facilities may be obtained from Professor Kynoch, Dean of the Medical Faculty, Medical School, Dundee.

#### Clinical Work.

Good opportunities for clinical work are afforded by the Dundee Royal Infirmary, the instruction given thereat being recognized for purposes of graduation by all the Scottish universities, the University of London, the University of Cambridge, the National University of Ireland, and by the Royal Colleges of England and Scotland.

#### IRELAND.

THERE is a choice of six schools for those prosecuting their medical studies in Ireland, and for clinical instruction the choice is equally satisfactory and varied, though the hospitals themselves are comparatively small. Some account of the schools follows.

#### DUBLIN.

##### The School of Physic.

This school is in Trinity College, Dublin, and is carried on under the joint auspices of the University of Dublin and of the Royal College of Physicians in Ireland; the King's professors of institutes of medicine (physiology), practice of medicine, materia medica, and midwifery being appointed by the latter. Clinical instruction is given at Sir Patrick Dun's Hospital, and some twelve other metropolitan hospitals and asylums are recognized by the Board of Trinity College. The courses of instruction are open to all medical students whether or not they belong to the university. A three weeks' post-graduate course is given each autumn, and covers all departments of medicine and surgery. Information concerning the post-



graduate course can be obtained from Dr. Alfred Parsons, 27, Lower Fitzwilliam Street, Dublin.

#### *The Schools of Surgery.*

These are schools carried on in Dublin under the supervision and control of the Council of the Royal College of Surgeons. They are formed of the college's own school, combined with two famous old medical schools—Carmichael and Ledwich; they are attached to the college by charter. The buildings contain spacious dissecting rooms, one set apart for lady students, and special pathological, bacteriological, public health, chemical, and pharmaceutical laboratories. Advantage can be taken of the lectures and instruction afforded by students otherwise unconnected with the college.

*Prizes.*—Among the prizes annually awarded are: The Barker Anatomical Prize (£26 5s.); the Carmichael Scholarship (£15); the Mayne Scholarship (£8); the Gold Medal in Surgery, and the Stoney Memorial Gold Medal in Anatomy; class prizes of £2 and £1, accompanied by silver medals, will also be given in each subject.

The next session begins October 15th. A prospectus can be obtained post free on application to Mr. Alfred Miller, Registrar, Royal College of Surgeons, Dublin.

#### *University College.*

This is one of the constituent colleges of the National University of Ireland, and at present conducts its work at buildings on St. Stephen's Green, at those formerly occupied by the Cecilia Street School of Medicine, and at the University Buildings in Earlsfort Terrace. All the buildings of its permanent home are not yet ready. The section of the new college buildings at Earlsfort Terrace for the departments of physics and chemistry, and new laboratories for pathology, are now in use. It possesses a good library, and the arrangements for the teaching of medical students from beginning to end of the curriculum are adequate. The teaching staff is numerous, and through it the college is connected with many of the hospitals of the city. Students, however, are allowed to pursue their studies at any of the hospitals recognized for the purpose by the university.

#### *Clinical Work.*

There are numerous well-arranged hospitals in and around the city, and almost all of these are recognized for teaching purposes by the Conjoint Board of Ireland, the University of Dublin, the National University of Ireland, and by like bodies elsewhere in the United Kingdom. Among them are the Mater Misericordiae Hospital, with 345 beds; Dr. Steevens's Hospital at Kingsbridge, with 200; Meath Hospital and County Dublin Infirmary, with 160; Mercer's Hospital, close to Trinity College, with 120; the Royal City of Dublin Hospital, with 124; the Adelaide Hospital, with 140; the Royal Victoria Eye and Ear Hospital, with 100 beds; Sir Patrick Dun's, which has a direct connexion with the School of Physic, and the combined institutions formed by the Hardwicke Fever Hospital, the Richmond Surgical Hospital, and the Whitworth Medical Hospital, with an aggregate of 230 beds. As for that known as the Rotunda Hospital, this practically consists of two distinct hospitals, and is believed to be the largest combined maternity and gynaecological hospital in the United Kingdom. It receives nearly 3,000 patients every year, and, apart from ordinary out-patient work of a gynaecological order, annually attends approximately 2,000 women at their own homes during their confinement. It possesses residential quarters for students, and, taken as a whole, offers exceptional opportunities for study both to ordinary students and to post-graduates of any nationality.

#### BELFAST.

THE Medical School is part of the Faculty of Medicine of Queen's University, Belfast, and provides a complete medical curriculum for all purposes. The laboratories in connexion with the departments of biology, chemistry, physiology, pathology, anatomy, physics, and materia medica are all excellent, and there is a Students' Union which gives students the advantages of dining rooms, reading rooms, a library, and various recreation rooms. Women are eligible as students. Clinical instruction is given at the Royal Victoria Hospital, which was rebuilt a few years ago and has 300 beds, and the Mater Infirmorum Hospital, which has 150 beds. Other hospitals open to

the students of the university are: The Maternity Hospital, the Ulster Hospital for Women and Children, the Hospital for Sick Children, the Ophthalmic Hospital; the Benu Ulster Eye, Ear, and Throat Hospital; the Union Infirmary and Fever Hospital; the Fever Hospital, Purdysburn; the District Lunatic Asylum, the Samaritan Hospital, Forster Green Hospital for Diseases of the Chest, and the Belfast Hospital for Skin Diseases.

*Scholarships.*—(1) Twelve, of the value of £40 each, are assigned as Entrance Scholarships in the Faculties of Arts, Science, and Medicine, tenable for one year; (2) sixteen Professional Scholarships, value from £15 to £40 each; (3) one Hutchinson Stewart Scholarship, £12, in mental diseases; (4) one Mackay Wilson Travelling Scholarship, £100, awarded triennially; (5) Isabella Tod Memorial Scholarship, tenable for three years, awarded triennially to a woman student; (6) Magrath Clinical Scholarship, awarded annually, value about £112; (7) numerous sessional prizes. There is also a post-graduate research fund, open to all graduates of not more than three years' standing. Gold medals are awarded at the M.D. examination.

*Fees.*—The cost of the curriculum intended for students proceeding to the degrees of the Queen's University of Belfast is, approximately, £120. This includes examination fees and a perpetual ticket for attendance at the Royal Victoria Hospital or the Mater Infirmorum Hospital, but not fees for the special hospitals. The course for the Conjoint Board costs about the same amount. The Calendar containing full information can be obtained on application to the Secretary, Queen's University, Belfast, price 1s.

#### UNIVERSITY COLLEGE, CORK.

THIS institution, formerly known as Queen's College, Cork, is one of the constituent colleges of the new National University. It holds examinations for all the faculties of that university, in addition to continuing the work which it has hitherto performed—namely, that of providing education adapted to the needs of medical students at all stages of their career. Its first aim is to fit students for the degrees of the new university, but students proceeding for the examinations of the Conjoint Boards of England, Scotland, or Ireland, the Society of Apothecaries of London, or the Apothecaries' Hall of Ireland, or London University, can arrange the courses of lectures which they attend, and the order in which they attend them, to meet the requirements of those bodies. Certificates of attendance at the college courses are also accepted by the University of Cambridge. Clinical instruction is given at the North and South Infirmaries (each 100 beds) and at the Cork Union Hospital (1,200 beds). Students can also attend the Mercy Hospital (60 beds), the County and City of Cork Lying-in Hospital, the Maternity, the Hospital for Diseases of Women and Children, the Fever Hospital, the Ophthalmic and Aural Hospital, and the Eglington Lunatic Asylum. The session extends from October to June.

A Dental School has been started within the last four years, in which the degree of Bachelor of Dental Surgery of the National University of Ireland is granted. There is a large, well-equipped Dental Hospital in connexion with the school.

*Scholarships.*—Over £4,000 are available annually for scholarships in the College. Particulars as to each of them can be obtained on application to the Registrar.

*Fees.*—The fees for the lectures and hospital attendances required by the National University of Ireland course, including examination fees, come to about £120. Further information can be found in the college regulations, or obtained on application to the Registrar.

#### UNIVERSITY COLLEGE, GALWAY.

THIS institution is one of the constituent colleges of the National University of Ireland, and includes Faculties of Arts, Celtic, Science, Law, Engineering, Commerce, and Medicine. Candidates for degrees in medicine must reside for three years. For the remaining two years certificates from any recognized medical school are accepted. The college buildings are well lighted and well ventilated, and contain dissecting rooms, an anatomical theatre, and laboratories for the study of physiology, chemistry, physics, and other departments of medical science. For pathology and chemistry new laboratories are now provided. It has good grounds surrounding it, and there are many arrangements, such as a library, a college union, and an athletic union, for the benefit of those belonging to the Medical



Faculty, as well as for students in other departments of the college. The clinical teaching, which is recognized as qualifying not only for the degrees of the National University but for those of London University and the diplomas of the various colleges in the three kingdoms, is carried on at the Galway County Hospital, the Galway Union Hospital, the Galway Fever Hospital, and the Galway Dispensaries. The Galway County Hospital is a general hospital, and at the other two hospitals and at the dispensaries students have ample opportunities of studying zymotic and chronic diseases. The Union Hospital has a special ward for diseases of children. Each year the Governing Body offers about £1,500, and the County Councils of Connaught offer about £3,500, in scholarships. These scholarships are tenable in any Faculty. Additional information regarding these scholarships can be obtained on application to the Registrar, and to the Secretaries of the Connaught County Councils.

## CLINICAL HOSPITALS IN ENGLAND.

THERE are a great many hospitals in the United Kingdom which, though not connected with any medical school, open their doors either to those who have yet to become qualified, to those who are doing post-graduation work, or to both. The facilities they offer for gaining practical clinical experience are very great, and should not be overlooked. Their honorary staffs commonly make a point of giving such instruction as opportunity offers, and at those which are situated in the larger towns there are often appointments as clinical assistants to be obtained. In addition, they all have to offer, at shorter or longer intervals, appointments for resident medical officers, house-physicians, and house-surgeons. These are usually paid offices, which may be held for periods varying from six months to a year. Some of those situated in the great medical centres in the provinces, and in Scotland and Ireland, have already been mentioned in speaking of the medical schools in these localities, but it should be added that there are many other provincial hospitals where admirable work is done, and at which much valuable experience can be gained by both senior and junior students, and by those already admitted to the *Medical Register*. Cases in point are the Royal Infirmary, Bradford; the Royal Sussex County Hospital, Brighton; the Royal United Hospital, Bath; the Kent and Canterbury Hospital; Derbyshire Royal Infirmary; the Royal Albert Hospital and Eye Infirmary, Devonport; the Royal Devon and Exeter Hospital; the West of England Eye Infirmary, Exeter; the Gloucestershire Royal Infirmary and Eye Institution; the Royal Infirmary, Leicester; the County Hospital, Lincoln; the General Hospital, Northampton; the Norfolk and Norwich Hospital; the General Hospital, Nottingham; the Royal Portsmouth Hospital; the Royal South Hants and Southampton Hospital; the Staffordshire General Infirmary, Stafford; the North Staffordshire Infirmary at Hartshill; the Royal Hants County Hospital, Winchester; the Wolverhampton and Staffordshire General Hospital; and the County Hospital, York. As for hospitals in the metropolis, so many of these play the part of clinical schools that it is worth while to classify them.

*General Hospitals.*—These include the Dreadnought Hospital at Greenwich, and its annexe at the Albert Dock, which form the head quarters of the London School of Clinical Medicine and the London School of Tropical Medicine; the West London Hospital and the Prince of Wales's General Hospital, Tottenham, both of these being described in the article on post-graduate work; the Great Northern Central Hospital, Holloway Road, an institution containing 185 beds; and the Temperance Hospital in Ilampstead Road.

*Children's Hospitals.*—There are at least seven of these, the leader among them being the Hospital for Sick Children, Great Ormond Street, which has 240 beds. There are also the East London Hospital for Children, Shadwell, with 124 cots; the Queen's Hospital for Children, Bethnal Green, with 134; the Victorian Hospital for Children, Chelsea, with 104; the Belgrave Hospital for Children, which has a considerable out-patient department, but in-patient accommodation for only 40 children; the Paddington Green Children's Hospital, an institution

of about the same size; and the Evelina Hospital for Sick Children, Southwark Bridge Road, with 76 beds.

*Hospitals for Women.*—These include Queen Charlotte's Lying-in Hospital, which specializes in the teaching of midwifery; the Samaritan Hospital for Women, Marylebone Road, to which qualified practitioners are admitted as clinical assistants to both the in-patient and out-patient departments. Demonstrations are given daily in both departments, the fees—payable in advance—being £3 3s. for three months. Full particulars may be obtained on application to the secretary at the hospital. In addition may be mentioned the Hospital for Women, Soho Square; the Chelsea Hospital for Women, Arthur Street, Chelsea; and the Elizabeth Garrett Anderson Hospital for Women in Euston Road, the latter being in the nature of a general hospital so far as concerns the class of case treated.

*Eye Hospitals.*—The largest of these is the Royal London Ophthalmic Hospital (Moorfields), City Road, with 138 beds and a very large out-patient department; others are the Royal Westminster Ophthalmic Hospital, near Charing Cross, the Royal Eye Hospital, Southwark, each with about 40 beds; and the Central London Ophthalmic Hospital, Judd Street, W.C.1, with 28.

*Fever Hospitals.*—The Metropolitan Asylums Board has under its control a good many institutions for the treatment of the more serious zymotic disorders, and makes special arrangements for the instruction of students in this subject, and grants certificates at the end of the courses. Detailed information should be sought from the Clerk to the Board, Victoria Embankment.

*Chest Hospitals.*—The largest of these is the Brompton Hospital for Consumption, which has 333 beds and a large sanatorium at Frimley with 150 beds. There is also the City of London Hospital for Diseases of the Chest, Victoria Park, with 175 beds, and the Royal Hospital for Diseases of the Chest, City Road, which has recently reorganized its various departments with the object of better fitting itself to act as a tuberculosis school.

*Nose, Throat, and Ear Hospitals.*—The institutions which confine their work to disorders of the throat, nose, and ear all make special arrangements for the benefit of senior and post-graduate students. They are the Metropolitan Ear, Nose, and Throat Hospital, Fitzroy Square; the Royal Ear Hospital, Dean Street; the Central London Throat and Ear Hospital, Gray's Inn Road; and the Hospital for Diseases of the Throat, Golden Square—the latter, which possesses 75 beds, being the largest of the four institutions.

*Miscellaneous Special Hospitals.*—Among these are the Bethlem Royal Hospital, Southwark, which confines its work to the treatment of mental diseases; St. Peter's Hospital for Stone and Urinary Diseases, Henrietta Street, Covent Garden; St. Mark's Hospital, City Road, which devotes itself to the treatment of diseases of the rectum, including cancer and fistula; St. John's Hospital for Diseases of the Skin, in Leicester Square; the Hospital for Diseases of the Skin, Stamford Street, Blackfriars; and the National Hospital for the Paralysed and Epileptic, Queen Square, W.C.1, an institution possessing 200 beds and a world-wide reputation.

Detailed information as to the teaching arrangements of all these institutions may be obtained on application to their secretaries.

## MEDICAL EDUCATION OF WOMEN.

WOMEN are admitted to all the medical examinations of the following qualifying bodies: All the universities of Great Britain, with the exception of Oxford and Cambridge; the Royal College of Physicians of London, and the Royal College of Surgeons of England; the Society of Apothecaries of London; the Conjoint Boards of Scotland and of Ireland. The first B.M. examination of the University of Oxford is open to women students under certain conditions, and facilities for studying the subjects of that examination are now afforded to them in Oxford.

The regulations of each body differ considerably, so that it is necessary for a student to decide, before beginning her course, which degree or diploma she will aim at obtaining. The ordinary regulations of the General Medical Council (see page 211) must be observed, and women can pursue their education either at certain schools only open to



women, or at ordinary schools where they do their work more or less in common with men students.

The schools which admit women only are the London (Royal Free Hospital) School of Medicine for Women, which is one of the constituent schools of the Medical Faculty of the University of London, and Queen Margaret College, Glasgow (see page 235). Women are also admitted to the schools of medicine conducted in connexion with King's College and University College, London; the Universities of Dublin, Dundee, Durham, Liverpool, Manchester, Birmingham, Leeds, Sheffield, Bristol, and Aberdeen; St. Mungo's College, Glasgow, the Schools of Surgery of the Royal College of Surgeons in Ireland and of the National University of Ireland in Dublin, Cork, and Galway. The arrangements for women medical students in Edinburgh are indicated on page 234. Women can also attend classes for the first three years of the medical curriculum at University College, Cardiff.

Year by year the openings for women who adopt a medical career have increased, and the field open to their energies is now wide. Women hold many appointments as resident medical officers in general hospitals and in hospitals for women and children all over the country, and in a large number of sanatoriums, infirmaries, fever hospitals, and asylums. Many medical women are also engaged in public health, tuberculosis, and school inspection work.

As regards the London School of Medicine for Women, particulars will be found at p. 228 in the article on London Medical Schools.

## DEGREES FOR PRACTITIONERS.

At one time it was almost the universal custom for medical students educated in London not to seek a university degree, and as that custom still prevails to a considerable extent, a very large proportion of medical men in actual practice in England possess diplomas to practise but not degrees in medicine. This is a fact which they sometimes find reason to regret, and to such practitioners the following paragraphs may be of interest. It should be noted that the M.D. degree of the University of Brussels is not registrable when it has been obtained subsequently to June, 1886, but this fact does not lessen its value to those who see any utility in possessing a degree as well as a registrable diploma.

### UNIVERSITY OF LONDON.

Registered medical practitioners who have passed the First Examination for medical degrees and the Second Examination for medical degrees, Part I, may proceed to the Second Examination for medical degrees, Part II, and M.B., B.S. Examinations without observing the intervals prescribed by the regulations, on producing certificates that they have gone through the required course of study at a school of the university; subject to the proviso that no degree of the university can in any circumstances be granted by examination to any one in less than three years after passing the Matriculation Examination or after admission by the university of the candidate's right to exemption therefrom.

### UNIVERSITY OF DURHAM.

The degree of M.D. is granted by the University of Durham to registered practitioners of not less than fifteen years' standing, who have been qualified and in practice for that period, upon the following conditions without residence: The candidate must be 40 years of age, and must produce a certificate of moral character from three registered medical practitioners. Should he not have passed an examination in arts previously to the professional examination in virtue of which his name was placed on the *Register*, he is examined in classics and mathematics; if otherwise, he is required to translate into English passages from any one of the following Latin authors: Caesar, *De Bello Gallico* (first three books), Virgil, *Aeneid* (first three books), or Celsus (first three books).

*Professional Examination.*—The candidate must pass an examination in the following subjects: (i) Principles and practice of medicine, including psychological medicine, hygiene, and therapeutics; (ii) principles and practice of surgery; (iii) midwifery and diseases of women and children; (iv) pathology, medical and surgical; (v) anatomy, medical and surgical; (vi) medical jurisprudence and

toxicology. The examination is conducted by means of printed papers, clinically, and *viva voce*, at the College of Medicine, Northumberland Road, Newcastle, and in the Royal Victoria Infirmary, Newcastle. The classical portion of the examination may be taken separately from the professional on payment of a portion (£10 10s.) of the full fee.

*Foreign and Colonial Practitioners.*—Natives of India or the British Colonies are placed on the same footing as natives of Great Britain. Natives of India must produce evidence from an Indian university that they have passed within one year an examination in Latin.

*Fees.*—The inclusive fee is 50 guineas; if a candidate fail to pass, 20 guineas are retained, but if he present himself again, 40 guineas only are required.

*Dates, etc.*—The examinations are held twice a year, towards the end of March and of June. Notice, accompanied by the fee and certificates, must be sent to Professor Howden, Secretary of the University of Durham College of Medicine, Newcastle-on-Tyne, at least twenty-eight days before the commencement of the examination.

### UNIVERSITY OF BRUSSELS.

This university grants its M.D. to such foreign candidates as are already duly qualified in medicine and surgery in their own countries, provided they pass the three examinations imposed. Information can be obtained either from the Secretary of the University, 14, Rue des Sols, Brussels, or from Dr. Arthur Haydon, Honorary Secretary of the Brussels Medical Graduates' Association, St. Aubyn's, Swanmore, Ryde, Isle of Wight. The examinations for the degrees are still going on at the University of Brussels, but for internal students only at present during the German occupation. This is due to the mobilization of the examining staff with the Belgian army.

## POST-GRADUATION STUDY.

The value, and in some circumstances even the necessity, of post-graduation study is now so generally recognized that there is no occasion to dilate upon it here. The need for some means of acquiring direct knowledge of the technique of the new branches which are constantly springing up is indeed so generally felt among otherwise experienced practitioners that several institutions designed solely for their benefit have been at work for some years. Of these institutions some account follows. Beyond this it need merely be said that in normal times most medical centres hold one or more courses for qualified men during the year; that most of the institutions mentioned in the section on Clinical Hospitals make special arrangements for the benefit of qualified men desirous of studying work of the kind undertaken within their wards; and that valuable adjuncts to post-graduation study exist in the shape of the Library of the British Medical Association—one specially rich in recent works—the libraries of the several universities, and those of the Royal College of Surgeons of England and of the Royal College of Physicians in London and in Edinburgh.

### WEST LONDON POST-GRADUATE COLLEGE.

The work of this institution is carried on at the West London Hospital, the first in London to devote its clinical material solely to the instruction of qualified medical men. The college started in 1895, and the present building was opened in 1901; it is provided with lecture, reading, writing, and class rooms, and accommodation of all sorts for the convenience of post-graduate students. In the five years before the war the yearly entry has averaged over 220. The work of the college is eminently suitable for men taking up war work.

As for ward work, the students accompany the senior staff on their visits to the wards at 2.30 p.m. daily, and also go round with the resident medical officers in the morning. Out-patient work begins at 2.15 p.m. This department is large, and affords ample facilities for post-graduates to see and examine patients. There are the usual special departments dealing with diseases of the eye, ear, throat, nose, skin, orthopaedics, x-ray work, electrotherapeutics, gynaecology, and mental diseases of children. Post-graduates are appointed to act as clinical assistants for three or six months. There is no charge to members



of the college. Practical classes are held in medicine, general practical surgery, gastro-intestinal surgery, surgical diseases of children, analysis of blood and urine, cystoscopy, venereal disease, tropical diseases, retinoscopy, ophthalmic operative surgery, and, when material is available, in operative surgery. The size of the classes is limited so as to ensure that each student shall have full opportunities of gaining experience in methods of examination and treatment.

A special clinic for the treatment of diseases of the skin and genito-urinary organs (male and female) is held every evening (Saturdays included) at 5.30 p.m. Post-graduates are admitted to the work of the clinic free, and certificates of satisfactory attendance and work are given.

Operations take place at 2 p.m. daily, the surgeons often availing themselves of the assistance of the post-graduates, and in any case making arrangements so that they can readily see what is going on. The anaesthetists give instruction in the administration of different anaesthetics, including spinal analgesia, on the operating days, students being allowed to administer them under supervision, while special classes are held in each session.

The pathological laboratory is in charge of a pathologist who attends every day. In bacteriology and microscopy special instruction is given on three mornings a week, the students working at other times under the general guidance of the pathologist.

Demonstrations are given every day in the morning by the assistant physicians, assistant surgeons, and by the medical and surgical registrars in practical medicine and surgery. Lectures of a practical kind are given daily (except Saturday and Sunday) at 5 p.m. During the war, however, class demonstrations and lectures are discontinued.

The fees are as follows: Hospital practice, including all ordinary demonstrations and lectures, £1 ls. for one week, £3 3s. for one month, £4 4s. for six weeks, £6 6s. for three months, £10 10s. for six months, £15 15s. for one year, and £30 for a life ticket. Every year in August there is a special vacation class lasting four weeks, for which the fee is £3 3s. Three months' instruction in the administration of anaesthetics costs £5 5s. Subscriptions for any course can be taken out from any date. The certificates of the school are recognized by the Admiralty, the War Office, the Colonial Office, the India Office, and the University of London (for higher degrees).

A prospectus concerning the school can be obtained on application to the Dean.

#### LONDON SCHOOL OF CLINICAL MEDICINE (POST-GRADUATE), DREADNOUGHT HOSPITAL, GREENWICH, S.E.10.

The school buildings, lecture rooms, operative surgery class-rooms, pathological laboratories, museum, library, etc., are in the Seamen's Hospital at Greenwich. The whole hospital of 250 beds, with its out-patient department, is open to students from 10 a.m. till 5 p.m.

At present the regular courses are in abeyance in consequence of the war, but a certain amount of pathology and operative surgery is still done. In normal times medical, surgical, and special department in-patient clinics are held every afternoon except Saturday by the senior members of the staff, whilst out-patients are demonstrated daily in the forenoon in the medical, surgical, and special departments by the assistant physicians and surgeons. Practical classes are arranged each session in the following subjects: The practice of medicine, diseases of the nervous system, medical diseases of women, medical diseases of children, diseases of the skin, practice of surgery, operative surgery, diseases of the eye; diseases of throat, nose, and ear; surgical diseases of women, midwifery, and gynaecology, surgical diseases of children, pathology, clinical pathology, bacteriology, surgical and medical pathology, hygiene and public health; anaesthetics, skiagraphy, and mental diseases.

Two sessions of five months (October-February) and four months (April-July), are held in each year. The session's work is arranged so as to enable individual students to join the demonstrations, etc., at any time during the session.

Affiliated to the London School of Clinical Medicine for the purposes of extension of the variety of clinical material and teaching are the Royal Waterloo Hospital for Children and Women, the Miller General Hospital, Greenwich, and

the Bethlem Royal Hospital for Mental Diseases. These hospitals are directly linked to the Dreadnought both by rail and by tram. The supply of material affords exceptional facilities for practical instruction in operative surgery and in pathology. There is also a wide field for the study of venereal diseases, on which special clinics are given, and there is a department with open-air wards for the treatment of tuberculosis. Every variety of disease may be studied in the wards and out-patient rooms of the Dreadnought Hospital and at the affiliated hospitals. The certificates of the school are recognized by the University of London (for the higher degree), the Admiralty and the War Office, the India Office, and the Colonial Office.

*Appointments.*—There are a medical superintendent, surgical and medical registrars, two house-physicians, and two house-surgeons at the Dreadnought Hospital, Greenwich. The pay of these officers varies from £50 to £150.

Full prospectuses, lists of special lectures, and other particulars can be obtained on application to the Dean at the School.

#### NORTH-EAST LONDON POST-GRADUATE COLLEGE.

The head quarters of this post-graduate school are situated at the Prince of Wales's General Hospital, which is in the midst of a densely populated North London district containing about a quarter of a million inhabitants. It contains 125 beds, and its precise situation is South Tottenham, N., where it is within a few minutes' walk of South Tottenham Station on the Midland Railway, Seven Sisters Station on the Great Eastern Railway, and Tottenham Hale on the Great Eastern main line. It is also readily accessible from Finsbury Park and Hackney by electric tram passing the hospital door, and by corresponding means may be reached easily from Dalston, Edmonton, and other parts of North London.

The college is recognized by the Admiralty and the India Office for the purposes of study leave, and by the University of London as a place for advanced study for the M.D. and M.S. degrees; the course of practical teaching of bacteriology is approved by the University of Cambridge for its D.P.H. diploma, and there are ample arrangements for the convenience of men who are thus working, or who, being in active practice, are desirous of getting themselves into touch with modern methods. There is provided for their use a reading and writing room, and they can obtain afternoon tea and receive telephonic messages; similarly there is a reference and lending library for their benefit, and a museum and pathological laboratory in which they can work. The hospital as a whole affords excellent facilities to qualified medical practitioners who wish to take part for a time in the work of an active general hospital, or to obtain special instruction in the several branches of medicine and surgery, since it is open to them to study diseases of the eye, ear, throat, nose, skin, fevers, children's diseases, psychological medicine, dental surgery, radiography, the application of electricity in disease, and the administration of anaesthetics. Throughout the sessions into which the year's work is divided, clinics, lectures, and demonstrations are given by members of the teaching staff in the lecture room, in the wards, in the various out-patient departments, and in certain affiliated institutions. Operations are performed every afternoon of the week except Saturday. Special classes are arranged in modern methods of the investigation and treatment of diseases of the lungs and heart, gynaecology, diseases of children; diseases of the throat, nose, and ear; diagnosis of diseases of the nervous system, ophthalmoscopy and refraction, diseases of the skin, abdominal surgery, surgical anatomy, surgery of the urogenital tract, skiagraphy, anaesthetics, bacteriology, clinical pathology, vaccine therapy, pathological chemistry, and medical electricity. In all these classes the numbers are carefully limited, so as to give every member full opportunity for work.

As for fees, these are as follows: One guinea for a three months' course of study in any one department, which may be begun at any time; a fee of 3 guineas admits to the whole practice of the hospital for a similar term (one month, 2 guineas), and a perpetual ticket for the practice of the hospital may be obtained on payment of a fee of 10 guineas.

Additional information about the college and its work



can be obtained on application to the Dean of the Post-Graduate College, at the hospital, or at 19A, Cavendish Square, London, W.1. It should, however, be stated that, owing to the war, the number of lectures and set demonstrations has of necessity been reduced.

## TROPICAL MEDICINE.

THERE are Schools of Tropical Medicine in London and Liverpool, and several universities and other examining bodies have instituted diplomas or degrees in the subject. The Colonial Office now expects all nominees for the Colonial Medical Service to pass through one or other of the two schools mentioned before their appointments are confirmed, and commercial firms engaged in tropical enterprise commonly demand from medical applicants for employment corresponding evidence of special knowledge. Information with regard to these schools and diplomas and degrees follows.

### DIPLOMAS AND DEGREES.

**LONDON UNIVERSITY.**—Tropical medicine is one of the six branches in which the M.D. degree may be obtained, the regulations relating to the curriculum and examination corresponding to those applying to the other branches.

**LONDON CONJOINT BOARD.**—This body grants a diploma in tropical medicine to candidates after an examination usually held in the months of April and July. Ordinary candidates must present evidence of having attended, subsequently to obtaining a registrable qualification in medicine, surgery, and midwifery, (1) practical instruction in bacteriology, parasitology, medical zoology, and haematology, in a laboratory recognized for this purpose during not less than six months; (2) instruction in hygiene applicable to tropical countries; (3) the clinical practice of a hospital recognized for the study of tropical diseases during not less than six months. These conditions may be modified in the case of candidates who have had practical experience in tropical countries deemed likely to have furnished them with the same kind of training. The fee for admission to the examination is £9 9s. No further examination will be held until the termination of the war.

**UNIVERSITY OF EDINBURGH.**—This university grants a diploma in tropical medicine and hygiene after an examination which is usually held twice a year. It is open to those who are graduates of the university in medicine and surgery, and to registered practitioners who have had experience of tropical diseases in a tropical country, who may be approved by the Senatus on the recommendation of the Faculty of Medicine. In addition to this the candidates must show that they have attended approved courses of instruction in practical bacteriology (including the pathogenic micro-organisms of tropical diseases), in diseases of tropical climates (including the zoological characters and life-history of disease-carrying insects), in tropical hygiene, and in clinical study of tropical diseases. They must possess, too, certificates of efficiency in the conduct of *post-mortem* examinations. The examination is in the four subjects indicated, the fee being £4 4s.

**UNIVERSITY OF LIVERPOOL.**—A diploma in tropical medicine is given by this university to students who have been through the courses provided by the Liverpool School of Tropical Medicine, and have passed the examination held twice yearly by the university examiners. The examination lasts three days, and consists (1) of three papers dealing with tropical medicine, tropical pathology, and tropical sanitation and entomology respectively; (2) of a clinical examination; and (3) of an oral examination. Further information can be obtained from the Dean of the Faculty of Medicine, University of Liverpool.

**UNIVERSITY OF CAMBRIDGE.**—This university grants a diploma in tropical medicine and hygiene to any person whose name has been on the *Medical Register* for not less than a year provided that he passes the examination of the university in this subject. Previous to admission to the examination he must produce approved evidence that he has studied pathology (including parasitology and bacteriology in relation to tropical diseases), clinical medicine, and surgery, at a hospital for tropical diseases, and hygiene and methods of sanitation applicable to tropical climates.

The examination deals with the following subjects:

1. The methods of pathological and bacteriological investigation. The examination of the blood. The characters, diagnosis, and life-history of animal and vegetable parasites. The examination, chemical and microscopic, of poisonous or contaminated foods and waters.
2. The origin, pathology, propagation, distribution, prevention, symptoms, diagnosis, and treatment of the epidemic, endemic, and other diseases of tropical climates, including malaria, blackwater fever, trypanosomiasis, relapsing fever, dengue, yellow fever, plague, tetanus, beri-beri, dysentery and hepatic abscess, cholera, enteric fever, Malta fever, and specific diarrhoeal affections of the tropics; diseases due to cestode and other worms; filariasis, bilharzial disease; specific boils, sores, and other cutaneous affections; mycetoma, ophthalmic affections of the tropics, affections caused by poisonous plants and animals, and by poisoned weapons: sunstroke.
3. The general effects on health in the tropics of seasons and climate, soil, water, and food. Personal hygiene, acclimatization. Principles of general hygiene, with special reference to food supplies and water supplies, sites, dwellings, drainage, and the disposal of refuse. The sanitation of native quarters, camps, plantations, factories, hospitals, asylums, gaols, pilgrim and coolie ships. Principles and methods of disinfection.

Examinations are held in January and August each year, and last four days. The fee for the examination and diploma is 9 guineas on admission or readmission. Application for further information should be made to Dr. G. S. Graham-Smith, Pathological Laboratory, Cambridge.

### SCHOOLS.

**LONDON SCHOOL OF TROPICAL MEDICINE.**—This school is under the auspices of the Seamen's Hospital Society. Its buildings, laboratories, museum, library, etc., are within the grounds of the Branch Hospital, Royal Victoria and Albert Dock (Station: Connaught Road, Great Eastern Railway), and excellent opportunities are afforded to students and others who may be desirous of studying diseases incidental to tropical climates before entering the services or going abroad. In the hospitals of the society are to be found cases of tropical disease such as may be met with in actual practice in the tropics. There are three courses in the year, each lasting three months, beginning October 1st, January 15th, and May 1st respectively. The course is so arranged as to equip men for the Cambridge and English Conjoint Board diplomas in tropical medicine. For the present the services of the school have been placed at the disposal of the War Office in connexion with special courses which are being given to medical officers belonging to the army who are going abroad. A prospectus and other information can be obtained on application to the Dean, London School of Tropical Medicine, India Office, Whitehall, London.

**LIVERPOOL SCHOOL OF TROPICAL MEDICINE.**—This school is affiliated with the University of Liverpool and the Royal Infirmary of Liverpool. Two full courses of instruction are given every year, commencing on January 6th and September 15th, lasting for the term of about thirteen weeks, and followed by the examination for the diploma of tropical medicine given by the University of Liverpool. Each course consists:

- (1) Of a systematic series of lectures on tropical medicine and sanitation delivered by the Professor of Tropical Medicine at the university; (2) of systematic lectures and demonstrations on tropical pathology, parasitology, and bacteriology by the Professor of Parasitology and the Lecturer on Parasitology at the university; (3) of similar instruction on medical entomology by the Professor of Medical Entomology and the Lecturer on Entomology at the university; and (4) of clinical lectures and demonstrations delivered at the Royal Infirmary by the professor.

The instruction given occupies six hours a day for five days a week during the term. Teaching under headings (2) and (3) above is delivered in the laboratory of the school at the university, which contains accommodation for thirty students, with all necessary appurtenances, including a well-equipped museum, a class library, and access to the general departmental library. Teaching under heading (4) is given in the tropical ward and the attached clinical laboratories of the Royal Infirmary and the Royal Southern Hospitals on two or three afternoons a week.

In addition to the full courses, an advanced course of practical instruction in tropical pathology and medical entomology, lasting one month, is given every year in June; it is of such a kind as to be very useful to medical men returning from the tropics on short leave. A special course of instruction in entomology, etc., is also given three times



a year to officers of the East and West African Colonial Services.

Students of the school who do not care to undertake the examination held by the university at the end of each term for its diplomas in tropical medicine are given a certificate for attendance if the latter has been satisfactory.

It is proposed to institute at an early date a course of instruction in tropical sanitation. Full particulars will be issued as soon as possible.

The new laboratories of the school adjoining the university, which are now completed, have been taken over temporarily by the War Office authorities as a hospital.

Since it was instituted the school has dispatched to the tropics thirty-three scientific expeditions, many of the workers having been taken from among its students. The work done by them has been published in twenty-one special memoirs, with many plates and figures, besides textbooks and numerous articles in the scientific press, also in the "Annals of Tropical Medicine and Parasitology" of the school.

*Fees.*—The fee for the full course of instruction is £13 13s., with an extra charge of 10s. 6d. for the use of a microscope if required. The fee for the Diploma Examination is £5 5s., and that for the Advanced Course is £4 4s. Further information about the school may be obtained on application to the Secretary, H. 24/25, Exchange Buildings, Liverpool.

## PSYCHOLOGICAL MEDICINE.

THE study of mental diseases has long been a necessary part of the ordinary medical curriculum, and mental psychology is one of the branches of medicine which candidates for the M.D. degree of the University of London can take up. In addition diplomas in psychiatry or psychological medicine can be obtained from the universities of Cambridge, Edinburgh, Leeds, and Manchester. The Medico-Psychological Association of Great Britain and Ireland also grants certificates of proficiency after examination and encourages the study of psychology and connected subjects by the offer of prizes for competition.

Those who take up psychological medicine as a career work as medical officers either of private mental hospitals, or of county asylums or other public institutions of the same order. In all cases they are resident officers, those in the lower ranks always receiving board and lodging in addition to their salary. As a whole, they fall into three ranks—junior assistant medical officers, senior assistant medical officers, and medical superintendents. The salaries of those belonging to the junior rank have hitherto been in the neighbourhood of £150 a year, and those of senior assistants about £300 a year, but have recently shown some tendency to rise. Medical superintendents, whose pay commonly ranges between £500 and £1,500 a year, are always provided with a house in the grounds of their asylum, and usually draw various allowances.

However, asylum work as a career is by no means growing in favour, and is unlikely to do so until all the public asylums throughout the country have been linked up in such fashion that their officers can be regarded as members of one common service. At present it is quite possible for a man who does excellent work to remain in the lower rank all his life, and this fact, coupled with the desirability of minimizing as far as possible other existing drawbacks to asylum life, has led to the starting of a movement for reform; and in this the British Medical Association is co-operating.

## PUBLIC HEALTH SERVICES.

THE Public Health Service, to use the term in a strict sense, consists of medical officers of health appointed by local public health authorities and holding office under varying conditions of tenure. In addition there are county medical officers appointed by the county councils. The latter are not, strictly speaking, public health authorities; the duties of their medical officers are somewhat similar to those of other medical officers of health, but include few executive functions. In many of the county boroughs and counties, assistant medical officers of health or

assistant county medical officers are appointed, and such appointments may afford stepping stones for promotion to higher offices. The service is, however, not unified throughout the country, and there is no regular system of promotion; appointments are to be obtained only by application to some particular local authority which has advertised a vacancy.

Also ungraded are two other services which have been brought into existence by recent legislation, and whose members are charged with duties which bring them into more or less direct relation with public health authorities or county councils and their officers. The members of the one are called school medical officers, and those of the other tuberculosis officers. Appointments as school medical officer are made by education authorities, while appointments as tuberculosis officer are made in fulfilment of the duties imposed directly on the county councils and the county borough councils, and indirectly on the Insurance Committees by the scheme for the treatment and prevention of tuberculosis which was worked out by the Local Government Board for England in consultation with the Insurance Commissioners.

The Local Government Board for England, it may be noted, employs a staff of medical inspectors in connexion with the performance of its duty as the controlling department of the Government in matters of public health, and the same is true of the corresponding boards in Scotland and Ireland. The medical men forming these staffs are, however, appointed to their position directly by the head of the Local Government Board in each country, and the posts are not open to public competition.

### MEDICAL OFFICERS OF HEALTH.

The office of medical officer of health in a county borough—a designation which now includes nearly all the larger towns—is in practice a permanent appointment so long as the incumbent desires to retain it, and is the same by law in administrative counties and metropolitan boroughs. The position of a medical officer of health to an urban or a rural district, or to a combination of districts which have joined together to obtain the services of a whole-time medical officer of health, is much less satisfactory, for his appointment may be terminated at the whim of the public health authority served by him. This fact tends to militate against the efficiency of the service, and consequently the British Medical Association, in co-operation with some other bodies, has long been endeavouring to induce Parliament to establish security of tenure of office and superannuation for medical officers of health.

A medical officer of health to a district or combination of districts having 50,000 inhabitants must hold a diploma in public health. The first step which must be taken by any medical man who desires to follow the career of medical officer of health must therefore be to obtain such a diploma.

### SCHOOL MEDICAL OFFICERS.

School medical officers are appointed by local education authorities under schemes of medical inspection of school children which must be approved by the Board of Education. Primarily their duty is to detect among the children attending the public elementary schools any physical or mental defect which may retard the education of such children, and to inform their parents of its existence. But practically their duties vary considerably in different areas. This is because most approved schemes of inspection include systems of work which aim at facilitating the task of parents in obtaining for their children the necessary treatment, at checking the results of the latter, and at keeping each defective child under skilled observation both at home and at school until it has passed altogether out of the education authority's hands. The general object of all schemes alike is to make the inspection imposed by law of benefit not merely to the individual child, but to the community at large, by preventing conditions which lead to the existence of a large proportion of inefficient citizens among the adult population. In short, the work is so far related to that of a medical officer of health that in most areas the senior school medical officer fills both appointments, his work, when necessary, being supplemented by that of whole or part-time assistants. Whole-time assistants are commonly paid salaries ranging between £250 and £300 a year, the



chief attraction of the posts being that they may lead on to appointment as medical officer of health of some large area where the combined salary of medical officer of health and school medical officer will represent a fair income. In view of this consideration, if for no other reason, it is desirable for a prospective whole-time school medical officer to obtain a diploma in public health.

#### TUBERCULOSIS OFFICERS.

The prescribed duties of tuberculosis officers are to act as advisers to Insurance Committees in connexion with the operation of the sanatorium clauses of the National Insurance Act and to take charge of the work of the tuberculosis dispensary, which is the main unit of the Departmental Committee's scheme. A tuberculosis officer is a whole-time officer, who should have special training in tuberculosis work, and be of suitable age and attainments to command general confidence. At present the number of appointments is small, and the salary generally attached to them is in the neighbourhood of £500 a year.

#### SANITARY SCIENCE.

In June, 1918, the University of Cambridge issued regulations for the Examinations in Sanitary Science, conducted by the State Medical Syndicate of the University. Two examinations will be held during the year 1919—one in April and one in October. Any person possessing a registered qualification in medicine, surgery, and midwifery may be a candidate, provided that he has satisfied certain demands laid down in the regulations. The examination will consist of two parts, the first having reference to the general principles of sanitary science, the second to State medicine and the applications of pathology and sanitary science. All applications for information respecting these examinations should be addressed to Mr. J. E. Purvis, M.A., The Chemical Laboratory, Pembroke Street, Cambridge.

#### DIPLOMAS IN PUBLIC HEALTH.

Most of the universities and licensing corporations now grant diplomas in public health to candidates who pass the examinations imposed by them. Since all such tests must conform to the requirements of the General Medical Council, there is considerable similarity in their nature, though they differ not a little in their reputed difficulty. All of them aim at excluding any candidate who does not appear to have a thorough knowledge of his work in theory and in practice, for the regulations of the General Medical Council demand that the granting of a diploma in Sanitary Science, State Medicine, or Public Health shall be proof of the "possession of a distinctly high proficiency, scientific and practical, in all the branches of study which concern the public health." The tests, in short, are supposed to constitute an honour and not a mere pass examination. As regards the special tuition required, it is now easy to obtain this in practically every centre of medical education, and at almost every medical school of any importance. It is desirable to note in this connexion that the chemical and bacteriological examinations for many of the health diplomas are so practical, and the time allowed so short, that unless a candidate—even though familiar with the duties of M.O.H.—has a considerable amount of the manipulative dexterity only to be acquired by ample work in a laboratory, he would not be likely to satisfy the examiners.

The regulations of the General Medical Council require that every candidate (subsequent to obtaining a registrable qualification in medicine and surgery) shall have passed through a stated curriculum in the subjects of sanitary science. This must last not less than nine calendar months, and include four months' study in a laboratory in which chemistry, bacteriology, and the pathology of diseases of animals transmissible to man are taught, six months' practice study of the duties involved by public health administration, and attendance at least twice weekly for three months on the practice of a hospital for infectious diseases, at which instruction is given in methods of administration. These rules do not apply to practitioners registered or entitled to be registered before January 1st, 1890, while that regarding six months' practical study of public health administration is waived in the case of a candidate who has himself been in charge of a sanitary district with a population of not less than 15,000 for a period of not less than three years. The study in question

must be passed under the personal supervision of a medical officer possessing certain definite facilities for affording it, these being carefully described in the regulations. The period may be reduced to three months in the case of a candidate who has undergone a corresponding period of study in the public health department of a recognized medical school, or who has been resident medical officer at a hospital for infectious diseases with accommodation for 100 patients for not less than three months. The laboratory study must include at least 240 hours' work, not more than half being devoted to practical chemistry. The examinations imposed by the diploma-granting bodies must extend over not less than four days, one at least being devoted to practical work in the laboratory, and one to practical examination in, and reporting on, subjects within the duties of a medical officer of health, including those of a school medical officer.

The steps which examining bodies take to ascertain the candidate's fitness for a diploma are in all cases much the same, though the order in which the subjects are taken is not always identical. Every candidate, therefore, should, when he has settled what diploma or degree in State medicine he wishes to obtain, seek the schedule relating to it from the authority concerned. A certain number of the universities grant degrees in the subject as well as diplomas, but only the latter constitute a legal qualification in State medicine.

## THE PUBLIC SERVICES.

### THE ROYAL NAVY, THE ARMY, AND THE INDIAN MEDICAL SERVICE.

The medical departments of the Royal Navy, the Army, and the Indian Government normally employ between them some three thousand medical men, and fill vacancies in the ranks of the services thus formed by offering commissions for competition once or more often each year. The circumstances of the present time are abnormal, and it is therefore unnecessary to give any account of the regulations in force before the outbreak of war.

Information as to present conditions can be obtained on application to the Director-General of the Royal Navy, the Secretary of the War Office, and the Military Secretary of the India Office, respectively.

### PRISON MEDICAL SERVICE.

CANDIDATES for the medical staff are approved by the Secretary of State for the Home Office on the recommendation of the Prison Commissioners. The Chairman of the Board is Sir Evelyn Ruggles-Brise, K.C.B. Application for employment may be made to the Board on a special form, which can be obtained from the Secretary, Prison Commission, Home Office, London, S.W.1.

In the smaller prisons the medical officer is usually a local practitioner, but in the larger the members of the medical staff are required to devote their whole time to the service.

In the case of those required to give their whole time to the service the appointment in the first instance is to the post of deputy medical officer, and from the seniors of this rank the medical officers are selected as vacancies occur. The deputy medical officers are paid £225 yearly, rising to £400, with unfurnished quarters. The whole-time medical officers are paid £450, rising to £550, with unfurnished quarters. There are twenty deputy medical officers, and nine whole-time and thirty-eight part-time medical officers. The number of vacancies is never large.

### APPOINTMENTS UNDER THE COLONIAL OFFICE.

MEDICAL appointments are from time to time filled up by the Colonial Office in various Crown and other Colonies, and vacancies in the West African Medical Staff are of fairly frequent occurrence. As a rule, officers are required on appointment to undergo a two or three months' course



of instruction at the London or Liverpool School of Tropical Medicine, and to obtain a certificate of proficiency before taking up their post. In addition to the ordinary medical appointments, vacancies also occasionally occur for which specialists are required—for example, to take charge of a lunatic asylum.

The nominal value of the appointments varies much; but, as a general rule, it will be found on close examination that the rates of pay correspond in real value pretty closely when questions of climate, opportunities for private practice, the cost of living, and the actual work demanded are taken into consideration. The posts to which the lower salaries are attached commonly involve work which can be regarded as merely an adjunct to ordinary private practice, while high pay means either few opportunities for practice, an undesirable climate, or work of a special character demanding high administrative ability. Pamphlets relating to the various appointments can be obtained on application by letter to the Assistant Private Secretary, the Colonial Office, Downing Street, S.W.1.

Since 1914 considerable increases have been made in the salaries and allowances in the different grades of the West African Medical Staff, which will, it is hoped, render these posts more attractive to the young and well qualified medical men for whom they are intended. As a result of the war, however, the Colonial Office has found it very difficult to obtain the services of medical men for any of the Colonies and Protectorates to which medical officers are appointed from this country.

It may be added that, apart from Government appointments, a large number of men find employment as medical officers of mining companies and other commercial undertakings in various parts of the tropics. Much caution should be exercised in accepting these posts, and those to whom they are offered would find it worth while to read what was said on the subject in our issues for May 25th and August 24th, 1912.

It may be added here that certain medical appointments are made by the Egyptian Department of Public Health. They fall into two main categories—(1) temporary inspectors on two years' contract at £E600 a year, rising to £E720 a year, with certain allowances; (2) divisional inspectors, beginning at £E480 a year, and rising to £E600 a year, with pension. Candidates should be not over the age of 30, and should be unmarried.

### MEDICAL MISSIONARIES.

To medical men suitably endowed the mission field seems to offer increasing opportunities for interesting work. Just before the war, over 450 medical practitioners holding British degrees or diplomas were employed in different parts of the world by missionary societies, and the latter seem to stand in constant need of men and women to fill vacancies as they occur, and also to enable them to take advantage of fresh openings. It is not usually expected or desired that a medical missionary should take a position such as would otherwise be occupied by an ordained clergyman or minister. But it is essential that he should be prepared to take his share of definite missionary work in any hospital in which he may be placed. As for scientific and other qualifications for the work, a medical missionary, apart from being physically capable of sustaining what may prove to be a trying life, should be a thoroughly well trained physician and surgeon. It is very desirable that he should have held a resident appointment at a general hospital and have a good knowledge more particularly of practical surgery, tropical medicine, and the treatment of eye diseases. Societies from whom useful information can be obtained are the London Medical Missionary Association, 49, Highbury New Park, N.5; the Edinburgh Medical Missionary Association, 56, George Square, Edinburgh; the Society for Promoting Christian Knowledge, Northumberland Avenue, W.C.2; and the Medical Missions Department of the Society for the Propagation of the Gospel in Foreign Parts, 15, Tufton Street, Westminster, S.W.1.

### MEDICAL PRACTICE IN BRITISH COLONIES AND FOREIGN COUNTRIES.

MEDICAL Acts have now been passed in almost all places forming part of the British Empire beyond the seas, and registers of duly qualified practitioners are consequently

maintained. To these registers medical men educated in the United Kingdom are always admissible merely on payment of a fee, provided they produce evidence that they are of good repute and eligible for registration in the United Kingdom. The only exception to this statement that need be made relates to the Dominion of Canada. Until recently each of its provinces acted in medical connexions as an independent State, but in 1913 a Medical Act was passed establishing a State examination and a common register for the whole country. The result has been that reciprocity of practice has been established between this country and all the provinces of Canada, except British Columbia and Alberta, where certain obstacles have not yet been overcome. We would advise any medical man proposing to practise in Canada first to communicate with the Registrar of the Medical Council of Canada, 180, Cooper Street, Ottawa, stating what degrees or diplomas he holds and the length of the curriculum he has undergone, and asking for information as to the precise steps he must take in order to obtain admission to the Dominion Register.

Italy, Egypt, and the Principality of Monaco are the only foreign States which accord a right to practise in virtue of British degrees and diplomas, though the authorities in Spain occasionally issue a temporary permit in favour of British practitioners, and those of Holland and Greece sometimes exempt British practitioners from portions of the examinations imposed on ordinary candidates for registration. In all other Continental countries a British medical man desiring to exercise his profession therein must pass practically the same examinations as those imposed on natives of the country. The same observation applies to all foreign States in the South American continent, while each of the United States of North America has its own laws and regulations; some of them admit any holder of a degree or diploma to their Register, but the majority require a candidate for registration to submit to an examination.

## Dental Surgery.

The profession of dentistry in this country is on the same footing as that of medicine; that is to say, only those who have complied with certain stipulations laid down by the General Medical Council have a legal right to practise dental surgery. This, unfortunately, by no means implies that the practice of dentistry is confined to legally qualified practitioners, for the Dental Acts offer even less protection to dental surgeons than do the Medical Acts to doctors. An ordinary medical man is within his legal rights if he practises dental surgery, but since owing to his lack of the necessary technical training he could not do so with success, dental surgery is in effect legally practised solely by men of two classes—those who hold a qualification both in dental surgery and in medicine and those who hold a qualification in dental surgery alone or have otherwise obtained admission to the *Dentists Register*. The early stages of the education of dental and medical students cover the same subjects, and it is both possible and advisable to combine the two educations.

In any case a prospective dental surgeon must obtain registration as a dental student (see p. 211) and thereafter pursue a curriculum which lasts a minimum of four years.

During the last two years, which must be spent at a medical school and hospital, concurrently with attendance at the dental hospital, in addition to studying anatomy and physiology, surgery and pathology, he will include in his work the more specific subjects—namely, dental anatomy and physiology, dental histology, dental surgery and pathology, and practical dental surgery, for all of which he must be "signed up" before entrance to the Final Examination for the Licence.

Recognized dental schools are numerous: in London there are those connected with the Royal Dental Hospital, Leicester Square; the National Dental Hospital, Great Portland Street; Guy's Hospital, and the London Hospital. In the Provinces and Scotland and Ireland there are those connected with the universities of Sheffield, Manchester, Liverpool, Leeds, Bristol, Durham, and Birmingham, and the Devon and Exeter Dental Hospital; the Edinburgh Incorporated Dental Hospital; the Glasgow Incorporated



Dental Hospital; the Royal Infirmary, Glasgow; and the Dental Hospital of Ireland, Dublin. As for qualifications in dental surgery, these are almost equally numerous. There are considerable variations in the order in which different licensing bodies require various subjects to be taken up, and every prospective dental student should consequently study not only the regulations of the General Medical Council, but also those of the body whose licence or degree he hopes to obtain.

#### ARMY DENTAL SERVICE.

##### *New Regulations.*

In consequence of the demand for a considerable number of qualified registered dentists for service with His Majesty's forces, the Ministry of National Service, in consultation with the other Government departments concerned, is taking steps to distribute the members of the dental profession to the best advantage between the forces and the civilian population. To this end it has established a special Dental Tribunal for England and Wales.

The Dental Service Committee was set up in July, 1917, primarily to deal with the cases of dentists who had obtained exemption conditionally on their placing their services at the disposal of the Committee for work in districts in urgent need of dentists. The Committee has now been enlarged by the addition of new dental members, and has been empowered to deal as a tribunal with the cases of all registered dentists liable to service. The chairman of the Dental Tribunal and new Dental Service Committee is Dr. G. S. Buchanan, C.B. (Local Government Board), and the vice-chairman is Mr. E. H. Pelham, of the Medical Department of the Board of Education. The professional secretary is Mr. W. H. Dolamore, M.R.C.S., L.R.C.P., L.D.S., and Mr. N. Bishop Harman represents the Central Medical War Committee, which will continue to deal as a tribunal with the case of any registered dentist who is also a registered medical practitioner, subject to reference to the Dental Service Committee. The Committee, at the request of the Ministry of National Service and the navy, army, and air force medical departments, has also undertaken to designate the dentists who, in consideration of all the circumstances, they consider should be recommended for commissioned service as dentists in the forces. The Committee will also act as a committee of reference to the Ministry of National Service in regard to dental students. Work which the Committee has hitherto carried out in Scotland through a Scottish subcommittee will now be undertaken by a separate dental service committee for Scotland, which will be appointed by the Scottish Office, as a dental tribunal for Scotland.

The cases of all qualified registered dentists who on April 18th, 1918, were under 51 years of age will be placed before the Dental Service tribunals; they will inquire into the case of each registered dentist who is liable to service under the Military Service Acts or whose certificate of exemption from any tribunal lapses, or in respect of whom application is made for review or variation of exemption now in force. The War Office has decided that it is necessary as an army emergency to make a large increase in the number of army dentists and at least 200 new appointments are to be made forthwith; it is anticipated that dentists will in many cases apply at once for dental work as commissioned officers, and the committee is of opinion that all dentists who can do so should now make the necessary application without waiting for National Service action or tribunal procedure. Owing to the new conditions those dentists whose applications for exemption as dentists have in the past been sent in to the medical departments of the navy, army, or air force, should now make fresh application in writing to the Ministry of National Service, addressing the Secretary M3, Ministry of National Service, Westminster, S.W.1. Commissions for dental work in the army may be given to men up to the age of 45, though preference is given to the younger men. Separate commissions are not given for home service only, and applicants must be of physical fitness sufficient for general service or for garrison duty abroad, though in certain circumstances the application of men in Grade III may be accepted. A dentist has the rank of lieutenant on appointment, and of captain on completion of twelve months. He receives inclusive pay of £1 a day with allowances, and a sum of £30 for uniform and £7 10s. for field kit if needed. A special form has been circulated to

dentists, asking them to furnish various particulars to the secretary of the Dental Tribunal, 19, Hanover Square, London, W.1.

WITH the approval of the D.G., A.M.S., a three months' course of instruction in shell shock and war neuroses, open to officers of the medical services and to civilian practitioners, will begin at the Maudsley Neurological Clearing Hospital on September 20th. No fees will be charged. Application should be made to Brevet Colonel F. W. Mott, M.D., F.R.S., at the hospital. Further particulars will be published later.

A THREE months' course of lectures and demonstrations in hospital administration for the D.P.H. will be given at the Western Hospital of the Metropolitan Asylums Board, Fulham, by Dr. R. M. Bruce, medical superintendent, on Tuesdays and Fridays, beginning October 8th. The fee for the course is £3 3s. Particulars can be obtained on application to the Clerk, Metropolitan Asylums Board, Embankment, E.C.4.

OF more than 400 St. George's Hospital men who are serving or have served in the present war, 7 have been killed in action, 1 has died of wounds, and 9 have died on active service. Two have been taken prisoners of war, one of whom, Major Priestley, C.M.G., has since been released. The following honours have been gained: K.C.B. 1, K.C.M.G. 2, C.B. 8, C.M.G. 8, D.S.O. 12, M.C. 18 and two bars, D.S.C. 1, Order of St. Sava 4, Croix de Guerre 2. Surgeon-General G. R. Turner, C.B., R.N., has become consulting surgeon to the hospital after having completed twenty years' service on the senior staff.

THE war record of St. Thomas's Hospital shows that down to August 23rd 1,101 past and present students served, of whom 55 have been killed or have died on service. The honours gained include the following: V.C. 1, G.C.M.G. 1, K.C.B. 1, K.C.M.G. 3, C.B. 5, C.M.G. 15, D.S.O. 25, M.C. 46, bars to M.C. 4, C.I.E. 3. For valuable services 155 men were mentioned in dispatches (219 times). The foreign honours received include 8 French, 7 Serbian, 3 Belgian, 6 Egyptian. The Order of the Hospital of St. John of Jerusalem has been conferred upon 5 and 11 have been among the promotions in and appointments to the Order of the British Empire for services rendered in connexion with the war.

## THE SERVICES.

### EXCHANGE.

REGIMENTAL Medical Officer in Northern Command would like to exchange with M.O., Regimental for preference, but not essential; in Western Command, if possible, near to Manchester. Address No. 3450, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

## BIRTHS, MARRIAGES, AND DEATHS.

*The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.*

### BIRTH.

BARENDT.—August 22nd, at 65, Rodney Street, Liverpool W., the wife of Frank Hugh Barendt, M.D.Lond., F.R.C.S.Eng., of a son.

### MARRIAGE.

REINHOLD—HAYWARD.—At the Garrison Church, Kasr-el-Nil, Cairo, by the Rev. R. B. Abell, on June 22nd, 1918, Major Carl Henry Reinhold, M.C., I.M.S., to Miss Hannah Margarethe Hayward, late Q.A.I.M.N.S.R., daughter of C. A. G. Hayward, Esq., of Honiton, Devon, and Mrs. Hayward.

### DEATHS.

MAXWELL.—On August 23rd, at Paignton, suddenly, James Burns Maxwell, B.A.Cantab., M.R.C.S.Eng., L.R.C.P., late of Southend, Essex.

WILLIAMS.—On August 22nd, at Bronheulog, Burry Port, Edward Vincent Williams, M.B., Ch.B.Edin. (of pneumonia).

## SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	...	...	0 6 0
Each additional line	...	...	0 0 9
Whole single column	...	...	4 0 0
Whole page	...	...	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restantes* letters addressed either in initials or numbers.



## Observations

ON

## THE ETIOLOGY AND TREATMENT OF SEBORRHOEIC ERUPTIONS.

A Preliminary Report

BY

H. W. BARBER, M.D., CAPTAIN R.A.M.C.(T.C.).

AND

H. C. SEMON, M.D., CAPTAIN R.A.M.C.(T.C.).

The widespread distribution and intractability of seborrhoeic eruptions among troops on active service will sufficiently excuse the early publication of some new conceptions as to their nature and treatment.

The condition is very prevalent, and Major H. MacCormac, R.A.M.C., was fully justified in his assertion at a recent lecture "that there is practically no skin disease in the army that is not complicated by seborrhoea." The manifestations are protean, and include such apparently widely differing eruptions as a crusted and weeping eczema of the scalp, a dysidrotic eczema or cheilopompholyx of the fingers, and a patch of lichenification on the calf of the leg.

The appearances vary according to the anatomical situations and chronicity of the lesions, and the degree of secondary microbial infection; the dermatological textbooks which are based entirely on the records of ordinary civil experience afford only a moderate degree of assistance in their elucidation. Every medical officer on active service will have met with the military varieties of the disease, which for convenience may be classified in three groups:

1. Those which arise on the scalp, face, ears, and neck.
2. Those which are found on the trunk below the neck and on the extremities, and which are very commonly associated with one or both of the two exceedingly common parasitic diseases—scabies and pediculosis. The regions then involved correspond very closely with the sites most commonly affected by the acarus and pediculus, and will not be separately dealt with in this communication.<sup>1</sup>
3. Those which arise on the trunk and limbs, and have no demonstrable association with either scabies or pediculosis. They are mainly follicular, and not generally acute in type, and form the large bulk of cases which in civilian practice are grouped together under the term of "eczema." Want of space forbids a detailed discussion of this group also.

## CLINICAL APPEARANCES OF SEBORRHOEIC ECZEMA OF THE HEAD AND NECK.

In the most acute stage the primary lesions are groups of small vesicles on an erythematous base, but they are seldom seen, as the associated pruritus leads almost immediately to their forcible rupture by scratching. The serum exuded becomes rapidly infected by the ordinary pyogenic cocci and a septic crust results. The appearance at this stage is not unlike that seen in the impetigo contagiosa of hospital out-patient departments, and is doubtless responsible for much confusion both as regards nomenclature and treatment. In seborrhoeic dermatitis the crust covers a patch of "eczema" easily irritated by strong applications, whereas in impetigo contagiosa there is no such underlying condition, and the local infection rapidly clears up with the destruction of its cause—a streptococcus—and does not tend to relapse.

In the acute condition, as it affects the head and neck, we find crusting and weeping patches of eczema on the scalp, eyebrows, and beard regions. On the ears, where the skin is relatively thin, exfoliation and bleeding sometimes result, and there is frequently an associated eczema of the external auditory meatus. Deep and intractable septic fissures commonly persist in the post-aural folds and tax the skill and patience of the physician to the utmost.

In about 85 per cent. of these cases there is associated seborrhoeic dermatitis of the anterior and posterior mid-thoracic regions, while a common and troublesome sequela

is the development of constantly recurring boils, especially on the neck just below the scalp margin.

In a very large number of our cases we have noted in synchronism with the above described skin lesions an associated nasal and nasopharyngeal catarrh, to which we shall presently refer.

The stage of subsidence is characterized by desiccation of the lesions and separation of the crusts. Its duration is variable and depends largely on the scientific application of suitable remedies. Inspection of the scalp in the acute stage commonly reveals congestion and erythema of the epidermis. This persists on the scalp and eyebrows for a considerable time after all other traces of the affection have subsided. The patient who has once had an attack is very liable to relapse. In this respect the clinical history resembles the civilian prototype of the disease, and it was this consideration that first led us to the conception of an underlying constitutional dyscrasia, which might be responsible not only for the skin eruptions, but also for the not uncommonly associated nasal and nasopharyngeal catarrh.

In this assumption we are supported by an eminent French dermatologist, M. J. Darier,<sup>2</sup> who has correlated the tendency to seborrhoeic eruptions with a peculiar type of skin, to which he has given the name "kerose." Its clinical stigmata are briefly:

1. A brownish or dirty yellowish complexion.
2. Wide-mouthed and prominent pilosebaceous follicles, with hyperkeratosis of their orifices.
3. A slight thickening of the skin, with diffuse hypertrophy of the horny layer, and a tendency to fine desquamation.

It is on this substratum or *terrain* that seborrhoeic manifestations most commonly appear.

In the first decade of life there may be pityriasis sicca of the scalp; towards puberty and after, seborrhoea oleosa; from the fifteenth to twenty-fifth years we frequently find acne vulgaris, rosacea, and the so-called eczematides, while seborrhoeic alopecia takes its origin between the twenty-fifth and thirtieth years. The areas of the body affected are both diffuse and regional. The middle area of the face, the medio-thoracic regions, the flexures of the limbs, and the pubic and internatal regions, are peculiarly susceptible.

The etiological factors, according to Darier, are two: Sexual development, and erroneous diet, in which excessive carbohydrates and stimulants, faulty mastication, constipation, etc., all play a part. Darier's conception has found many supporters. In his view, the bacteria described as specific by Sabouraud and Unna (and always met with abundantly in seborrhoeic lesions) owe their activity and pathological effects mainly to the soil on which they are growing, which in its turn is dependent on the underlying constitutional state of the patient.

We are entirely in sympathy with this opinion, and we believe that the frequent relapses suffered by patients with such eruptions are thus to be explained. It is true that local treatment alone will remove the seborrhoeic eruptions, but the same is the case with psoriasis, the constitutional basis of which is now admitted by nearly all dermatologists.

A careful study of many hundreds of cases of seborrhoeic eczema has convinced us that the main factor in their production is a metabolic dyscrasia, or error in biological assimilation, while external irritants such as parasites, mustard gas, and bacteria, are the excitants, and play the part of spark to powder.

The frequent association of nasal and nasopharyngeal catarrh with the outbreak on the skin suggested a close relation between them; and one of our colleagues, Captain C. Jones-Phillipson, a specialist and writer on diseases of the upper respiratory tract, very kindly undertook the examination of a large number of cases submitted to him. A full report of his findings will, it is hoped, be published by himself or in collaboration with us, at some future date. Suffice it here to say that, in 59 out of 93 cases examined, posterior rhinoscopy revealed a yellowish mucopurulent secretion. The discharge varied in amount. In some cases the vault of the nasopharynx was coated, as if painted over with a scum-like mucus; in others, again, it was in amount sufficient to be expressed into the pharynx on exciting a forcible elevation of the soft palate. In a further 24 of these cases conditions of the nose and nasopharynx were demonstrated sufficient to warrant the



supposition that a similar state of sepsis as in the 59 eruption had previously existed, and recurred from time to time.

Seen closely with his examinations some bacteriological experiments were carried out, with the result that a streptococcus of the *faecalis* group (in addition to numerous staphylococci) was recovered from both the nasal mucosa and the eruptions on the skin in many such patients.

Darier does not lay stress on the nasopharyngeal catarrh as commonly associated with seborrheic eczema, but we were greatly assisted in our thesis by a perusal of some clinical studies in children by Czerny.<sup>3</sup> His findings may be summarized under four headings:

1. Certain children present a congenital susceptibility to infection, that is, to bacterial infection of their skin and mucous membranes, as well as to certain nervous disturbances. To this condition he gives the name of "exudative diathesis."

2. The manifestations of this diathesis are provoked by excess of food, and its subjects are particularly intolerant of carbohydrates and fats.

3. As a result of the repeated acute infections of the mucous membranes and skin, each of which is usually accompanied by an abnormally high temperature, secondary changes take place in the lymphoid tissues of the body, giving rise to adenoid vegetations, parenchymatous tonsillitis, and adenitis, especially localized to the cervical glands.

4. The condition known as the status lymphaticus is the extreme or end form of the exudative diathesis.

In England, Dr. H. C. Cameron<sup>4</sup> is a strong supporter of Czerny's views. He adduces an important observation of his own, and points out that children of the exudative diathesis (or, as he prefers to call it, the status catarrhalis) are subject to an extreme "wateriness" of their tissues which gives them a fictitious appearance of plumpness. Their really wasted condition is revealed in three or four days by exclusion or reduction of their carbohydrate dietary, and there is a coincident loss of weight. A return to plumpness is ensured by a resumption of the bread and sugar, which in pre-war days were the staple ingredients of most meals in certain classes of society.

It will be noted that both Czerny and Cameron lay considerable emphasis on the etiological importance of a carbohydrate dietary in the production or aggravation of the exudative diathesis. We do not believe that an excess of carbohydrates plays the main part in the production of seborrheic eczema, but we are convinced that excess in this respect has a contributory and possibly a leading influence in the production of the acute manifestations. Many of our patients have admitted excess of carbohydrates—several an almost exclusive dietary of sweet biscuits, jam, and chocolate prior to the onset of the eruptions—but the metabolic problem will be discussed as a whole subsequently.

#### TYPES OF SEBORRHOIC INDIVIDUALS.

There are in our collective experience two types of seborrheic individuals:

1. Those congenitally predisposed, in whom the diathesis began in infancy. These patients give a history of eruptions, for adenoid vegetations on the throat, frequent attacks of tonsillitis, pneumonia, etc., in their childhood. They have this diathesis, that is, the diathesis in all respects to the type of individual described by Czerny as exhibiting the "exudative diathesis."

2. Those in whom the state has suddenly appeared as the result of active service and its inevitable conditions.

1. Patients who conform to the first type, as may have been supposed, are more difficult to treat, and far more likely to relapse after apparent cure, than individuals in the second group.

The subject is usually a young adult with the adenoid facies, prominent and often carious teeth, high-arched palate, enlarged tonsils, and the victim of constantly recurring colds and sore throat, bronchitis, asthma, etc., with which have been associated for many years or "as long as he can remember," acute outbreaks of eczema of the scalp, ears, face, trunk, and extremities, each attack of which appears to have become more obstinate and difficult to get rid of than the last.

2. The second type of affected individual develops symptoms for the first time on active service. An inquiry into his past history does not usually elicit a story of frequent colds or catarrhal attacks. The configuration of the upper respiratory tract is apparently normal, although there is often an associated subacute nasopharyngitis of the

type noted as characteristic by Captain Jones-Phillipson. Prognosis is better in this type of case, and relapse less likely to occur.

#### THE URINE OF SEBORRHOIC PATIENTS.

In our experience, there is one feature which is common to both types of seborrheics, and that is a pronounced and remarkably constant hyperacidity of the urine. It was this association that first led one of us (H. W. B.) to the assumption that the seborrheic state is really a manifestation of acidosis. It has been proved by us again and again that as soon as the urine becomes amphoteric, or is made alkaline by the administration of drugs by the mouth, the acute stage of a seborrheic eruption comes to an end, and the patient rapidly improves in health, and that, conversely, the urine is invariably acid at the onset of a relapse. The chemical examination of the urine, it is true, has never yet revealed the presence of diacetic or beta-oxybutyric acids, nor is it suggested that the degree of acidosis present at all resembles that commonly met with in diabetes, but there are certain resemblances in the clinical features of the two diseases. The striking susceptibility in both to secondary infections, such as carbuncles and boils, the congested appearance of the extremities, the hyperacidity of the urine, and the reaction to treatment by alkalis, are worthy at least of cursory examination.

The chemical investigation of the condition of relative acidosis in such cases as we have delineated is still incomplete; but one test suggested by A. W. Sellards,<sup>5</sup> and considered by him to be the most delicate, was applied to a large number of cases. This test consists in determining the "alkaline tolerance." The meaning of this phrase may be explained as follows:

The normal alkalinity of the blood depends on the existence in it of certain fixed bases, chiefly carbonates and phosphates; these are the so-called "buffer" salts. They combine with and partially neutralize acids; without their presence acid by-products of metabolism—for example,  $\text{CO}_2$  and lactic acid—would render the reaction of the blood so acid as to be physiologically intolerable. In a normal person with a sufficiency of these fixed bases in his blood and tissues, the intake of any appreciable quantity of alkali—for example, sodium bicarbonate—is followed by its immediate excretion in the urine. If, however, the fixed bases are deficient, additional alkali taken, instead of being excreted, is stored in the tissues and the urine remains acid.

Sellards has shown that 5 grams (about 75 grains) of sodium bicarbonate given by the mouth is practically the upper limit of normal tolerance, this amount being almost invariably sufficient to change the reaction of the urine of a normal person from acid to alkaline. In cases of acidosis very much larger quantities must be given before the reaction of the urine changes.

#### THE ALKALINE TOLERANCE OF SEBORRHOIC PATIENTS.

When the possibility of the existence of acidosis in seborrheic patients first occurred to us we immediately began to test the therapeutic effects of giving them an alkaline mixture thrice daily an hour or half an hour before meals. Our original mixture consisted of sodium citrate gr. xxx, sodium bicarbonate, potassium carbonate  $\text{aa}$  gr. xv, compound infusion of gentian 1 oz.

The beneficial result of this treatment was immediately apparent, but it was observed that many patients did not pass alkaline urine until after they had taken the medicine for many days or even weeks, and in some the urine remained persistently acid. We then decided to employ a mixture modelled on a formula suggested by Dr. Langdon Brown for the control of acidosis in diabetes—namely, sodium bicarbonate 3 j, potassium citrate gr. xxx, calcium lactate gr. v, magnesium carbonate gr. v, chloroform water 1 oz.; this preparation has now been given in hundreds of cases, and careful observations have been made on the reaction of the urine from day to day. As a result of its use two fundamental facts have been established:

1. That the majority of patients with seborrheic manifestations show a markedly increased alkaline tolerance, many of them to an astonishing degree.

2. That in nearly all cases, once the urine has been rendered alkaline, all active inflammatory processes cease and the eruption rapidly clears.



As examples of unusual alkaline tolerance the following cases may be quoted:

CASE I.

This patient took 4 oz. of above mixture per diem for three days: urine still strongly acid; then 6 oz. per diem for twelve days: urine still acid; then 9 oz. per diem for two days: urine still acid; after 9 oz. per diem for two more days the urine became alkaline—that is to say, this patient consumed during a period of nineteen days 15 oz. of sodium citrate and 71 oz. of potassium citrate without causing an alkaline urine, and it was not until he was taking 9 drachms of sodium bicarbonate and 4 drachms of potassium citrate per diem that an alkaline urine was obtained.

CASE II.

This patient took 3 oz. of the mixture daily for twenty-two days: urine still acid at the end of this time. He then took 4½ oz. per diem for three days and 9 oz. per diem for two days: urine still acid. After taking 9 oz. per diem for five days the urine became alkaline.

CASE III.

This patient consumed 6 oz. of the mixture daily for twenty-one days, and his urine was still strongly acid at the end of this time.

Many other cases showing a similar alkaline tolerance could be given. Such extreme instances are, however, exceptional, but the very great majority of patients with active seborrhoeic lesions show a tolerance for greater than that observed in normal persons in whom a single dose of the mixture is sufficient to render the urine alkaline.

THE EFFECT OF ALKALIS IN SEBORRHOEIC ERUPTIONS.

After studying the effect of giving alkalis in some three hundred cases with seborrhoeic manifestations, we have satisfied ourselves that their action may be described as specific. As remarked above, the tolerance varies in different persons, so that the quantity of alkali required to produce the desired effect must be determined by repeated examination of the urine.

In the great majority of cases the activity of the inflammatory processes ceases as soon as the urine is rendered virtually alkaline.

So constant is this phenomenon that it is almost always possible to predict with confidence that, should a patient under alkaline treatment present new or active lesions (for example, eczema or boils), his urine will be found to be still acid; an increased quantity of alkali must therefore be given until the reaction of the urine changes. As might be expected, the lower the alkaline tolerance the more rapid is the reaction to treatment, and the less the tendency to relapse.

The most convincing clinical proof of the influence of alkalis in these cases was afforded by patients in whom, after an initial cure, active seborrhoeic manifestations recurred when the alkaline mixture was discontinued, only to disappear again, often without any local application, when the alkaline treatment was resumed.

The following is a brief extract from the clinical notes of three such patients:

CASE IV.

J. A.; admitted February 23rd, 1918, with severe localized patches of moist seborrhoeic eczema on the right cheek and stains of old lesions on the right eyebrow. The urine was intensely acid. He was treated with the sodium citrate mixture, 2 oz. thrice daily. On the following day the patches on the face were drying up; the urine was still acid. On February 28th there was marked improvement, and the urine was alkaline. The treatment was continued until March 7th, when it was stopped. On March 18th there was a persistent patch on the chin, the left eyebrow was impetiginized, and the urine was again acid. The mixture was resumed as above. Two days later the lesions had much improved; the urine was alkaline and remained so. On March 22nd the chin was slowly improving and the cheek was healed. By the end of the month all lesions were quite healed.

Note that improvement dates from resumption of medicine. The local treatment was the same throughout—namely, calamine liniment.

CASE V.

F. A.; admitted January 19th, 1918, with symptoms of a very seborrhoeic type: acute weeping seborrhoeic eczema of face, typical nasopharyngitis, boils on back. Previous similar attack in France in 1916. Had had slight attacks in civil life also. The urine was acid. He was treated with sodium citrate mixture, 1 oz. thrice daily. On January 24th some improvement was noted; the urine was less acid. On the 26th the dose was increased to 2 oz. thrice daily; his condition was much improved; urine still less acid. On the 29th he continued to improve; urine slightly alkaline. On this date all treatment was omitted.

January 31st. First relapse. Sodium citrate mixture, 2 oz. thrice daily, resumed from this date. On February 6th the condition was again quiescent; urine neutral. Medicine again omitted.

February 16th. Second relapse, now acute; urine very strongly acid. Mixture resumed, 2 oz. thrice daily. On February 22nd his whole appearance was changed, and on the following day he was quite free of all lesions; urine alkaline. The treatment was continued, and on March 1st his condition was very satisfactory; urine amphoteric.

Note that two well-marked relapses followed omission of the sodium citrate mixture. The local treatment throughout was by calamine liniment.

The following striking case was specially examined for the purposes of this report, and is under treatment at the time of writing.

CASE VI.

A. O.; admitted June 6th, 1918, with active scattered impetigo on chin, root of nose, and both ears. Urine very acid. The following day treatment by sodium citrate mixture, 1 oz. thrice daily, was commenced. On June 9th his condition remained the same; urine still acid. The dose of the mixture was then doubled, and on June 11th the lesions on face were much improved; urine alkaline. The medicine was now omitted. On June 13th there were fresh acute lesions on the left eyebrow; urine again acid. Sodium citrate mixture, 1 oz. thrice daily, resumed. June 15th: Left eyebrow clearing; urine alkaline. Medicine again omitted. June 17th: Seborrhoeic eczema of right external auditory meatus; urine again acid. Treatment by sodium citrate mixture, 2 oz. thrice daily, was resumed and continued without local treatment, and on June 22nd all lesions were completely healed and the urine alkaline.

Note that the relapses in this case followed the omission of the mixture with an almost mechanical precision. The local treatment throughout was by calamine liniment.

In two cases of acute seborrhoea of the head and face no local treatment whatever was given, neither lotion, powder, ointment nor fomentation from the day of admission to the day of discharge. The affected areas cleared up completely under the influence of the above described alkaline mixture—in the first case in one week, in the other in ten days from the date of commencement of treatment.

LOCAL TREATMENT.

It is not hereby contended that administration of alkalis abolishes the necessity for local applications, but it is claimed that this method of treatment hastens in remarkable fashion the clearing of the various eruptions dependent on the seborrhoeic state, and, provided that the patient be then given an adequate quantity of alkaline salts per diem, relapses will not occur.

The best local applications are oily alkaline suspensions of calamine—for example:

R. Calamine, aa. . . . . ʒi ss  
Oil of sweet almond . . . . . ʒi  
Ointment of zinc . . . . . ʒi

Most seborrhoeic lesions are amenable to this application, which should be renewed not less than twice daily, on lint. When oil is difficult to obtain in sufficient quantity, we have found sodium bicarbonate in 2 per cent. solution in water very useful. It must be applied thrice daily at least, as a wash on lint under facemask, and should be changed once during the night if the lesions are very acute.

At a later stage when erythema and congestion with irritability of the skin surface persist, the part should be covered with lint or linen smeared with Lassar's paste. All hairy parts, with the exception of the eyebrows and lashes, should be close cropped or shaved.

We consider that the curative value of local alkaline treatment rests on the same fundamental principle as the administration of alkalis by the mouth. Practically all pathogenic bacteria prefer slightly acid media. One and the same inoculation from a seborrhoeic eyebrow on two agar slopes of different reactions afforded some exceedingly interesting and significant results, and opened up a large field for speculation. The normal slightly acid medium produced an abundant growth of *Staphylococcus aureus* and *albus*, with numerous small clear colonies of streptococci. On the other slope, the reaction of which was just alkaline to litmus, there were found no streptococci at all, and the comparatively few colonies of staphylococci that grew were of the *albus* variety only, and markedly pleomorphic and degenerative in type. Much work on these lines remains to be done.



We have purposely avoided a prolonged examination of the theoretical considerations that underlie the mechanism of acidosis, but desire to raise one question as to its mode of production in patients with the status *seborrhoeicus*.

In his very admirable summary of the normal mechanism whereby a slightly alkaline reaction of the blood is continuously maintained, Sellards upholds three factors as of primary importance:

1. Intake of fixed bases in the food.
2. Elimination (a) of carbon dioxide by the lungs, (b) of acid by the kidney.
3. Neutralization of acid in the body by ammonia.

Now the fixed bases in the food are derived mainly from fresh vegetables and fruit, and a deficiency of these is well known to lead to a decrease of the alkaline salts, particularly the carbonates, and the mono-acid dibasic phosphates of sodium, calcium, and magnesium—the so-called buffer salts—in the blood and urine.

The army ration, excellent in all other respects, is unavoidably deficient in just those fresh materials that are most important in maintaining the requisite equilibrium between acid and basic radicals.

We have eliminated scurvy—a serious factor in the campaigns of previous centuries—by the judicious selection of dietary and by our advances in the preservation of protein substances.

At this juncture it would be altogether premature to lay it down as an axiom that the modern army ration is responsible for the *seborrhoeic* diathesis, but we will go so far as to suggest that it is probably contributory, directly or indirectly, in its production and aggravation. The biological influence of carbohydrates in the production of the catarrhal state, on which Czerny and Cameron lay great stress, is, in our opinion, an accessory factor. We may here cite the case of one of our colleagues—himself a dermatologist—with a remarkably *seborrhoeic* diathesis. He can produce at will (and has twice actually done so experimentally) an acute typical *seborrhoea* of the head and face by rapid ingestion of an excessive quantity of sugar.

It may be assumed that if the digestion and other functions of the body proceed normally, carbohydrate, if taken in moderate quantity, is completely oxidized to  $\text{CO}_2$  and water, but if for any reason oxidation is interfered with, intermediate acid substances (of stronger acidity than  $\text{CO}_2$ ) remain incompletely oxidized, and, in the absence of a sufficiency of neutralizing buffer salts, tend towards a reduced alkalinity of the blood and tissue fluids. Similarly, according to Sellards and other writers, protein, particularly meat, is one of the chief sources of acid substances during its metabolism. This being granted, an excess of meat (which is supplied very generously to our armies) will itself tend to the production of acidosis, and will thus reinforce the action of the carbohydrate factor in this direction.

A condition of relative acidosis is produced on these assumptions by two factors:

1. A deficiency of the "buffer salts" that counteract the production of acid.
2. An increased production of acid substances, probably owing to faulty metabolism of excessive carbohydrate and protein substances in the diet.

#### CONCLUSIONS.

As a result of our investigations we may conclude:

1. That there is a constitutional state, which may exist from infancy or may appear *de novo* in adults, and which may be termed the status *catarrhalis* or *exudativa* (Czerny). Where this condition exists the skin and mucous membranes show an abnormal susceptibility, not only to various bacterial infections, but also to mechanical and chemical irritation.
2. Persons in whom the status *catarrhalis* is present, either permanently or temporarily, are liable to develop the multitudinous eruptions which have been variously termed *seborrhoeic* eczema or dermatitis, true eczema, pustules, boils, and the wrongly termed "impetigo"—really an impetiginized *seborrhoeic* eczema. These manifestations, in whole or part, are intimately dependent or asso-

ciated with the existence of an underlying dyscrasia, to which we have ventured to give the name of

#### The Status *Seborrhoeicus*.

3. There is considerable clinical and therapeutic evidence to suggest that all patients with the status *seborrhoeicus* are suffering from a relative acidosis. We are of opinion that this condition may have resulted from a diminution of the intake in their food of the fixed bases—the mono- and di-sodium phosphates, and the carbonates, which are normally present in fresh fruits and vegetables, and which are largely responsible for the maintenance of an exact alkaline-acid equilibrium in the blood and tissue fluids.

4. As a practical outcome of these considerations there is abundant clinical evidence of the value of alkalis in the treatment of *seborrhoeic* eczema.

#### REFERENCES.

- <sup>1</sup> MacCormac: Skin Diseases and their Treatment under War Conditions, *Proc. Roy. Soc. Med.*, 1917, vol. x, pp. 121-149. MacCormac and Small: The Scabies Problem on Active Service, *BRITISH MEDICAL JOURNAL*, September 22nd, 1917, p. 384. Semon and Barber: *Proderma of Parasitic Origin*, *Brit. Journ. of Dermat. and Syph.*, July, 1917. <sup>2</sup> *Pres. de Dermatologie*. <sup>3</sup> *Jahrb. der Kinderheilk.*, 1905, p. 121; 1909, p. 529. <sup>4</sup> *BRITISH MEDICAL JOURNAL*, June 9th, 1917. <sup>5</sup> *Principles of Acidosis*, chap. iv, 1917.

## A Collective Investigation

OF

## TEN THOUSAND RECRUITS WITH DOUBTFUL HEART CONDITIONS.

Conducted at the National Hospital for Diseases of the Heart by C. CHAPMAN GIEBELS, R. O. MOON, S. RUSSELL WELLS, P. HAMIL, F. W. PRICE, and J. STRICKLAND GOODALL.

#### REPORT II,\*

BY

S. RUSSELL WELLS, M.D., B.Sc.

BEFORE investigating the etiology of any particular cardiac disorder, it was considered desirable to determine the incidence, on the whole 10,000 cases, of the various diseases which have been supposed to lead to damage of the cardiac valves or myocardium. In every case inquiry was made for a history of the following ailments:

Rheumatic fever	Tonsillitis	Influenza
Chorea	Scarlet fever	Syphilis
Rheumatism	Diphtheria	Gonorrhoea
Growing pains	Pneumonia	

and also as to whether the recruit had been subjected to muscular strain or not.

#### Rheumatic Fever.

Since rheumatic fever, or acute rheumatism, is commonly agreed to be one of the most frequent causes of organic lesions of the heart, it was felt desirable to determine the percentage of the cases examined giving a history of this disease. It is important to define accurately what is meant by the term rheumatic fever. The word "rheumatism" is popularly used to describe a variety of affections. Rheumatoid arthritis is frequently spoken of by the laity as rheumatism. The aching pains in the joints which accompany various acute diseases such as influenza are often called rheumatic pains, as are the joint pains occurring in tonsillitis, though here some consider that there is more justification for the use of the word "rheumatic." In addition to this there are the various slighter forms of rheumatism which may differ only in degree from rheumatic fever. Some writers, following Poynton, regard chorea as a manifestation of rheumatism, and go so far as to speak of chorea as "cerebral rheumatism." We have, therefore, thought it well to confine the term "rheumatic fever" to cases in which there is a distinct history of fever, pain and swelling of the joints, and confinement to bed for several weeks. This, of course, does not exclude the possibility of some cases of gonorrhoeal rheumatism being classified as rheumatic fever, but the absence of a history of any urethral discharge and a consideration of the patient's statement usually prevented any doubt arising.

\* Part I was published in the *BRITISH MEDICAL JOURNAL*, May 19th, 1918, p. 556.



On account of the painful nature of the complaint and the inability to use the affected joints, together with the long confinement to bed which the disease usually entails, the patient's recollection of an attack of acute rheumatism is generally fairly vivid, so that, as a rule, little doubt arises as to the nature of the illness from which he has suffered.

Of the 10,000, 1,921 cases—that is to say, 19.2 per cent.—gave this clear and unequivocal history of rheumatic fever.

Since the 10,000 cases were all sent up for examination because a doubt had arisen in the minds of the examining medical boards as to their cardiac condition, and since acute rheumatism is a recognized cause of cardiac derangement, these figures cannot be used to estimate the incidence of rheumatic fever on the general population. The 10,000 cases are a selected sample, and the selection was such as practically to ensure that a history of acute rheumatism would be commoner in the sample than in the corresponding classes of the population of London.

### Chorea.

Chorea, like acute rheumatism, is so definite an ailment, and persists, as a rule, for so long a time, that histories of this affection may usually be relied upon. Of the 10,000 cases examined, 265—that is, 2.6 per cent.—gave a history of chorea. With a view to determining if the material with which we have to deal lent any support to Poynton's theory of chorea being really a form of rheumatism, the coefficient of correlation between the two was worked out on Pearson's formula: 101 of the 10,000 cases gave histories of both chorea and rheumatic fever; 164 of chorea without rheumatic fever, 1,820 of rheumatic fever without chorea, and 7,915 gave no history of either of these affections. The coefficient of correlation was  $0.31 \pm 0.02$ ,  $\chi^2$  being 63.

The correlation coefficient is a figure which shows the degree of relationship between two sets of facts or measurements. If every case of chorea gave a history of rheumatic fever, and every case of rheumatic fever was followed or preceded by chorea, the correlation coefficient of chorea and rheumatic fever would be  $+1$ ; that is, there would be absolute correlation between them. If there was no association between them, and a patient who suffered from chorea was no more or less likely to give a history of rheumatic fever than the rest of the population, the correlation coefficient would be 0. If chorea and rheumatic fever were mutually exclusive the correlation coefficient would be  $-1$ . Where the correlation coefficient is between 1 and 0.75, we speak of high correlation; between 0.75 and 0.50, considerable correlation; between 0.50 and 0.25, moderate correlation; below 0.25, low correlation. It is obvious that in working out such correlation as this there will be a margin of error. This can be calculated, and after any correlation coefficient we shall state what it is. Thus, the correlation coefficient between the history of rheumatism and chorea is 0.31, the error being  $\pm 0.02$ ; that is, the correlation coefficient is not greater than 0.33, nor less than 0.29. But the probability of our calculated correlation coefficient being wrong depends upon the number of cases taken, and how they are grouped. We have, therefore, to calculate the likelihood of it being correct; for it may be that our grouping of figures is purely due to chance. We can calculate this probability. To do so we work out the value of what is called  $\chi^2$ . The higher  $\chi^2$  is, the less likelihood is there of our correlation coefficient of not more than 0.33 or less than 0.29 being due to chance. If  $\chi^2$  were 1 the likelihood of our figure being a chance association is 8 in 10; if  $\chi^2$  were 5 the likelihood would be 17 in 100; if it were 10, 19 in 1,000; when  $\chi^2$  is 15 the probability of our correlation figure being due to chance sinks to less than 18 in 10,000. The actual number for  $\chi^2$  here was 63, so that the likelihood of our correlation coefficient of  $0.31 \pm 0.02$  being a mere chance number is infinitesimal. This coefficient comes within the limit of what Pearson has defined as moderate correlation, and is about the same as the correlation between the severity of an attack of small-pox and the number of years since vaccination. It affords a certain amount of support to Poynton's theory.

### Rheumatism.

As has been pointed out, when speaking of rheumatic fever, a history of rheumatism or rheumatic pains must

be received with considerable doubt, the popular use of the word being too vague to enable one to arrive at any definite opinion as to the pathological entity referred to. If the histories of "rheumatism" referred to some form of the same disease as rheumatic fever, or were all really accounts of a slighter attack of the same affection, we should expect to find a definite correlation between them. We therefore calculated out the correlation coefficient for rheumatic fever and "rheumatism" in our cases; 266 gave a history of rheumatic fever and "rheumatism," 1,347 a history of "rheumatism" without rheumatic fever, 1,655 a history of rheumatic fever without "rheumatism," and 6,732 no history of either rheumatic fever or "rheumatism." The coefficient of correlation was  $0.03 \pm 0.02$ ,  $\chi^2$  being 9.2. This correlation coefficient is so small as to be practically negligible. We have therefore no right to assume that where a recruit gave a history of "rheumatism" he had suffered from anything of the same nature as true acute rheumatism.

### Growing Pains.

The arguments used with reference to rheumatic fever and "rheumatism" equally apply to a history of growing pains; 583 cases gave a history of both rheumatic fever and growing pains, 2,036 a history of growing pains without rheumatic fever, 1,553 a history of rheumatic fever without growing pains, and 5,993 no history of either rheumatic fever or growing pains. The correlation coefficient works out at  $0.06 \pm 0.02$ ,  $\chi^2$  being 9.7. We are therefore not justified on these figures in assuming the identity of growing pains and acute rheumatism.

### Tonsillitis.

Tonsillitis has been considered by many writers as a rheumatic affection. It was therefore thought well to calculate the correlation between acute rheumatism and tonsillitis in the 10,000 cases: 525 cases gave a history of both rheumatic fever and tonsillitis, 1,685 a history of tonsillitis without rheumatic fever, 1,396 a history of rheumatic fever without tonsillitis, and 6,394 no history of either disease. The coefficient of correlation was  $0.13 \pm 0.02$ ,  $\chi^2$  being 38. The correlation here is appreciably higher than in the case of "rheumatism" or growing pains, but is too low to be seriously considered.

### Scarlet Fever.

Of the 10,000 cases examined, 2,185—that is, 21.8 per cent.—gave a history of scarlet fever. Since scarlet fever is stated to be not infrequently followed by acute rheumatism or some affection resembling that disease, it is of some interest to determine the association between a history of scarlet fever and rheumatic fever in these cases. Of those who had had scarlet fever, 479—that is, 22 per cent.—gave a history of rheumatic fever as well. In 70 of these cases there was a definite history of the rheumatic affection having immediately followed the scarlet fever, but, when the association between scarlet and rheumatic fevers, in the 10,000 cases is investigated by Pearson's formula, it is found that the correlation coefficient is so small as to be negligible—namely,  $0.08 \pm 0.02$ .

### Summary as to Rheumatism, Chorea, and Growing Pains.

Reviewing the above results, it may be stated that the investigation of the material at our disposal by means of the correlation coefficient lends some slight support to the view that chorea and acute rheumatism are the same disease, but none to the supposition that a history of "rheumatism" or growing pains is any evidence of a true rheumatic affection, nor does it afford any evidence of the rheumatic nature of tonsillitis or reveal any association between true rheumatism and scarlet fever.

It must not, however, be assumed that because we are unable to find any association between these affections and acute rheumatism, they may not be the efficient cause in producing valvular lesions of the heart. That can only be determined by a detailed examination of the etiological factors in the different cardiac disorders. Nor must it be assumed that we consider a statistical inquiry, such as this is, can definitely dispose, in all cases, of the rheumatic nature of tonsillitis, growing pains, and the like. What is described as tonsillitis, for example, may well be only the reaction of the tonsils to a variety of noxious agents. In some cases the agent may be the same organism as that which causes acute rheumatism, but if this only produced



a small minority of the cases described as tonsillitis, they would be "swamped" by the rest, and the association with true rheumatism might not appear. We do assert, however, that our inquiry makes it advisable to be cautious in suggesting a rheumatic origin for any valvular lesion, where a history of "rheumatism," growing pains, or tonsillitis is alone obtained.

#### *Diphtheria.*

Of the 10,000 cases, 728 gave a history of diphtheria. While the association between diphtheria and scarlet fever is not directly related to the present inquiry, it may be worth while putting on record the correlation we found between these two diseases, for, though ours is a selected material, the association between diphtheria and scarlet fever on the one hand, and heart disease on the other, is probably not sufficiently intimate to affect materially the results.

A history of both scarlet fever and diphtheria was given by 267 cases, of diphtheria without scarlet fever by 461, a history of scarlet fever without diphtheria by 1,918, and 7,354 gave no history of either disease. This gives a correlation coefficient of  $0.27 \pm 0.002$ ,  $\chi^2$  being 101. This correlation coefficient, though only moderate to small, is distinctly higher than one would, *a priori*, have expected, for it does show some definite correlation between the two histories. It is possibly due to the septic tonsillar infection so frequent in scarlet fever being described as diphtheria. Still, whatever the explanation, it is enough to be worth recording.

#### *Pneumonia.*

Of the 10,000 cases, 537 gave a history of pneumonia.

#### *Influenza.*

No fewer than 5,629, that is to say, over 56 per cent. of the recruits examined, gave a history of one or more attacks of influenza. Though there is no doubt that this disease is extremely common in England, it may be doubted whether this high figure really represents its prevalence, for it is notorious that at the present time patients delight in dignifying colds and other slight ailments by the more sonorous title of influenza.

#### *Syphilis.*

Since the 10,000 cases examined were selected because they presented a doubt as to their cardiac condition, and the presence or absence of a history of venereal disease was not taken into consideration in making this selection, they may be regarded, from the point of view of incidence of syphilis, as a random sample of the male population of London between the ages of 18 and 41, provided that syphilis was not a material cause in producing those cardiac symptoms which determined their selection. We shall hope to show later that the importance of syphilis as a cause of cardiac derangement was minimal in the cases with which we are concerned, and, since practically all the cases examined were engaged in their ordinary avocations, and very few could be regarded as invalids, there is no reason for supposing that the incidence of syphilis would be less in the cases considered than among the general population from which they were drawn.

Unfortunately, on account of the time involved, it was not possible to make a determination of the Wassermann reaction part of the routine of the examination. Consequently, we are dependent chiefly on the recruits' statements in determining a syphilitic history; but, from the very circumstances of the examinations, these histories are far more likely to be truthful than those usually obtained. The atmosphere in which they were conducted was official; each man was privately catechized, and knew that it was highly improbable that he would ever see the examiner again, or that there would be any opportunity of his secret being betrayed to his friends or relations, while there was the ill-defined fear of punishment if an untruthful statement were made in what was, in essence, an inquiry by the State. Further, as the great bulk of the men were conscripts, it was found that a not inconsiderable proportion were only too ready to state any fact which they thought would militate against their acceptance for full military service. We are therefore of opinion that the wilful concealment of a syphilitic history has, in these cases, been reduced to a minimum. Of course a man may have contracted specific disease without being aware of the

fact, but such cases must, in all probability, constitute but a small proportion of the whole. Where there was a doubt as to whether the history given was that of true specific disease or not, the cases were usually recorded as syphilitic so as to avoid under-estimating the incidence of the disease and with a view to neutralizing to some extent any instances of wilful concealment. Probably, therefore, the incidence of syphilis on these 10,000 cases does fairly represent the incidence of the disease on the corresponding classes in the population of London.

It was found that 200, or exactly 2 per cent., of the 10,000 cases gave a syphilitic history. On account of the difficulty in obtaining any reliable and unbiased estimate of this nature, these figures are valuable for other purposes than that of determining the relation of specific disease to cardiac conditions, for which they were primarily worked out.

#### *Gonorrhoea.*

The remarks which have been made under the heading of syphilis apply in a great measure to gonorrhoea as well, and the incidence of this disease on the 10,000 recruits may probably be fairly taken as representing the incidence on the male population of London between the ages of 18 and 41. An analysis of the records showed that 596, or 5.96 per cent. of the 10,000 recruits, gave a history of gonorrhoea. The fact that among these men three times as many had suffered from this ailment as those who had been affected by syphilis is about in accordance with common experience as to the relative frequency of the two diseases. These numbers are interesting as putting on record the frequency with which the two affections occur in a large body of men in civil life, and may form a useful standard of comparison with comparable figures for men after various periods of service with the colours.

#### *Strain.*

The classification already given into occupations gives some idea of the amount of muscular work the different classes of men concerned habitually undertake. While it has in many cases been distinctly difficult to decide whether any particular vocation should be placed at the top of the light work category or at the bottom of the medium, or whether a trade properly belongs to the medium or heavy group, still, on the whole, we believe that the arrangement adopted is sufficiently accurate for the purpose we have in view, and that, on account of the large numbers involved, such errors as we may have made will tend to neutralize one another.

In estimating the amount of muscular work any individual performs, we ought not to confine ourselves to his occupation alone but should consider also how he employs his leisure. A clerk in a Government office, who has short office hours and devotes an ample leisure to various heavy athletic amusements such as football and boxing, would, from the point of view of muscular work, be better classified with the carpenter or gardener, or even with the blacksmith, than with the desk clerk in a shop, who has long hours and who very likely indulges in no form of athleticism. In discussing the effect of muscular work upon the circulatory system the total number of foot-pounds done per diem is not the only factor of importance. The blacksmith who has been gradually trained to his work from youth may well undertake with ease an amount of physical exertion which would break the city clerk, whose total active daily exercise is not infrequently confined to a short walk from his dwelling to the train, from the train to his office, and back again in the evening. We should distinguish clearly between the effect of a large total amount of work on a heart which has been gradually accustomed to bear the load on the one hand, and the effect of sudden strain on the other.

If a clerk who during the week confines himself to his walk to and from the station, on Sunday undertakes long bicycle rides in competition with more athletic people than himself, he may well expose his heart to a greater strain than the blacksmith does in his more strenuous occupation. We may regard the amount of strain on the heart produced by any particular piece of muscular work as bearing some sort of proportion to the ratio which this work bears to the work habitually done by the person in question. The blacksmith, who is accustomed to put out regularly many thousands of foot-pounds per hour, is not likely to have his heart strained by running, in 30 seconds, up an



incline rising 30 feet vertically; but the clerk, whose hourly muscular work is measured in hundreds rather than in thousands of foot-pounds, might very well manifest symptoms of distress if forced to take the same run.

We therefore propose to use the word "strain" as a convenient term for the risk to which a man is exposed who does muscular work considerably in excess of that to which he is habituated, and to use the word "strenuous" for habitual heavy labour. In this sense, all the heavy occupations in our list involve strenuous work and in most cases there is also the liability to strain. The railway goods porter, for example, is habitually accustomed to strenuous work, but at any time the moving of an unexpectedly heavy load or the slipping of some weighty piece of goods which he is handling may expose him to strain. While we have endeavoured to ensure that all men whose occupations are strenuous in the sense defined above are classified in the heavy labour groups, it is obvious that many of the cases exposed to strain are necessarily placed in the medium, light, and sedentary occupations groups. Since, in every case, the habits of the recruit with regard to exercise were inquired into, the records have enabled us to form some sort of an estimate regarding the exposure to strain, and a careful inspection of the individual records induces us to believe that out of the 10,000 recruits examined, 2,711, that is to say 27.1 per cent., were subject to strain as defined above, either in their work or in their amusements.

With a view to representing our results in as concrete a form as possible, we append tables of the percentages and correlation figures we have found for our 10,000 cases.

Percentages.			
History of rheumatic fever	19.2	History of diphtheria	7.2
" chorea	2.6	" pneumonia	6.1
" "rheumatism"	16.1	" influenza	56.0
" growing pains	26.5	" syphilis	2.0
" tonsillitis	22.1	" gonorrhoea	5.9
" scarlet fever	21.8	" strain	27.1

Correlation Figures.			
Correlation between History of	Coefficient.	N <sup>2</sup> .	Degree of Correlation.
Rheumatic fever and chorea	0.31 ± 0.02	63.0	Moderate.
Rheumatic fever and "rheumatism"	0.08 ± 0.02	9.2	Negligible.
Rheumatic fever and growing pains	0.06 ± 0.02	9.7	
Rheumatic fever and tonsillitis	0.13 ± 0.02	38.0	Low.
Rheumatic fever and scarlet fever	0.08 ± 0.02		Negligible.
Scarlet fever and diphtheria	0.27 ± 0.002	101.0	Moderate to low.

# THE REACTIVITY OF THE BLOOD

IN RELATION TO CARDIAC BREATHLESSNESS, SURGICAL SHOCK, AND ALLIED CONDITIONS OF THE NERVOUS AND CIRCULATORY SYSTEMS.

BY BENJAMIN MOORE, D.Sc., F.R.S.,  
FORMERLY PROFESSOR OF BIO-CHEMISTRY, UNIVERSITY OF LONDON  
(From the Department of Applied Physiology of the National Research Committee.)

The plasma of the blood possesses the remarkable property of being able to neutralize large amounts of either acid or alkali without itself being or becoming markedly acid or alkaline. This property ensures the immediate neutralization of acidic or alkaline metabolites thrown into the blood stream as the result of physiological or pathological processes. Without this protection the life of the human race and all the higher animals and plants as at present constituted would be impossible, for it has been shown by the researches of Moore, Roaf, and Whitley<sup>1</sup> that the strip of variation in acidity or alkalinity within which life is possible is a very narrow one, and that it suffices to render the medium within which living cells are situate acid or alkaline to the feeble limit of one-thousandth normal, or less, in order to destroy all life.

It will suffice to give a few illustrations of the importance of small variations in this property of balanced alkalinity and acidity (or hydrogen ion concentration, as it is termed in the language of physical chemistry) in order to prove the necessity of a clear understanding of the problem by physiologists and clinicians alike, and, since the recent communication of Professor Bayliss<sup>2</sup> clearly demonstrates that there is not agreement either as to facts or interpretations regarding the cause or mode of operation of this protective influence, some service may be rendered by a discussion of the question and a reply to his criticisms.

When Haldane and Priestley<sup>3</sup> discovered that the respiratory centre was most delicately balanced in relationship to the concentration of carbon dioxide in the blood, it was sought to correlate the increased respiratory activity after muscular exercise with the production of lactic acid and other organic acids by the muscles, and much research was expended on the determination of lactic acid in blood and urine. At an early discussion of the subject at a meeting of the Physiological Society the present writer suggested that the increased acidity or hydrogen ion concentration of the plasma due to increased dissolved carbonic acid was quite sufficient to form an adequate stimulus to the respiratory centre without any invocation of lactic acid or other organic acid. After some years of vain searching for increase in lactic acid or other partially oxidized metabolites, it has now been proved by the labours of Barcroft, Peters,<sup>4</sup> and others that this is the correct explanation of the regulation of respiratory activity.

An interesting corollary to this physiological discovery is the recent clinical one by Lewis, Cotton, Barcroft, Milroy, Dufton, and Parsons<sup>5</sup> that breathlessness in soldiers suffering from irritable heart is accompanied by a condition of acidosis of the blood. It has been shown by these observers that the blood plasma of such patients possesses less protective power against carbonic acid, or other acid, than that of normal individuals, for the addition of acid causes a quite disproportionate rise in hydrogen ion concentration—that is to say, in that acidic property which stimulates the respiratory centre. Accordingly such patients become breathless on much less exertion than ordinary individuals because they are deficient in alkaline reserve with which to combine the carbonic acid set free by the muscles. As will be pointed out later, this acidic condition of the blood is communicated to all the nerve and muscle cells, voluntary and involuntary, bathed by the altered plasma, and a pathological condition is induced in these, so that their irritability is increased like that of the nerve cells of the respiratory centre. At a deeper stage the increased excitability passes into shock accompanied by physico-chemical changes in the proteins of plasma and cell protoplasm, which will presently be described.

Another interesting development of the problem is that different varieties of shock to the system, such as haemorrhage, surgical operation, infection of wounds, and gassing by irritant gases, are accompanied by acidosis or deficiency of alkali reserve, and when once this vicious condition has been established it gives rise to physico-chemical alterations in plasma and cell protoplasm which tend to retain the circulatory system in a relaxed condition, and this relaxed condition in turn keeps up the acidosis through the stagnation of the circulation. The presence of acidosis in conditions of shock, and its influence in lowering arterial blood pressure was shown by Yandell Henderson<sup>6</sup> and others in America prior to the war, and quite recently has been amply confirmed by Cannon in observations on wounded in casualty clearing stations in France.

A similar drop in the alkali reserve of the plasma following prolonged anaesthesia and operation has been established by many American surgeons, such as Crile and Menten,<sup>7</sup> Austin and Jonas,<sup>8</sup> Morris,<sup>9</sup> and Caldwell and Cleveland.<sup>10</sup> The danger of surgical shock followed by coma and death in diabetes, where there exists high acidosis accompanied by defect of alkali reserve, is known to all surgeons. It has recently been proven by Sir Almroth Wright<sup>11</sup> that there is a marked increase in acidity of the serum in gas gangrene, termed by him "acidaemia," and that the bacillus of this disease flourishes with ease in partially neutralized serum, but is inhibited by serum of normal alkalinity. A similar condition in severe cases of gassing in soldiers and of experimental



gassing in animals has been observed by Barcroft and his co-workers.

In the history of the subject this protective action has received many names, such as "tampon effect," "reactivity of the plasma," "buffer salt effect," "alkali reserve," "acidosis," "acidemia," "balanced neutrality," "balanced hydrogen ion mixture," "hydrogen ion regulation," and all these are merely attempts at naming and defining the same property.

There is no evidence, either by direct statement or inference, that the French writers, Fernbach and Hubert,<sup>1</sup> who first used the word "tampon," had in mind, as suggested by Professor Bayliss, "a plug of cotton-wool pressed into a wound or elsewhere in order to stop bleeding," and Professor Sørensen of Copenhagen probably transmitted their meaning quite correctly when he used it in the meaning of a buffer, and translated it into German as "puffer."

This paper by the French authors is a short one of a little over two pages in the *Comptes rendus de l'Académie des Sciences*. It deals almost entirely with the protection of proteolytic enzymes by alkaline phosphates from destruction by acidity developed by their own action. The only reference to blood serum is in a single sentence, in which it is mentioned with other physiological fluids, as probably being protected by alkaline phosphates; there is not a single titration or mention of hydrogen ion concentration throughout the entire paper, no protective action of sodium bicarbonate or proteins is even hinted at, and there is certainly no exposition of the manner in which balanced neutrality is maintained.

As this is the only paper which can claim priority of description of the protective action of the blood plasma over those issued from the Liverpool School of Biochemistry in 1905 and 1906, lest it should be thought that a biased opinion is here being given of its importance, a statement may be quoted from a paper recently issued in the official publication of the Copenhagen school from Professor Sørensen's own laboratory. This paper, by J. Hempel,<sup>12</sup> is written in English, and states: "The term 'buffer' ('tampon') was first introduced by Fernbach and Hubert to meet a special case; as already mentioned, however, it is in the works of S. P. L. Sørensen and Henderson that the great importance of such buffer mixtures for the organism was first thoroughly dealt with."

Now the first paper by Sørensen on this subject which a careful study of the literature has revealed appears in vol. viii of the above-cited publication in 1909, and his extensive monograph in German in *Ergebnisse der Physiologie* (Bd. xii, 1912). The two earliest papers by Henderson<sup>14</sup> and his co-workers (1906 and 1907) deal almost entirely with equilibria in mixtures of alkaline and acid phosphates, which are practically non-existent, as admitted by Bayliss, in blood plasma. On the other hand, the first papers from the Liverpool School by Moore, Roaf, Whitley, Alexander, and Kelly<sup>16</sup> contained (1905) a full account of the balanced neutrality of hydrogen and hydroxyl ions, both in blood plasma and in the case of living organisms developing in sea water, gave a lengthy description in the language of physical chemistry and ionic dissociation of how the equilibrium of hydrogen ions was maintained, and how this protected the marine organism or higher animal from poisoning by acid or alkali. The effects of alteration in the balance of acid and alkali in causing pathological variations in growth and cell division were also given in this first paper.

In a second paper by Moore and Wilson<sup>17</sup> (1906), in vol. i of the *Bio-chemical Journal*, then first appearing from the Liverpool Laboratory, a clinical method was given for estimating the value quantitatively of the protective action by titrating from one given point of hydrogen ion concentration to another, these being marked by the turning points of colour of two selected colour indicators. In a long series of papers published in the earlier volumes of the same journal these researches were extended, and the effects of acid and alkali and neutral salts upon the physico-chemical properties of the serum proteins and other colloids were studied.

In giving this brief summary of the history of the subject the writer has no intention of belittling the magnificent work of the Carlsberg school under the leadership of Sørensen, which has in the colorimetric method of measuring the hydrogen ion concentration of physiological solutions provided such a rapid and powerful engine of research, nor that of the Harvard school under L. J.

Henderson, which has supplied so many exact studies of this important property. I give the credit due for pioneers' share in the work to many colleagues in earlier days at the Liverpool school; the main findings for which priority is claimed may be briefly enumerated, especially since some of them even now are unknown in the current literature of the subject.

1. It was shown that the physiological life of organisms and their normal development was only possible when the reaction of the nutrient fluid lay close to the neutral point, more than traces of alkali or acid beyond the neutralization points of the amphoteric salts and proteins sufficing to destroy life.

2. A disturbance of the balance towards the alkaline point, short of lethal doses, excited living cells to enhanced activity, and caused irregular growth and pathological cell divisions.

3. A clinical method was introduced for titrating the whole serum, including proteins, between two fixed points of hydrogen ion concentration, and also for titrating the alkaline inorganic salts alone of the serum after destruction of the proteins by incineration. Between these two points the hydrogen ion concentration, or intensity of acidity, varied very slowly, never surpassing about one in two-hundred-thousandths normal of excess of hydrogen or hydroxyl ion concentration, but outside the limits hydrogen or hydroxyl ion concentration arose very rapidly. The whole serum showed an amphoteric range of 0.15 normal, while the salts alone, without the proteins, showed a range of only 0.03 normal, thus indicating that the proteins are about five-fold as powerful as the bicarbonates and phosphates present in regulating reaction or hydrogen ion concentration.

4. The molecular concentration of 0.15 normal, which indicates the power of the proteins for combining with acid or alkali is equal to the molecular concentration of the serum for all the inorganic salts of the serum. This indicates that the delicate salt regulation of the plasma, a physiological process seen from the teleostean fishes up to mammalia, is based upon that amount of salts which satisfies the labile combining power of the proteins, and that any salt completely free, and not held in labile union in the plasma is excreted by the kidneys.

5. The neutralizing power of the serum proteins was tested under pathological conditions, and it was found that there was a definite increase in the alkaline limit in carcinoma, and this was correlated with the reduction in acidity of the gastric secretion.

6. It was found that just at the neutral point the osmotic pressure of the serum proteins fell absolutely to zero, indicating a change in the state of aggregation of the protein approaching to precipitation.

At the time these observations were being published all methods of titration were being flouted by German observers, who were working at electrical methods of measuring hydrogen ion concentrations, and Rudolf Höber<sup>19</sup> goes so far as to describe titrations for acidity or alkalinity as ridiculous nonsense. The writer maintained that hydrogen ion determinations alone gave no complete indication, and that the all-important point was the resistance to disturbance by added alkali or acid of the hydrogen ion concentration of the physiological fluid. This could only be settled by titration values, and accordingly Moore and Wilson titrated between two points—namely, neutrality to phenol-phthalein and neutrality to di-methyl-amino-azo-benzol, and termed the result the "reactivity of the serum." This figure measures the resistance of the serum to acid or alkaline invasion and, throughout the range it measures, the change of hydrogen ion concentration is slow to added acid or alkali, while outside the range the change is very rapid, with accompanying pathological changes in any living cell bathed by the fluid.

Now that these preliminary considerations have cleared the ground, the criticisms made by Professor Bayliss may be considered. A fundamental point of difference arises when he states that "in its behaviour towards acids the plasma reacts precisely like solutions of sodium bicarbonate." The following considerations and a very simple experiment based upon them prove conclusively that this is not the case. The classical analyses of human and other mammalian serums by Carl Schmidt and by Bange,<sup>18</sup> when calculated out as basic and acidic equivalent weights, yield an excess of base amounting to a 0.04 normal solution in the plasma. Again, the determinations of Moore and Wilson give an alkalinity for the salts of the serum of 0.03 normal, and the recent determinations of Van Slyke and Cullen give very close agreement with this, showing an alkalinity of 0.025 to 0.030 normal. Now let all this be taken as present as sodium bicarbonate in the plasma, and to make a large margin for possible error let the amount be increased to 0.05 normal. Take now a quantity of Ringer's solution containing the equivalent of the neutral salts of the plasma, and add to it a sufficient amount of dry sodium bicarbonate to make it a 0.05 normal



solution of sodium bicarbonate—that is, add 0.42 gram per 100 c.cm. If the view held by Professor Bayliss is correct this solution ought to behave precisely like blood serum, while my contention is that it will behave quite differently to either acids or bases weak or strong. Let the two solutions—serum and sodium bicarbonate in Ringer's solution—be each titrated *a* to standard acid, and *b* to standard alkali, with appropriate coloured indicators, or, if it be preferred, let the variations in hydrogen ion concentrations be measured by the hydrogen electrode method after equal successive additions of standard acid and alkali, and it will be found that the sodium bicarbonate solution is at least threefold as sensitive to added acid or alkali as is the serum, so that it would be a correspondingly poor protection to the tissue cells against any invasion by acid or alkali. Both the sodium bicarbonate solution and the serum will be found to give the acid reaction to phenol-phthalein, and the alkaline reaction to methyl orange or methyl red; but if, say, 10 c.cm. of each fluid be taken and titrated first with decinormal acid in presence of methyl orange it will be found that the colour changes sharply in the case of the bicarbonate solution when 5 c.cm. of the standard acid has been added, whereas the change in colour in the serum does not appear until at least 15 c.cm. of standard acid has been added, and then comes exceedingly slowly, so that the mid-point is not reached until about 18 c.cm. has been added. If now the alkaline limits be estimated by titration with decinormal alkali in presence of phenol-phthalein, a similar result will be obtained; a single drop, or at most two drops, of decinormal alkali will give a bright pink in the sodium bicarbonate solution, showing that alkalinity to this indicator has been attained, but no pink will be given by the serum until between 2 and 3 c.cm. of the standard alkali have been added. Surely these results indicate a considerable difference in behaviour between serum and a solution of sodium bicarbonate. Moreover, the results are not due, as Professor Bayliss supposes, to an attack upon the structure of the protein molecule by the strong acid, because the titration backward and forward with acid and alkali can be made as often as desired without any change in the properties of the serum proteins; secondly, the drops of acid or alkali immediately they enter the fluid under titration change their hydrogen and hydroxyl ion concentrations to the level of these in the fluid; that is, indeed, the whole point of the protective action, "tampon effect," or whatever it may be called, otherwise there would be no protection for the cells. If such a change did not occur, the colour indicator would at once react and alter colour, as indeed it does where the drop of standard acid or alkali enters, but the colour disappears again as mixing occurs. There is no point in the titrations as above where the acidity or alkalinity as indicated by hydrogen ion concentration rises above that of a solution of one in one-hundred-thousandth normal free acid or alkali, and this would have no disruptive action on the serum proteins, although much less than this would produce great changes in their physico-chemical aggregation, leading to important consequences which will presently be described.

Finally, similar results would be obtained by the addition of weak organic acids, such as acetic or lactic, only apparently more exaggerated still because of the incomplete hydrogen ionization of these acids which constitutes the difference between so-called weak and strong acids; this would result in the colour being changed more slowly, and the slowing down would be exaggerated in the presence of the amphoteric proteins.

The example cited by Professor Bayliss of the change to acid colour of neutral red in serum on the addition of a little lactic acid does not prove, as he supposes, that the lactic acid is not reacting with the proteins; it only proves that he has brought the reacting system, consisting of serum proteins, sodium bicarbonate, carbonic acid, lactic acid, neutral red, to that point of hydrogen ion concentration at which the coloured indicator swings over to the acid colour. Is this not the whole point of the Friedenthal-Sørensen method of measuring hydrogen ion concentration by means of a series of coloured indicators?

It is not contended that such a high degree of acidosis as that indicated by the colour turning point of methyl orange is compatible with life, but that in the reacting system protein + alkali + carbonic acid there is a marked difference from the system alkali + carbonic acid only,

and that the influence of the protein is a profound and vital one, so that life is impossible in its absence. If the presence of protein increases the titration value up to the methyl orange point from three-fold to five-fold, surely in the first part of the range nearer to neutrality the presence of protein capable of combining with either acid or alkali cannot be without effect. In such a complex system alkaline carbonates are not first neutralized to exhaustion and then serum-proteins, but both are neutralized together, and this is demonstrated in a way of practical importance by the change in the osmotic properties of the proteins as neutralization proceeds.

The effects of protein, both of plasma and of corpuscles, in combining with alkali and so protecting against invasion of neutrality, is shown by subjecting whole blood to a vacuum. This older method of determining the blood gases taught many lessons which seem likely to be forgotten in the rush of new methods. Without the addition of any acid, exposure of warm blood to a vacuum removes the whole of the carbon dioxide free and combined. What becomes of the free alkali and alkaline reserve? This is a question of fundamental importance in clinical conditions of acidosis, such as those enumerated earlier in this paper. If the whole of the carbon dioxide be pumped off from blood the denudation of carbonic acid does not even stop at the stage of normal sodium carbonate, it passes right over into the stage of free caustic alkali, unless the alkali set free can find something in the blood to combine with, and if the figures for the amount of sodium bicarbonate given by Van Slyke and Cullen be accepted, there would be an alkalinity due to caustic soda of 0.03 normal, and so a hydrogen ion concentration shown experimentally by about  $10^{-12.5}$  instead of, as actually the case, of about  $10^{-7}$ . Of course, free alkali is not formed, the alkali combines with the proteins of the blood which yield the protective action required, and this same protective action is often exerted *in vivo*, especially when a man or animal ascends a mountain height or undertakes aviation at high altitudes. The same effect in lessened degree happens with plasma alone, and a sample of serum left in an evacuated desiccator with an absorbent for carbonic acid will lose the whole of its free and combined carbonic acid eventually, and all the alkali will pass into combination with serum proteins; this is shown by the curves of Van Slyke and Cullen<sup>19</sup> for amounts of combined carbonic acid corresponding to varying concentrations of free carbonic acid. Theoretically this should be the case also with solutions of sodium bicarbonate, but the important work of Buckmaster<sup>20</sup> clearly demonstrates that it would require a geological epoch of time for its consummation.

All this goes to show what an important part proteins, both of corpuscles and plasma, take in the regulation of acidosis, and it is to be feared that neglect of this function and a too great simplification of the problem by attempting to reduce it to one of sodium bicarbonate solutions only is leading the minds of observers away from living conditions and restricting the outlook. It is quite a wrong idea, for example, to suppose that acidosis can be determined by acidifying the blood and determining the amount of carbon dioxide that can be pumped off in a vacuum; such determinations may give absolutely misleading results if the cause of the defect of carbonic acid be not regarded. If a sample of the blood of an aviator at a high altitude be taken and analysed, it will be found that the amount of carbon dioxide in it is much reduced, but the aviator is not suffering from acidosis: he is suffering from just the reverse condition—namely, too much alkali in his blood, which his proteins are being taxed to accommodate, and this vicious condition is being increased by the excessive respiration caused by diminished oxygen pressure. Under such conditions increase of carbon dioxide in the diluted air does not lead to hyperpnoea, for animals (rabbits) have been kept by Edie and Moore in air diluted to an oxygen content of 5 per cent. for over forty hours, a dilution at which in the open air life would be impossible, and these animals breathed quite quietly, showing no other evil effects than drowsiness.

It follows that carbon dioxide pumped off from acidified serum need not previously have been present as sodium bicarbonate; indeed, sodium bicarbonate added to a protein solution no longer exists as simple bicarbonate, but only as a factor in a complex mixture and modified by the balance in that mixture.



The next point criticized is the statement that there exists a union between the serum proteins and the neutral salts, and that the salt content is regulated in this manner, and evidence is asked for as to the existence of such compounds between crystalloids and colloids. A full account of the matter will be found in my paper in the Italian *Archivio di fisiologia* (vol. vii, 1909, p. 519); there is only space here to say that the type of union concerned is one of very common occurrence in colloidal chemistry, and especially in bio-chemistry. There is no rupture of atomic linkages, but a combination between molecules with formation of more complex "solution aggregates." It has been shown by Moore and Roaf that the action of anaesthetics is due to such molecular union. Similar unions take place in the formation of protoplasm and the attachment to it of atomically saturated organic nutrients, in the union of water of crystallization to crystalloids, in complex salt formation, and in the union of single molecules in fifties and sixties, as, for example, in the case of silicic acid or ferric oxide, to form colloids.

It is no evidence against the union of crystalloids with colloids to state that depression of freezing point is unaffected or that the attached electrolytes still conduct. The sodium and chlorine ions of a solution of sodium chloride conduct electricity and the depression of freezing point is doubled by the ionization, but it would surely be an error to state that sodium ions and chlorine ions are therefore not in a condition of chemical union. There is a sufficient degree of freedom of movement of the ions to admit of conduction of electricity, and for each ion to take up independent atomic motion and give rise to osmotic pressure, but the sodium ions and chlorine ions cannot be massively separated without great expenditure of energy and neutralization of ionic charges, and to this extent there is union between sodium ions and chlorine ions. Similar freedom exists between sodium and chlorine ions united to a colloidal complex such as a solution-aggregate of serum-protein, but they are satellites of that solution-aggregate and cannot be separated from it without expenditure of energy.

The evidence for union between colloid and crystalloid in the blood may be briefly enumerated as follows: (1) The colloids are dissolved or precipitated by variations in the concentration of crystalloids in the plasma. It is difficult to conceive how this can occur without interaction. Thus fibrinogen and globulin are precipitated when sodium chloride is dialyzed away and the precipitates redissolve in dilute sodium chloride solution. All the proteins of the plasma are precipitated when the concentration of neutral salts is increased. (2) The colloids of plasma are most difficultly separable from crystalloids, as has been emphasized by Professor Bayliss<sup>21</sup> himself, who points out that a pure protein entirely free from crystalloid has probably never been prepared. Also, in this process, as separation becomes more complete, the physico-chemical properties of the colloids change, sometimes reversibly, sometimes irreversibly. (3) Selective affinity for crystalloids is exhibited amongst the proteins of the body; for example, the tissue cells and blood corpuscles unite with potassium and phosphatic ions, and the plasma proteins with sodium and chlorine ions. (4) As shown by Moore and Parker,<sup>22</sup> Moore and Roaf,<sup>23</sup> and confirmed by Lillie<sup>24</sup> and others, even small variations in concentration of dissolved crystalloids lead to marked changes in the osmotic pressure of the proteins. Bayliss,<sup>25</sup> in confirming and extending the work of Moore and Roaf on osmotic pressure of solutions of gelatin and of gum acacia, found that presence of sodium chloride decreased the higher pressure obtaining in water solution down to a pressure somewhat lower than that of the serum-proteins, in saline solution isotonic with blood. This change is due to increased aggregation or incipient precipitation following on union of crystalloid and colloid. It is this power of retaining salts in the circulation along with the osmotic pressure still remaining over in presence of the saline which confers on transfused blood, or solutions of gelatin or gum, that advantage which they possess over saline alone as injections for combating shock. Saline alone under shock conditions has no colloid to bind it and is promptly removed from the circulation. The same fate would befall the normal saline of the plasma were it not united to the proteins. (5) Finally, the titration figure of the serum to acid and alkali

between the two limits of slow variation in hydrogen ion concentration gives a range of between 0.15 and 0.16 normal; outside this limit the combining powers of the proteins are saturated and ionic concentrations change rapidly. Measurements of depression of freezing point show that the total molecular concentration of the inorganic salts amounts to 0.155 normal. Taking all the evidence together there can be little doubt that this is no chance coincidence, but rather that the inorganic salt-content of the plasma is regulated by the combining powers of the proteins, and that renal excretion and thirst are employed to maintain concentration at this level.

In conclusion, attention may be drawn to the observation of Roaf and Adamson<sup>26</sup> that at the neutral point the osmotic pressure of the serum-proteins falls to zero, because of the important effects this must produce in surgical shock and allied conditions. The degree of acidosis experimentally observed in shock often lies at that level which would be produced by the amount of acid added by these observers when they found that the osmotic pressure had dropped to zero.

The amount of acid required to produce zero osmotic pressure in serum cannot be described as strong acid action, the addition was only 0.02 normal, and more caused the pressure to rise again. At this level the plasma can still easily hold 20 to 30 c.c.m. per cent. of carbon dioxide, and such amounts are often found in severe acidosis and in shock. The condition of acidosis in the blood has been shown by Van Slyke and Cullen to be reflected on to the tissue cells, as is indeed naturally to be expected. Hence a similar variation in the state of aggregation of protein can be induced in the cells approaching incipient coagulation, and a fall in osmotic properties and change in chemical affinities will accompany this. In this alteration nerve cells, cardiac muscle cells, and the involuntary muscle cells of the blood vessels will all be involved. The chemical alterations in the blood and tissue cells produce a generally relaxed condition.

When it is realized that the reacting system is not a simple one of neutral inorganic salts and sodium bicarbonate only, but one with complex proteins of plasma, tissue cells, pathological products of metabolism, feeble organic acids, and toxins of bacteria, it becomes easier to understand that pathological acidosis is not a simple thing easily produced in a healthy animal by injections of acid, or equally easily combated by injection of sodium bicarbonate. Also, it becomes clearer that different types of acidosis exist, due to different kinds of disturbances of the balance of neutrality, that these types will show different clinical signs, and the disturbing pathological chemical substances can only be removed in different ways. For example, Van Slyke and Cullen injected into a large animal which would possess a calculated blood volume of one litre, no less than 75 c.c.m. of normal sulphuric acid, an amount sufficient to neutralize all the alkali in the blood of the animal nearly three times over, and yet after forty minutes the alkalinity had only fallen to about half its normal value, and the animal soon showed recovery. Such an experiment by no means copies the conditions of acidosis, from surgical shock, wound infection, or irritative gases, where the whole circulatory and nervous systems are probably vitiated by absorbed organic poisons of acidic nature, and where the blood proteins are not united to an acid such as sulphuric, which can readily be neutralized by ammonia or fixed alkaline bases, so setting free again the proteins in unaltered condition, but to organic acids and toxins of quite different orders of affinity. It is also to be remembered that these toxic substances are continually being produced and that there is a competition between this pathological production on the one hand and oxidation, neutralization, and elimination on the other. If the latter processes do not keep the upper hand, the vitiation of the cells and of the entire circulation and excretory systems which must follow as a consequence will determine the result against the struggling organism.

The realization of the factors involved gives some indications for treatment in addition to alkalization, such as removal of causes of acid production by dieting, rest, and diminution of oxidations by warmth and sleep, removal of blood containing toxins and its replacement preferably by



blood or serum, failing this by injections of gum solutions or salines containing alkali, and stimulation of excretion by all available channels.

## REFERENCES.

- <sup>1</sup> *Proc. Roy. Soc.*, vol. B, lxxx, 1915, p. 12; *Biochem. J.*, vol. 1, 1906, pp. 88 and 183; vol. 1, 1906, p. 279. <sup>2</sup> *British Medical Journal*, 1918, B, p. 78. <sup>3</sup> *J. Nerv. Dis.*, l, v, xxxviii, 1917, p. 245. <sup>4</sup> *Lancet*, London, 1914. <sup>5</sup> *British Medical Journal*, 1917, B, p. 10. <sup>6</sup> *Proc. Roy. Soc.*, London, 1914. <sup>7</sup> *British Medical Journal*, 1917, B, p. 10. <sup>8</sup> *Proc. Roy. Soc.*, London, 1914. <sup>9</sup> *Proc. Roy. Soc.*, London, 1914. <sup>10</sup> *Proc. Roy. Soc.*, London, 1914. <sup>11</sup> *Proc. Roy. Soc.*, London, 1914. <sup>12</sup> *Proc. Roy. Soc.*, London, 1914. <sup>13</sup> *Proc. Roy. Soc.*, London, 1914. <sup>14</sup> *Proc. Roy. Soc.*, London, 1914. <sup>15</sup> *Proc. Roy. Soc.*, London, 1914. <sup>16</sup> *Proc. Roy. Soc.*, London, 1914. <sup>17</sup> *Proc. Roy. Soc.*, London, 1914. <sup>18</sup> *Proc. Roy. Soc.*, London, 1914. <sup>19</sup> *Proc. Roy. Soc.*, London, 1914. <sup>20</sup> *Proc. Roy. Soc.*, London, 1914. <sup>21</sup> *Proc. Roy. Soc.*, London, 1914. <sup>22</sup> *Proc. Roy. Soc.*, London, 1914. <sup>23</sup> *Proc. Roy. Soc.*, London, 1914. <sup>24</sup> *Proc. Roy. Soc.*, London, 1914. <sup>25</sup> *Proc. Roy. Soc.*, London, 1914. <sup>26</sup> *Proc. Roy. Soc.*, London, 1914.

## THE TREATMENT OF EPILEPSY BY COLLOSOLO PALLADIUM.

BY

A. C. KING-TURNER, M.B., C.M. EDIN.,

MEDICAL SUPERINTENDENT, FISHERMAN HOUSE ASYLUM, SALFORD.

For some time I have been using the different collosole preparations in the treatment of furunculosis, seborrhoea, acne rosacea, eczema, etc., and can fully verify the excellent results already stated by Sir Malcolm Morris, Mr. McDonagh, and others, in the *British Medical Journal*.

A study of the interpretation of the chemo-therapeutic action of the various collosoles led me to believe that, given a suitable collosole, epilepsy should respond to its treatment. Without at the moment entering into my reasons, collosole palladium suggested itself to me as a preparation which should give good results.\*

I therefore took twenty-three typical epileptics for systematic treatment and carefully examined the night and day records of their fits for the past four months, during which they had been under my own personal observation. Having, therefore, a sound basis to work upon, I injected each patient intramuscularly with 0.5 c.cm. of "pallamine" at intervals of three days. So far the results have been most marked and encouraging. To cite four cases:

**Case 1.**—H. G., male, aged 45, suffering from epilepsy of a doubtful traumatic history, had an average of at least four fits weekly. These fits were of a very violent nature, the convulsive stage lasting on occasions for an hour, followed by stupor, confusion, and excitement. Three injections were given as stated above. Since the injections only one fit has occurred in a fortnight, and that of a mild nature, lasting only 30 seconds. The patient feels greatly improved in his general health, is less morose, more conversant, expressing himself more lucidly, and is very grateful for the treatment.

**Case 2.**—M. A. L., female, aged 53, an epileptic of thirty years' standing, with a fit average of six per week, these being of a very violent nature. Since injection, three weeks ago, no fit has occurred, but she has had a few slight sensations. She is now placid, well behaved, and much better in every way.

**Case 3.**—M. A., female, aged 16, congenital epilepsy. Her fits at times, owing to their extreme frequency, were uncountable. She seldom had less than three or four a week. Since injection, three weeks ago, only four fits have occurred, of a mild nature, and of short duration.

**Case 4.**—W. H., female, aged 29, had a fit of a very violent nature at fairly regular intervals of three days. The first injection was given fourteen days ago, and to the time of writing no fit has occurred. She is much brighter, greatly improved in health, and has now great hopes of being discharged from the institution recovered.

It is an interesting fact that in two cases 1 c.cm. of collosole manganese was injected as a stimulant after the injections of "pallamine." In both cases a fit resulted.

Generally most of the patients who have been treated have greatly improved. The nurses and attendants have noticed a marked difference in their general behaviour, a

\* Colloid palladium (pallamine) can be purchased from Crookes' Colloids Ltd., 50, Elgin Crescent, W.11.

great diminution in the frequency and severity of the fits, and say that their work in the epileptic wards is lightened to a large extent.

The results so far obtained from this treatment have been so encouraging, in fact, have so far exceeded my expectations, that I hasten to bring the matter before the profession in the hope that others will give this form of treatment a trial, and find great benefit to the epileptic ensuing therefrom.

I am still keeping careful records, and hope that at some future date I may be able to show further results.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### THE NIGHTCAP FOR INSOMNIA.

WHILE the treatment of insomnia in any individual case must depend upon a correct estimation of the particular causes in that case, attention to details likely to assist in wooing sleep must always have precedence over drugs.

From this point of view the wearing of a nightcap takes precedence over the drinking of one. Did our grandfathers and grandmothers think, believe, or know from experience that the wearing of a nightcap encouraged sleep? How did this article come into such prevalent use in olden times? We are not entitled to suppose that the older generation wore it from vanity or foolishness, but rather to presume that it had knowledge and experience on its side, and had found that it encouraged sleep thereby.

This view is supported by war-time experience of the knitted Balacava helmet and knitted cap comforter. That the feet should be warm in bed is recognized as necessary for sound unbroken sleep, but that warmth of the head may be soothing and sleep-winning is not sufficiently recognized at present in civil practice. The war cap comforter is well named. Those who use it at night in cold weather know its soothing virtues in dug-outs, shacks, huts, brick-floored billets, and such similar resting places.

The use and benefit of this accessory might be extended to civilians suffering from insomnia not of gross organic origin. In addition to its soothing sleep-promoting warmth the cap comforter can be used to decrease the intensity of sense impressions from light and sound, encouraging sleep and lessening the chance of its unnecessary interruption, particularly in the early morning.

It is recognized that light and fresh air purify the bedroom atmosphere and make sleep thereby more wholesome and refreshing. A drawn blind, to a large extent, excludes these. The open window, however, admits the full intensity of sounds from outside and daylight tends to waken the sleeper too early. The cap comforter is used to diminish these sensory excitants. The lower part, folded to a treble thickness, is brought over the ears and eyes. The sleeper then has all the benefit of the fresh air and purifying light without the disadvantage of sensory excitation of the eyes and ears. Extraneous sounds are greatly diminished in intensity and darkness is over the eyes. Thus two real objections sometimes raised by a patient to the open, blindless, curtainless bedroom window are removed. For those who know its value the cap comforter is a potent nightcap.

There is another war-time practice prevalent among soldiers for inducing sleep. As, prior to sleeping, the bird puts its head under its wing, and other animals curl up and thereby lessen the respiratory exchange, so, not infrequently, the soldier pulls his blanket completely over his head to facilitate sleep. He thus obtains increased head warmth, diminished sensory excitation, and a narcotic effect from rebreathing his own carbonic acid. While this practice cannot be recommended as giving healthy sleep it does decidedly promote sleep. As would be expected, such sleep is not so refreshing as fresh air sleep, and the man is often slow to waken and in wakening passes through a stupid, confused phase, resembling that of one coming out of a brief anaesthetic state. This practice is most useful where sleep is being prevented by coldness of the body, due to wet clothing, wet feet, or insufficiency or wetness of blankets. The heavy sleep gives a welcome escape for the time being from the many abominations of the war zone.

W. J. BURNS SELKIRK, M.A., M.D.



## THE SIZE OF THE HEART.

Matters of determining the size of the heart are just now matters of more than usual importance; and, especially in view of the opinion authoritatively expressed that systolic murmurs may be confidently ignored in absence of symptoms, if the heart be normal in size, it is incumbent upon us to neglect no precaution against making a mistake with regard to size.

Consequently, the astonishing statement rather recently made, that "examination to determine the size of the heart should always be made with the man lying down," is greatly to be regretted. For not only has it been shown over and over again that the exact converse is correct, but every day medical experience makes plain to any one who can percuss and distinguish notes that "examination to determine the size of the heart should always be made when the patient is erect."

How many cases of dilated heart can one not recall in which the width of the cardiac dullness in recumbency was notably less than in the erect position, and much less than the probable width of the heart? I have seen a case in which the recumbent dullness was only 5 in. wide, whilst the standing dullness was 9 in. In such a case is it common sense to suppose that the lesser measurement—not much over normal—more correctly indicated the width of a heart giving all the evidences of serious dilatation? I remember once being sent for to see a boy who had fainted after unusual exertion, and presented, to his doctor's surprise, a perfectly normal heart dullness; the lad had been too ill to allow of his being examined in any position but the recumbent; by the time I arrived he was sufficiently better to be allowed to sit up for a few minutes, and percussion in the sitting posture at once showed the considerable dilatation which, after taking all the circumstances into account, we had both suspected to exist. The diagnostically valuable recumbent reduction of cardiac dullness in many cancer patients is enough alone to dispose of this absurd error. Commonly, the dullness is no larger than a postage stamp. Are we to conclude from such a dullness that the heart also is of that size? Sometimes there is no recumbent dullness at all, although the standing dullness is normal. Are we here to set aside the standing dullness and to assume that the heart has disappeared?

After all, the action of gravity must be supposed to affect the heart as well as the historic apple. True, one medical correspondent has called this in question, reminding me of an equally amusing suggestion by a lady friend who once said to me, "How curious it is that the human body should be no heavier after a meal!" Moreover, the fact of the effect of gravity is not now merely a matter of inference. A valuable paper by Professor Rudolf of Toronto several years ago contained x-ray photographs showing laterally the heart's relation to the anterior chest wall both in the erect and recumbent postures.

In the present instance we can only suppose that a misprint is responsible for a most unfortunate misstatement.

EXETER.

W. GORDON, M.D., F.R.C.P.

## ALOEAS AS A LOCAL SEDATIVE.

THAT it has long been known that aloes is a local sedative is shown by the formula for friar's balsam, in which aloes is a considerable ingredient. The balsam was used for bites of all sorts, as well as for other wounds, and still is a good application. I think, however, that a saturated solution of aloes in tincture of tolu is a much pleasanter form. It is, as far as I know, the only thing that relieves the virulent itching of harvest bug bites. It should be kept in a stoppered bottle, and shaken before use by applying the stopper to each bite once or twice before scratching; the relief is great. By going over the whole body when stripped for bed a good night is obtained. I speak from experience, both personal and from the reports of patients. The credit for this particular preparation is due to my late father, Frederick Cock, M.D.

May I, in addition, advocate the use of tincture of tolu in bronchitis kettles instead of compound tincture of benzoin? Here, after the aromatic portion has volatilized, the peculiarly disagreeable odour of aloes persists, whereas the tolu remains pleasant all the time, and is at least as soothing and antiseptic as the friar's balsam.

LONDON, W.

F. WILLIAM COCK, M.D.

## Reviews.

## TREATMENT OF LOCOMOTOR ATAXY.

SINCE he first began to write on the subject in 1902 Dr. E. LEREDDE has constantly advanced the argument that tabes dorsalis is a curable disease if given the proper form of treatment; everything, he says, depends on the technique of the treatment adopted. The disease is a manifestation of syphilitic infection, and is, he continues, the result, from the point of view of pathological anatomy, of a syphilitic posterior meningomyelitis. In some cases, but not all, the disease can be cured by vigorous mercurial treatment. But arsenobenzene is a far better drug to employ, and Dr. Leredde confines himself to its use. The sooner the treatment is begun, once the diagnosis is made, the better; the doses of arsenobenzene are small at first, and are increased later in accordance with the patient's tolerance of the drug. The object is to avoid, as far as possible, Herxheimer reactions, or thermal local and general reactions attributed to the destruction of the specific spirochaetes by the antisyphilitic drug employed.

Since 1910 Dr. Leredde has treated 87 tabetics, of whom 37 had had the disease for from ten to twenty-six years when they first came under his care; these may be fairly regarded as difficult cases, being so inveterate. In a large and fully documented volume<sup>1</sup> he gives a full account of his methods and results, emphasizing the importance of prolonged treatment with, perhaps forty or fifty injections of 606 or 914. In disagreement with Fournier, he holds that syphilis is an infection that does not become attenuated as the years go by; he believes that a clinical cure of tabes may be obtained by thorough treatment, but holds an absolute cure to be impossible. Of the 87 patients he reports on, 29 received from three to ten intravenous injections of arsenobenzene, 28 from eleven to twenty injections, 18 from twenty to thirty injections, and the remaining 12 from thirty-one to seventy three injections apiece. Intrathecal injections of arsenobenzene or of arsenobenzenized serum he condemns out of hand. He gives the drug himself in separate series of from four to seven injections, each at intervals of a week or fortnight, with a month or more between each series. To judge by the detailed reports of his cases, the treatment gives good results.

## OTOSCLEROSIS.

DR. ALBERT GRAY'S reputation as an expounder of otology as well as an investigator in its realms, is well maintained by his treatise on *Otosclerosis*.<sup>2</sup> This disease has always been the opprobrium of this branch of the medical art from the time when it was described by the self-contradictory name of "dry catarrh" of the middle ear, and it will probably remain so for long under the term of "otosclerosis," though Dr. Gray, who designates it "idiopathic degenerative deafness," carries us a step further and reviews the treatment of the affection in a wider manner than any single authority. The predisposing factors, without which the exciting causes fail of effect, receive patient consideration, and among them heredity is assigned a very prominent place. Several family trees are reproduced so far as they bear upon idiopathic degenerative deafness. The exciting causes lead to its development only in those subjects in whom a predisposition—the predisposition—is present. Among these exciting causes Dr. Albert Gray gives a prominent place to suppurative inflammation of the middle ear, and he seems certainly to have proved his point by bold reference to the book of nature. In point of fact his morbid anatomical sections show the association quite unmistakably, and the causal nature of the association seems unquestionable. The characteristic lesion of "otosclerosis" is present along with those of suppurative inflammation, but is quite distinguishable from them. The line of demarcation between the degenerative area of otosclerosis and the surrounding bone, whether otherwise diseased or healthy, is most pronounced, and equally so is the absence of the microscopical features

<sup>1</sup> *Traitement du tabes (Meningomyélite syphilitique postérieure)* By E. Leredde. Paris: A. Maloine et Fils, 1918. (Roy. 8vo. pp. 467 Fr. 14.)

<sup>2</sup> *Otosclerosis. Idiopathic Degenerative Deafness.* By Albert A. Gray, M.D., J.R.S.E. London: H. K. Lewis and Co., Ltd. 1917. Pp. 297; 20 illustrations. 1s. 6d.)



characteristic of inflammation as such. A large portion of the book is occupied by reproductions of "untouched" photographs of microscopical sections of "otosclerotic" temporal bones prepared by Dr. Gray himself. It is with a glow of national pride that we survey the great work of Dr. Albert Gray, which entitles him to a foremost place among the scientific investigators of the world, and justifies still more fully the international honour which has been bestowed on him. He shows himself at the same time a practical healer of the sick, and discusses the treatment with all the human feelings of "an ordinary doctor," setting out in a clear and concise way, but in ample detail, the principles of the treatment he has found to have a satisfactory effect, that is to say, a somewhat more satisfactory effect than had previously been observed. The principles are simple and the details are well worthy of the consideration of those who, as specialists or as general practitioners, have the thankless task of dealing with this obstinate affection. As the result of careful trial and observation he makes short work of some much-vaunted methods. All practitioners ought to read this book, and we say deliberately that no aural specialist can afford to leave it unstudied.

### THE DIAGNOSIS OF PULMONARY TUBERCULOSIS.

As a result of observations at the Southwark Tuberculosis Dispensary and at Brompton Hospital, Dr. JAMES T. MACMANNUS has set forth in a volume entitled *Modern Methods in the Diagnosis and Treatment of Phthisis*, certain conclusions at which he has arrived, more especially with respect to the action and therapeutic value of tuberculin. Incidentally he has collated the opinions of many other writers on the subject. These are by no means unanimous, but rather serve to strengthen the opinion that the use of tuberculin in any given case must be regarded as experimental and that no uniformity of action can be looked for so long as the influence of other septic organisms remains unknown. Only a rough classification is possible, and that does not always correspond to the apparent extent of the lesion in the lungs. Illustrative cases are given of the use of tuberculin in very small doses, gradually increased, and these cases are more than usually convincing from the fact that for the most part the patients were working men who did not vary their ordinary round of life during the continuance of the treatment. It must, however, be assumed that advice as to fresh air and precautionary measures was given and observed in each case; the dose inoculated was insufficient to produce any reaction, in most cases. Altogether, the writer is able to commend the use of tuberculin (with many reservations) as a valuable adjunct to ordinary treatment, but only in selected cases. Of the diagnostic importance of x-rays he speaks with reserve. It was long ago demonstrated that tubercle throws no shadow until it has attained a considerable degree of density, and by that time its presence is usually to be detected in other ways. The early impairment of pulmonary movement and the varying degree in which the affected apex may become translucent on inspiration are of some value in doubtful cases. A bibliography of works referred to in the text will be found to cover most of the work that has been published on the subject of late years.

### AN ITALIAN-ENGLISH DICTIONARY.

BRITISH readers of Italian literature, whether medical or other, are under a heavy debt of gratitude to Mr. ALFRED HOARE for his quarto Italian-English dictionary published three years ago at the price of two guineas. It is not too much to say that this is by far the best book of its sort ever published; before its appearance the anxious reader of Italian literature could only refer to dictionaries that were either mere catalogues of words or books compiled by authors unfitted by temperament or training for the highly skilled work of the lexicographer. Mr. Hoare's quarto dictionary, for all its size, is a model of compression; and in an extensive reading of Italian medical

literature it has hardly ever been found wanting—even in the matter of words appearing to belong to dialects of the Italian tongue such as are met with in certain Southern Italian medical periodicals. An abridged form of the quarto volume has now been brought out by Mr. Hoare under the title of *A Short Italian Dictionary*,<sup>1</sup> and, so far as a brief acquaintance with its merits affords opportunity for judgement, this also appears to be a first-rate dictionary. It is not particularly designed for the use of readers of medical and surgical literature, but appears to be adequate for the use of those unable to afford the larger work. We recommend it strongly to the attention of those who require a trustworthy and up-to-date Italian-English dictionary, and are unable to employ Mr. Hoare's quarto volume.

### NOTES ON BOOKS.

DR. W. H. THOMSON'S *Treatise on Clinical Medicine* is a handsome volume giving a somewhat perfunctory account of the great subject with which it deals. The author begins his book with a chapter on "Catching Cold," a process which exposes any and every part of the body to the entrance of infecting micro-organisms of the most varied kind, and so to disease, through its action on the vasomotor nervous system. "Catching cold" would thus appear to produce a local shutting off of the arterial blood supply in some part of the body; Dr. Thomson adds that the most sensitive part of the body to surface chill is the skin of the forearms. Numerous personal observations of interest will be found throughout the book, which is weakest in such matters as physical signs, pathological anatomy, bacteriological diagnosis, prognosis, and treatment.

That CLARKE'S *Revision of the Eye*<sup>2</sup> should have reached its fourth edition is sufficient guarantee of its soundness. The subject is dealt with in the usual manner, special prominence being given to eye-strain. No amount of reading will ever make a man a good practical refractician, but this book can be safely recommended to the student who is beginning his ophthalmological career as one of the very best on its subject in our language. The whole work has been carefully revised, and it is fully up to date; the chapter on spectacles is excellent, and the last chapter contains by far the fullest exposition of the visual requirements of the various services that we remember to have seen. Printing, paper, and binding are alike excellent.

The second edition of Mr. C. T. KINGSTETT'S *Class-book for Beginners*,<sup>3</sup> beginners aged 14 and upwards according to the preface, preserves the agreeable simplicity of the first edition, with some rearrangements and additions. We have also received for review a new part of the work, forerunner of a third edition. This is descriptive of apparatus and experiments, and contains eighty-one illustrations; its contents are arranged in alphabetical order. We hope that these little volumes will be the effective agents in speeding up the commercial production of the British Empire their author has designed them to be.

Professor JOSLIN'S *Diabetic Manual*<sup>4</sup> is a book written for what the author calls the mutual use of doctor and patient. It is arranged in four parts; the first gives an untechnical survey of the whole subject, the second deals with the treatment of severer cases of diabetes, the third with diet tables and recipes, the fourth (and shortest) with chemical tests of service to those in charge of diabetic patients. The book is complete and clearly written; it will be found useful by medical practitioners, and there are many diabetic patients who could be trusted to study it with advantage.

<sup>1</sup> *A Short Italian Dictionary*. By Alfred Hoare, M.A., F.R.S., Italian English. Abridged from the author's larger dictionary. Cambridge: At the University Press. 1915. Demy 8vo, pp. xxvi + 425, 9s. net.

<sup>2</sup> *A Treatise on Clinical Medicine*. By William Hanna Thomson, M.D., LL.D., Physician to the Roosevelt Hospital, etc. Second edition, revised. Philadelphia and London: W. B. Saunders Co. 1915. Demy 8vo, pp. 678, 25s. net.

<sup>3</sup> *The Errors of Accommodation and Refraction of the Eye*. Fourth edition. By Ernest Clarke. London: Baillière, Tindall, and Cox. 1918. (Pp. 243, with 92 illustrations. Price 6s.)

<sup>4</sup> *Chemistry for Beginners and School Boys*. By C. T. Kingstett, F.I.C., F.C.S. London: Baillière, Tindall, and Cox. 1918. (Small Cr. 8vo, pp. 150, 2s. 6d. net.)

<sup>5</sup> *Diabetic Manual for the Mutual Use of Doctor and Patient*. By Elliott P. Joslin, M.D., Assistant Professor of Medicine, Harvard Medical School, etc. Philadelphia and New York: Lea and Febiger. 1918. Post 8vo, pp. 187, 16 pages, 1.75 dol.

<sup>6</sup> *Modern Methods in the Diagnosis and Treatment of Phthisis. With Special Reference to Tuberculosis*. By James T. MacMannus, M.B., B.Sc., B.A.O. N.U.L., D.P.H. Oxford: London: John Bale Sons, and Danielsson. 1913. (Demy 8vo, pp. 64, 2s. 6d. net.)



## MEDICAL EDUCATION IN ENGLAND.

THE OVERLOADED CURRICULUM AND THE INCURSION OF  
THE EXAMINATION SYSTEM.

BY

ERNEST H. STARLING, C.M.G., M.D., F.R.S.,

JOSEPH L. FROST, M.D., F.R.C.P., UNIVERSITY COLLEGE, LONDON.

SIR CLIFFORD ALLDUTT, in the *BRITISH MEDICAL JOURNAL* of August 3rd pp. 113, gave a general indication of the scope of the memorandum on medical education in England addressed to the President of the Board of Education by Sir George Newman, but the memorandum contains so much matter and raises so many important questions that it affords material for discussion from many points of view. I propose to deal only with two.

Let me, however, as a preliminary say that the note of hopefulness which pervades this report is distinctly encouraging to those who, after years of endeavour, are inclined to regard the position of medical education in London as irremediable. As the author points out, the last few years have been marked by a growing sense of the importance of medical education to the State and a growing recognition by public and Parliament of their dependence on the medical profession in all measures affecting the health and social welfare of the community. But hitherto one of the main obstacles to reform of medical education has been the lack of interest, or even the fatuous self-satisfaction in things as they are, displayed by all grades of the profession. Each medical man has been interested only in his patients, and the point of view even of the leaders of the profession has rarely extended beyond the walls of their own medical school. Three-quarters of the medical teachers in London are probably of the opinion that all would be well in medical education if only their particular school could receive larger grants in aid of its educational work.

But in the concentrated activity of the community which is characteristic of the state of war, medical men have learned to regard themselves not merely as purveyors of advice and physic to a limited section of the public, but as integral parts of a great organization for conserving the health and fitness of the community. They have come in contact with conditions which to them were previously unknown, and have learned to expect from science, from organized research, the solution of their difficulties and the provision of means by which to prevent and combat disease. Failure of medical measures in the army is at once translated into incapacity, and appears in its numerical magnitude in the army returns. Both practitioner and consultant have learned to know their ignorance as well as their powers when co-operating in the employment of scientific method for the maintenance of our fighting forces. They will thus be ready for the strenuous times of social development, if not revolution, which must immediately succeed the end of the war.

We may hope that the able commentary on the sick body of medical education in England, which we have here from Sir George Newman, will be read, marked, and digested by the medical profession. If we take its lessons to heart, we may show ourselves as capable of striking out new lines in this important aspect of human activity as we have in the multifarious inventions of war. He rightly points out that medicine has become a quasi-public profession, in the character and equipment of which the State is deeply concerned. Thus medical education is a problem of national concern. This being the case, it will be necessary for medical men to face the problem of a root-and-branch reform of our education system, if such a reform is not to be imposed on them by the State of which they are the servants.

The teachers of medical students are at present confronted by a dilemma, which they are attempting to solve by the use of worn-out machinery invented at a time when medicine was little more than a craft entrusted to a guild jealous of its privileges and its perquisites. The ever-widening scope of knowledge demanded from the medical man in the struggle against disease has brought about an

enormous increase in the number of subjects which have to be crowded into the all too short five years' curriculum. On every hand one hears of the overloading of the curriculum, and yet it is impossible to say that any of the subjects which have been introduced are unimportant to the medical man. And withal we do not attain in the qualified practitioner, as turned out from our schools, the broad culture, the acquaintance with scientific principles, and the facility for the acquisition of new ideas which are necessary if he is to play his part in the ever-changing front of medicine.

Sir George Newman points out two fundamental conditions which must be realized before we can hope to adjust medical education to the needs of the present day. In the first place he says, "It is clear that the Commonwealth does not require two standards of medical men, one having received an inferior form of training and the other a superior form. All medical education should be fundamentally one and the same in regard to basis, technique, and spirit. All practitioners require a minimum of comprehensive training, the same elements of scientific method, a similar scientific inspiration." This can be achieved only by a university education in medicine for every medical man, "and the foundation of such an education is science." The passage which he quotes from Leonardo da Vinci is a word to the leaders of our profession as much as it is to the Army Council. "Those who are enamoured of practice without science are like a pilot who comes into a ship without rudder or compass and never has any certainty where he is going."

The memorandum abstains from entering on the thorny question of university reform, though in London the whole question of medical education is intimately bound up with the provision of a real university or universities. It is to be hoped that the wider outlook gained by all of us through these years of war will enable us to avoid repeating the mistake of trying to confine all the university activities of London within the meshes of a monstrous machine, which would continue to have the same paralysing influence on higher education as it has had during the last fifty years, and would perpetuate in this country the conditions brought about in France by the establishment of the "University of France," conditions from which the French universities were only just beginning to recover before the war. Greater London with its ten million inhabitants could and should support half a dozen universities. While our university institutions continue to be bound to the examining body which has been called the London University for so long, the progress of medicine and of medical education must remain suspended; for it is the examination system which has been the curse of medicine, as of all higher education in this country, destructive to the university spirit, stunting to the development of the student, and a dreary prison house to the teacher. Sir George Newman points out that many of the difficulties and shortcomings of the past have been due "partly to an attempt to turn out merely an adept technician, and partly to overloading the professional curriculum in regard to information to be acquired to the detriment of real training in science and the scientific spirit; yet it is this and not an encyclopaedic store of information which is a desideratum."

The whole examination system is at variance with the spirit of university teaching; the latter has as its object the enlargement of the mental content of the individual, the broadening of his point of view, the training of his power to deal with new situations, and his familiarization with the avenues of knowledge. An examination tests merely the student's power of acquisition; it determines whether he can retain for a few weeks or months a certain number of facts. It is a training and preparation not for the physician but for the advocate, who has in a few days to get up the salient features of a case, laying stress not on the truth, but on such verbal presentment as will appeal to the jury so that he may win the case for his client. Thereafter he dismisses all he has learnt, if such can be called learning, from his mind. How many men could present themselves for an examination with any chance of success six months after they had passed it?

But it is not the forgetting of what they have known that matters, it is that, during their time of preparation, they have stifled, perforce, their spirit of curiosity, in order to confine their whole attention to such facts as can be verbally presented in an examination. The proper

SIR GEORGE NEWMAN, M.D., F.R.C.P., F.R.S., President of the Board of Education, has addressed a memorandum to the President of the Board of Education, Sir George Newman, K.C., M.D., F.R.C.P., F.R.S., Chief Medical Officer, and Principal Assistant Secretary of the Board of Education, and Member of the Council of the University of London, and the Board of Medical Education, 1918, pp. 123. To be obtained through any bookseller. Price 6d.



training for an examination, as ordinarily conducted, is not a university course but a cramming class. Every teacher at present must feel that he is not giving what his student is desirous of receiving. The student has to pass an examination before proceeding with his career. The good teacher, instead of training him for this particular type of hurdle race, endeavours to give him some of the spirit of the subject and to lay a foundation for the student's future work. Thus, the teacher gives at the same time too much and too little. The curriculum is overloaded and yet not full enough for the training of the medical man. The evil is intensified by the fact that almost all the examinations are conducted in part or in whole by men who have had nothing to do with the training of the student. Thus the teacher has a divided aim: not only must he prepare the student as seems to him best for the aims that he has in view, but he must take care that the student is prepared to face the tests applied by other teachers with different ideals and methods. After quoting Huxley's saying that "examination, like fire, is a good servant but a bad master," the author of the memorandum proceeds: "In medicine at the present time it cannot be said that examinations are subsidiary, or that they do not injure education. Their influence is omnipresent, and not seldom dominant; and in many cases they prescribe, restrict, and even nullify the course of education, bringing in their train all the pernicious influences and evils of the cramming system." While he accepts the need of some test for efficiency, he claims that such a test, "instead of being momentary, unequal and hazardous, should be prolonged, equitable, and relatively certain in its application; a test comprising as its chief factor the whole training and record of the student throughout his course, the form and content of the curriculum, the work done, the hospital cases clerked and dressed, the practical examinations of the class, and so forth." He concludes that such a reform in examination depends on a new spirit in teaching. But how if every new spirit in teaching is smothered at its birth by the prevailing system of examination and tests? Especially is the malign effect of examinations felt in the case of the preliminary and intermediate subjects of the medical curriculum. We do not want the medical man or student entering the wards to have at the tip of his tongue the properties and atomic weights of all the elements, or to be prepared to give a historical account of the views concerning the origin of the heart beat. We do want, however, that the student shall have dipped so deeply into the sciences of chemistry and physiology that he has become imbued with the scientific spirit, and that he knows where to turn to refresh his knowledge on any matter germane to the problems which concern him in the wards.

And here is the only use of examinations—namely, as a means of testing the progress of his student, when conducted by the teacher during his course. The examination system should therefore be continuous part and parcel of the education, and not its soulless despot. The relegation to the teacher himself of the testing of the fitness of the student to pass to his subsequent studies would not only lighten the burden of the student but would enable the curriculum to be broadened and extended as required by the continual advance of medical science.

But this question brings us back once more to the provision of university teaching for medical students. While the scientific teachers are the servants of associations of practising physicians and surgeons, whose professional success depends upon the number of students they can attract to their schools, it is hardly possible to entrust the testing of the student to his own teacher. This is only possible when the teacher is part of a learned corporation, of a university whose sole object is the advancement and diffusion of learning, and whose credit depends upon the quality of the men it turns out into the world. No doubt the State will always require some external test to be imposed before it allows the student to undertake the practice of medicine, but this test should be confined to the minimum requirements for the safety of the public, and would properly be held by bodies of practising physicians and surgeons similar to those who at present conduct the final examinations.

It really does not matter whether the State assumes the direct responsibility for such a qualifying examination, or delegates it to the various associations of practitioners which are in existence in different parts of the country. The universities would achieve freedom by relinquishing

their licensing powers. They would be able to develop their training in the directions best qualified to bring out the mental powers of their students and to advance the science of medicine, without having their activities continually frustrated by the necessity of conforming to the regulations of an external qualifying authority and their spirit mutilated in the procrustean bed of the present examination system.

I have only touched upon two points in Sir George Newman's report. There is, however, hardly a page which does not furnish food for reflection and which does not present many texts for commentary. Thus he discusses with much fairness and acumen the question of whole-time professors for medicine, the part which preliminary science should play in the training of the medical student, and the relation between physiology and clinical medicine. Of especial value is his masterly treatment of the meaning and needs of preventive medicine, and the part which the medical man will be expected to play in relation to the State. If the changes which must follow the war are to be based and guided by an informed medical opinion, no better means to this end can be imagined than a careful study of Sir George Newman's report by all the members of the medical profession.

## THE EDUCATION ACT AND THE MEDICAL PROFESSION.

By H. B. BRACKENBURY,

MEMBER OF THE COUNCIL OF THE BRITISH MEDICAL ASSOCIATION;  
VICE-PRESIDENT OF THE ASSOCIATION OF EDUCATION  
COMMITTEES.

THE Education Act, 1918, adds to the duties and powers of local education authorities with regard to the health of children and young persons, and thereby in some respects materially affects the interests and the position of members of the profession in this connexion. For the past ten years it has been the duty of every education authority to arrange for the medical inspection of every child attending the public elementary schools, and it has been within the power of such authorities to provide medical and surgical treatment for any such children as were found to need it. In spite of considerable pressure from the Board of Education, the majority of local education authorities have not exercised this power, though a larger number, without themselves arranging for medical treatment, have established services ancillary to medical inspection in the direction of keeping children under observation to see that treatment is obtained and assisting towards it. The new Act extends these medical services for public elementary schools in two ways: In the first place, the provision of medical treatment, instead of being optional, will be compulsory; the power of the authority to provide it is converted into a duty. In the second place, the number of children concerned will be immensely increased. Hitherto a considerable proportion of children have left the elementary school at thirteen or even at twelve years of age. Henceforth no child may leave before the end of the term in which it reaches fourteen years of age; the local authority may require it to continue till fifteen years of age, and may, with the consent of the Board of Education, permit it to remain in the elementary school till an even later age than this. All these children will have to be medically inspected, and provision will have to be made by the education authority for their treatment.

More important even than this in its effect on the profession is the fact that the new Act extends medical inspection and treatment to schools other than elementary, and to children and young persons of a social class and of an age for whom no public provision has hitherto been made. Every local authority for higher education must make provision for the medical inspection of pupils in attendance at its secondary schools, at its continuation schools, and at certain other educational institutions, even though they be under private control and management; and may arrange for the medical treatment of such pupils at the cost of the education rate. These duties and powers are of a very far-reaching character, inasmuch as all young persons up to sixteen years of age are to be compelled to attend such schools and, after the lapse of seven years from the day on which the clause comes into operation, the age of compulsion is to be raised to eighteen years except in the case of those who have been



under efficient full-time instruction up to the age of sixteen. Even now, of course, many persons between sixteen and eighteen years of age are in attendance at such schools, and will therefore be subject to the medical provisions, and the number may be expected to increase as the full compulsion is in force. Further, the Act gives local education authorities power to arrange for establishing evening primary schools for children over two and under five years of age, and for attending to the health and physical welfare of children attending these schools.

Thus most children and young persons between two and eighteen years of age, and all those between five and sixteen, are brought within the purview of the school medical services. They must all be medically inspected, and medical treatment may be provided for all of them and must be available for most of them under the auspices of the local education authorities. It is clear that there will have to be a great increase in the number of medical men or women engaged in the work of medical inspection, who are usually whole-time officers; and that the arrangements for giving medical treatment, which in most cases have hitherto been far from satisfactory or adequate, will need to be very carefully considered in the interest both of the public and of the profession.

The conditions laid down by the Act either directly or by reference to the Education, Administrative Provisions, Act, 1907 under which medical treatment may be provided are three: First, the arrangements must be sanctioned by the Board of Education, who may require authorities to submit complete schemes for their consideration. Before submitting a scheme the authority is required to consult the other education authorities concerned. This is important, for schools and children in a non-county borough or urban district may be subject to the administrative supervision of more than one authority. The authority is required also to give suitable publicity to its proposals, and to consider any representations made by parents or other persons or bodies of persons interested. Secondly, the authority may provide treatment by encouraging or assisting the establishment or continuance of voluntary agencies, and may associate with itself representatives of voluntary associations for the purpose. Thirdly, the authority must not establish a general domiciliary service of treatment by medical practitioners for children and young persons, and must consider how far it can avail itself of the services of private medical practitioners. This last condition was inserted in the Act on the initiative of the British Medical Association; and though its wording is not as strong as the Association desired, taken in conjunction with the other conditions and assuming a continuance of the sympathetic attitude of the medical department of the Board of Education, it should be a valuable protection to some professional interests. The attention of practitioners in every area should be drawn to these conditions, and to the opportunity they offer for making their views and influence of the profession felt.

The medical clauses of the Act are already in force in so far as they confer powers, but not in so far as they impose duties upon local education authorities; that is, authorities may now be allowed to extend their medical services in the directions indicated, but will not be obliged to do so until the Board of Education name an "appointed day" for this purpose. Representations have been made by the Association to the Board that, both with a view to the securing a wider choice of practitioners by authorities for their services and in common fairness to the men who are now doing naval and military work, it is desirable to postpone the appointed day till some reasonable period after the end of the war, and it is probable that this will, in fact, be the course adopted.

There are a few minor points in which the medical profession is affected by the Act. Two of these may be mentioned. The administration of the Employment of Children Act, 1903 (except in the City of London), is transferred from public health authorities to local education authorities. In some areas this had already been done, where possible, by resolutions of the authorities themselves; but some important matters will now come under the consideration of the school medical officer as such, instead of the medical officer of health as such. No change is made by the Act in connexion with mentally defective children, but when as it was formerly a function for a local education authority to take cognizance of

certain classes of physically defective or epileptic children and to provide for their education, it is now made obligatory for them to do so. This, again, will add to the duties of the school medical officer in a large number of areas.

The really immense addition which the Act makes to the medical services administered by authorities which are not primarily concerned with health emphasizes the importance and urgency of the need for unifying all health administration both centrally and locally; and it is interesting to note that the President of the Board of Education himself, in one of his speeches on the bill, expressed the opinion that the medical functions of the Board would ultimately be transferred to a Ministry of Health. The double provision which is being made for the medical treatment of some classes of persons, the possibility of aggravating the confusion and overlapping already too evident in this connexion, the danger of the development of undue specialization to the detriment of the education and practical experience of the general practitioner, and the narrowing of outlook of the manufactured specialist himself or herself, will be more obvious to the members of the medical profession than they can be to others. Herein, in addition to other reasons, lies the necessity for the profession to make its influence felt in the administration of the Act and the need for local administrators to take advantage of the experience and knowledge of the profession. But, though alive to these dangers, there is no doubt that the medical profession welcomes, as warmly as any other section of the community can do, the improvements which the Education Act, 1918, makes it possible to effect in the education and physical welfare, and therefore in the efficiency and happiness, of our people.

## SHELL SHOCK AND WAR NEUROSES.

WITH the approval of the D.G., A.M.S., the course of instruction in shell shock and war neuroses will be resumed at the Maudsley Neurological Clearing Hospital, Denmark Hill, S.E.5, on September 20th, at 3 p.m. It will be open to all medical officers of British Navy and Army Services, to officers of the American Medical Service and to civilian practitioners.

The success of the first course, which was attended by twenty officers belonging to the medical services, Imperial and Dominion, and twenty civilian practitioners, has induced the Director-General to permit this systematic course, which will extend over three months, to be given.

### SYLLABUS.

*Practical Teaching.* Daily instruction and practice in diagnosis and treatment for officers of the medical services. Mornings, 10 a.m. to 12.30 p.m.; afternoons, 2 p.m. to 4 p.m., except Saturdays and Sundays.

*Systematic lectures with demonstrations* of illustrative cases on Tuesdays and Fridays at 5 p.m.

1. The anatomy, physiology, and pathology of the nervous and muscular systems applied to the diagnosis, prognosis, and treatment of shell shock and war neuroses.
2. The physiological and pathological conditions underlying shock, emotional, constitutional, and surgical.
3. The methods of examining cases of functional nervous disorders (hysteria, neurasthenia, and psychoses) and the determination of fitness for military service.
4. The methods of differential diagnosis of organic and functional disease and the combined conditions.
5. The diagnosis of conscious simulation (malingering), unconscious simulation and exaggeration.
6. The general principles of treatment of functional diseases of the nervous system.
7. General aspect of the surgical side of neuro-muscular disabilities.
8. General principles of psychology as applied to war neuroses and shell shock.

The course of lectures will be open to all officers belonging to the British, Colonial, and American medical services, and to civilian practitioners who obtain a letter of introduction from a physician or surgeon attached to a university or hospital medical school.

Applications to be made to Brevet Lieut.-Colonel F. W. Mott, M.D., F.R.S., Maudsley Neurological Clearing Hospital, Denmark Hill, S.E.5, where the course will be held. All applications will be submitted to the D.G., A.M.S. No fees will be charged.

An Order has been issued by the Local Government Board extending the expression "local authority" contained in the Local Authorities (Food Control) Order No. 1, 1918, to include the county council of an administrative county.



# British Medical Journal.

SATURDAY, SEPTEMBER 7TH, 1918.

## THE FUTURE OF VOLUNTARY HOSPITALS.

IN the general discussion of the proposal for the establishment of a Ministry of Health it is well that the British Hospitals Association should take part. We were glad to publish in our issue of August 24th (p. 102) the principal propositions contained in the pamphlet<sup>1</sup> by Mr. J. Courtney Buchanan, one of the honorary secretaries of that association, issued in preparation for a conference which is to be held on October 18th at St. Thomas's Hospital. The proposition that in any scheme for the communal dealing with the treatment of disease the provision of accommodation in hospitals must form an essential element is so obvious as to need no argument. It is well, too, that the hospital question should be considered before the establishment of out-patient clinics, apart from hospitals, has become general throughout the country. Every one with hospital experience realizes that the out-patient department, as at present constituted in the vast majority of voluntary hospitals, is unsatisfactory, and in the propositions for discussion at the conference called by the Hospitals Association for October 18th the need for reform in this connexion is forcibly suggested. It is very unfortunate that just as the Government took for its model the bad system of "club practice" in framing the medical clauses of the Insurance Act, so the municipal and county authorities, with the approval of the Local Government Board and the Education Office, seem to be basing their schemes for treatment upon the one department in voluntary hospitals which is generally acknowledged to be unsatisfactory and in need of reform. This gradual extension of out-patient departments—in the form of school clinics, baby clinics and treatment centres, where the patients come up week by week in all weathers, often have to wait long hours, and in the end, after a brief interview with a doctor, go away with a bottle of medicine or a pot of ointment—is wrong in principle and unsatisfactory in practice. Apart from special clinics—such as those for the ear, or the eye, or venereal disease, and special departments such as those for x ray, light, or electrical treatment—the out-patient department should, on the one hand, be restricted to consultative or teaching work, and on the other should be merely a clearing house in which the patients are sorted and allocated for treatment as in-patients, in special departments, or in their own homes. Such a department can only be satisfactory if it is attached to a hospital staffed mainly by specialists who are in close touch with the doctors practising in the district served by the hospital.

Mr. Courtney Buchanan in his pamphlet gives cogent reasons for the retention of the voluntary hospitals, and expresses the opinion that "lay administration should, as far as possible, be continued and retained"; he does not discuss the effects that would flow from the replacement of the voluntary institutions by State or municipal hospitals, as desired

by some theorists who seem to take the near approach of the change for granted. The reputation of a hospital depends upon the reputation of the staff, and experience of municipal administration in medical matters in the past makes it unlikely that the present system of visiting staffs, consisting of men of high standing in the profession, would long remain under municipal management. Further, the lay members of the hospital boards as a rule consist for the most part of men who have devoted years to the study of hospital management, and it will be disastrous if they are replaced by "Health" committees with their ever-changing personnel.

It should be possible to evolve a scheme which would conduce to the maximum of efficiency at the minimum of cost in money and personnel. Such a scheme would provide, first, that all medical institutions in an area should be grouped round or associated with a voluntary general hospital. Secondly, that all patients should be paid for, either by the municipality or county authority, or by the State, or from a fund raised by voluntary subscriptions, the payment to include an honorarium for the medical officer under whose care the patient is placed. The third point would be that the management should be in the hands of a committee consisting of representatives from the various contributing bodies, including representatives of the medical profession; the fourth that the State should be responsible for the establishment and upkeep of research laboratories, and the fifth that money for extensions or rebuilding should be provided equally by the State, the municipality, and from voluntary contributions. Another very important principle is that all voluntary hospitals should be open for the education of students and nurses, either in association with medical schools or for purposes of graduate study. The Ministry of Health should have power to inspect and report upon all institutions of the nature of hospitals.

## THE CONTROL OF MALARIA.

THE study of malaria presents us with three great problems—the first is, can malaria be abolished? the second, can it be avoided? and the third, can it be cured? In a memorandum issued in India a few months ago, Colonel (now Major-General) P. Hehir, I.M.S., treated certain aspects of each of these problems. When a critical judgement is to be passed on antimalarial campaigns it is often difficult to decide whether those reckoned successful were so in fact, because the measure of the antecedent malaria in the place is often lacking in precision. Even if the estimate be adequate it will often be impossible, if more than one method was employed, to assign to each its share, if any, in bringing about the successful result. General Hehir states clearly the preliminary observations to be made when an antimalarial campaign is to be undertaken. The most important are, to get accurate measures of the number of cases of malaria and the number of anophelines. Information as to the second is best recorded on a large scale map, on which notes, as complete as possible, are made of all breeding places and of buildings frequented by the adult mosquito. On the first point, the most accurate information is to be obtained from the malarial index—that is to say, the number of persons found by microscopical examination to be infected. Failing this, which must often be a counsel of perfection, General Hehir, like some other practical students of the administrative question, holds that reliable information may be obtained from the spleen index—that is to say, the percentage of children

<sup>1</sup>London: The Scientific Press, Ltd., Southampton Street, Strand, W.C.2. '6d.)



between 2 and 10 years of age with enlarged spleen due to acute or chronic malarial infection. There is, as is well known, a considerable amount of malaria amongst Indian children; of 3,884 children in various cantonments in the plains examined a few years ago, it was found that during the malaria season there was an average of 60 per cent. with enlarged spleen and of 40 per cent. with malarial parasites in the blood. The conclusion that the children of cantonments are the chief reservoirs of malarial parasites and the source whence a great deal of the malarial infection is spread appears to be justified.

It has been argued that the demand for information as to conditions existing before a campaign is started is scientific pedantry, and that if the result of a campaign is good that is sufficient. This contention will not stand examination either from the theoretical or the practical point of view, for if we can apportion to each of the factors its share in the result we may be in a position in a subsequent campaign to get the same result more economically. It is on record, for example, that campaigns have been conducted against *Myzomyia rossii*, though all the existing evidence shows that this mosquito does not transmit malaria. Again, if the result of a campaign is failure—for not all campaigns are successful—unless we have accurate preliminary information we shall be in the dark as to the cause of the failure; as General Hehir observes, “in intensely malarial areas, in many cases, do all that is reasonably possible and malaria is not mitigated.” On the other hand, he gives a list of some ten cantonments that have been “vastly improved by persistent antimalaria sanitation.” Unless antimosquito campaigns are conducted as a scientific experiment is conducted we may in the course of a few generations find the subject shrouded in the same bewildering atmosphere of doubt that now surrounds one aspect of our second great problem, which is whether malaria can be avoided by the use of quinine.

A distinction must be drawn between the protection against infection of a non-infected population and the protection against relapses of an already infected population. Whether protection against infection is possible we do not know; that is to say, we do not know whether any dose of quinine will prevent sporozoites establishing themselves in the human host. There is a widespread belief that “five grains a day” is effective in this respect, but it cannot positively be asserted until we have more tangible evidence. In Macedonia the prophylactic value in this sense of quinine in doses of varying magnitude might have been determined by a system of control, some men being given quinine and others none. If all received quinine no conclusion on this head can have been reached.

When we come to the question of protection against relapse in an already infected population we find ourselves in a maze of contradictions. Treadgold, in this JOURNAL, recently tried to thread this almost impenetrable jungle of records. It would be better to begin again and to conduct a fresh inquiry on a scientific basis, instead of trying to sift the grain from the chaff in the literature, “much of which,” Treadgold concludes, “is of little value owing to the lack of detail and to the impressions of the writers being uncontrolled by clinical experiment.” What we require is the data on which opinions were formed so that we may examine them and see if they are sound.

As to the question of protection against relapse in the case of simple tertian malaria, in this country at least, there is now very clear evidence that relapses

can be controlled (not cured) almost absolutely by certain doses of quinine; but whether this applies also in a tropical or sub-tropical climate, where there is frequently the complicating factor of the constant possibility of reinfection, is quite another matter. Under these conditions careful experiments alone can supply the answer. Experience of simple tertian malaria in this country during the war has disclosed the fact that it cannot certainly be cured by any dose of quinine, big or small, given for days, weeks, or months by the mouth, muscle, or vein. Whether this applies to the tropics we would much like to know. Some cases no doubt appear to be cured by quinine, but the same happens without quinine.

In very few records is a distinction made between simple tertian and malignant tertian malaria. The two parasites, as recent work has shown, react very differently towards quinine and this difference alone might explain a difference in prophylactic results. General Hehir speaks of the disuse of quinine for some days in order to make a diagnosis in a negative case. In this country a few days would in simple tertian malaria be quite useless, as when the blood is negative after administration of quinine (which is then omitted) neither asexual nor sexual parasites reappear in the great majority of cases for at least a fortnight (sometimes much longer). Unlike malignant tertian gametes (crescents), simple tertian gametes come and go with the asexual parasites, and the screening of simple tertian malaria cases after an adequate dose of quinine is not a sound policy.

It is stated that a year's residence (without treatment) in a malaria-free hill station eliminates 98 per cent. of infections in native children. We take this to mean that the children showed no signs of malaria, but this is not equivalent to proving them free from infection, for at present we have no means of proving such freedom; the observation is, however, of great interest from its bearing on the question of “spontaneous cure.”

If there be any who still cherish the idea that malaria can be abolished by oiling a few pools or by some other facile method they will do well to read General Hehir's memorandum.

#### RECENT SMALL-POX THROUGHOUT THE WORLD.

In the comparatively short space of 104 pages Dr. R. Bruce Low has made a remarkable and very valuable contribution to the literature dealing with small-pox. His report to the Local Government Board on *The Incidence of Small-pox throughout the World in Recent Years*<sup>1</sup> presents facts and figures relating to 112 countries and in most instances the information deals with long periods down to recent times. Those who have come to regard small-pox as a thing of the past will be disillusionized by this report. Two considerations render its publication most opportune. One of these is associated with the special danger of an outbreak of small-pox owing to war conditions. The other has reference to our unpreparedness. Dr. Bruce Low describes the devastation caused by small-pox during and after the Franco-German war in 1870, when the disease attacked first the belligerent nations and afterwards the whole of western and northern Europe, producing a death toll of half a million. Small-pox was prevalent in central Europe in 1917 and exists at the present time in Russia and other countries. Dr. Bruce Low sounds a grave note of warning and foresees difficulties and dangers should small-pox of a virulent kind reach this country. He refers to the frequency with which the infection is conveyed by

<sup>1</sup> *The Incidence of Small-pox throughout the World in Recent Years*. By Dr. R. Bruce Low. 1918. H.M. Stationery Office (New Series 117). (2s. net.)



shipping, a danger to which this country is specially exposed. The neglect of vaccination and revaccination in this country is a most serious factor. Many medical officers of health, public vaccinators, sanitary inspectors, and vaccination officers, are, it is stated, on military service, and their places are filled by men less experienced, and, therefore, less likely to deal efficiently and promptly with the beginnings of an epidemic. The report is not without a moral. It is that "security should be obtained by individual action without delay." This shifts the responsibility from the state to the individual, but the preparedness to face an epidemic of small-pox is surely an affair of the state as well as of the individual. The introduction to the report demands and deserves very serious consideration. Antivaccinators have pointed with satisfaction to the fact that small-pox has been prevalent in Germany, but in a supplementary note on the outbreak it is stated, on the authority of Professor Kirchner, that of 1,000 consecutive cases examined to ascertain the age incidence only 150 were under the age of 30 years; 501 of the remaining 850 had attained the age of 60 years. Those attacked were either unvaccinated or had not been re-vaccinated within ten years. Russian prisoners of war are stated to have conveyed the infection to Germany and Austria. As a work of reference the report, which is succinct and at the same time comprehensive, will serve a useful purpose. The small-pox statistics are brought up to date within the limits of present war conditions, and so far as details are now available. A desirable purpose would doubtless be served if copies of the report were circulated among vaccination committees in all parts of the country.

#### INTER-ALLIED FOOD CONTROL.

CONFERENCES have been taking place in London between the Food Controllers of France, Italy, America, and Great Britain, with the object of developing the organization of the Inter-Allied Food Council. The cereal crop of 1918 is said to be generally good, although there are complaints in this country that the wheat is not threshing out as well as it looked, and it must be remembered that large tracts of France are either still in enemy occupation or so completely devastated that they will take years to get into full cultivation. A very important step was taken when the three countries combined to appoint a Wheat Executive, with a Wheat Commission sitting in London, which buys in Australia, Canada, America, India, and the Argentine. This measure has done away with the competition of the several countries in neutral markets, and the task has been simplified since America joined the Entente. The message sent by President Wilson through Mr. Hoover, "We are dining at a common table in a common cause," states the position epigrammatically. It is intended to establish, in addition to the Wheat Commission, three others—one for meat and fats, another for oil-yielding grains, and the third for sugar. The Inter Allied Food Council is acting in complete unison with the American Food Controller and will give attention not only to the purchase and importation of food, but to its distribution. In the allotment of food of various kinds to the several countries it will be guided by the decisions which the Inter-Allied Scientific Food Commission reached at its meeting in London last June, although it is possible that these decisions may need some revision in the light of further experience. The Council is credited with the intention of forming reserves of cereals in America and Europe to guard against bad harvests in the immediate future. The Food Controller in this country has recently issued a new cereal instructions order regulating the use of wheat, rye, barley, and dredge corn for the feeding of animals. Grain fit for human consumption must not be given to animals; grain unfit for human consumption can only be so used under licence, except in the case of small quantities not exceeding 10 cwt. The fact that last year grain unfit for human consumption sometimes

commanded a price higher than the regulated price for grain fit for human consumption shows that a good deal of care will be necessary to make the order effective.

#### CARDIAC HYPERTROPHY IN AVIATORS.

In the course of a series of x-ray examinations Étienne and Lamy<sup>1</sup> have found evidence that hypertrophy of the left ventricle is constantly present in aviators after five months' flying, and that this hypertrophy develops in two phases—the first of rapid growth so that appreciable enlargement occurs in the course of some months, and a second slowly progressive increase, shown by the outline of the left ventricle, which brings the apex close to the nipple line, even in men who have been flying for two or three years. The hypertrophy is proportional to the altitude at which the aviator usually flies, being more marked in those accustomed to an elevation of 15,000 ft. than in those usually flying between 3,000 and 9,000 ft. It would appear to persist, for it was still very noticeable in a man who had left off flying for more than eight months. Dilatation of the right ventricle was only found in one instance, and then in association with hypertrophy quite out of proportion to the elevation at which the aviator had usually flown. For a long time there are no symptoms nor any functional disturbance. The hypertrophy is seen both in those whose previous life was sedentary and in those devoted to athletics, and appears to be a physiological adaptation to the constantly changing conditions during aviation. Thus the systolic blood pressure rises after the aviator reaches an elevation of 7,500 ft., and falls after the flight; the fall may be as much as 20 mm. of mercury when the descent has been from a height of 15,000 or 18,000 ft. The diastolic pressure falls during the flight, and after the flight rises 5 to 10 mm. or more when the descent has been rapid. The cardiac hypertrophy may be due to the rise in the systolic and diastolic pressure, but possibly repeated phases of sudden low pressure may also play a part. In support of this rather unlikely explanation it is stated that experimental rabbits, allowed to live for six months after repeated intravenous injections of the depressor bases of the urine, had enormously hypertrophied hearts, which indeed were much larger than those seen in rabbits injected with adrenalin or the pressor bases of the urine. It is probable that the frequency of the blood pressure changes is more important than the actual rise or fall in causing the cardiac hypertrophy; as Ferry has pointed out, the organism of the aviator when in the air is constantly attempting to maintain a condition of circulatory equilibrium which, however, is always elusively escaping from control.

#### THE NIGHTCAP.

THE nightcap, once an essential part of the bed equipment of our ancestors, now a relic of the past, has found a champion in Dr. Burns Selkirk, an interesting communication from whom will be found at p. 255. He defends it on the ground of war experience, and suggests that the use of the "cap comforter" might with advantage be extended to civilians suffering from insomnia not of gross organic origin. Men exposed to all the miseries of the troglodyte life which trench warfare involves naturally seek protection against cold; it is not surprising, therefore, that the use of such head-gear has become very general among our troops in France. Dr. Selkirk asks how the nightcap came into such universal use in former days. It may be pointed out that it did not become fashionable, if the word is allowable in connexion with so homely a matter, till the first half of the last century. In *Julius Caesar* Shakespeare indeed speaks of "sweaty nightcaps," but it is the "rabblement" that wears them. Swift, again, mentions the "humbled swain" whose "nightcap border'd round with lace, could give no softness to his face." But



the heroic period of the nightcap was that of Mr. Pickwick. In the classic work in which the story of that philanthropist's expeditions is told it plays a conspicuous part, notably in the bedroom scene at the Great White Horse, Ipswich, when Mr. Pickwick had his compromising adventure with the middle-aged spinster in yellow curl papers. From the poor man's desperate attempts at explanation it may be gathered that it was considered improper for a man to be seen by a lady in a nightcap. But, after all, Mr. Pickwick's condition was no worse than that of the lady herself, who is described as enveloping her hair in a muslin nightcap with a small plaited border; yet she showed no sign of discomfiture on that account. Where Mr. Pickwick, like another Don Quixote, comes to the rescue of a supposed damsel in distress at Bury St. Edmunds all the young ladies in the school are drawn by Phiz attired in more or less ornamental nightcaps. The nightcap appears as an appropriate part of the scenery in Douglas Jerrold's *Candle Lectures*. Passing from fiction to fact, we may recall a well-known story in which the nightcap figures in a very pleasant light. In 1613 Astley Cooper cut a rich West India merchant for stone. On taking his leave, when the case had ended triumphantly, the grateful patient flung his nightcap at the surgeon's head, saying, "There, young man, put that in your pocket." Cooper "pocketed the insult," and found in it a cheque for a thousand guineas. This is a use for the nightcap which would doubtless still meet with the approval of the profession. To this day the nightcap has not become altogether extinct; in an illustrated paper of August 3rd there is a portrait of a centenarian lady wearing such a head covering. Although the disuse into which the nightcap has fallen is a matter of recent history, there was from very early times a difference of opinion among doctors on the question. In a summary of precepts of old Chinese physicians given by Du Halde is the following: "Sleep with your head and face uncovered so that you may breathe more purely and freely." Benjamin Rush, the famous Philadelphia physician, one of the signatories of the Declaration of Independence, in his *Account of the State of the Body and Mind in Old Age*, published in 1793, says the head should be defended in old people by means of woollen or fur caps in the night, especially when the head has been deprived by time of its natural covering. Sir John Sinclair, in his *Code of Health and Longevity* (second edition, 1807), says, speaking of night clothing, that in regard to the head it has been much disputed whether it should be covered warmly or not. He quotes Cleland as contending in his *Institutes of Health* that to sleep bareheaded is a dangerous experiment; and that it is necessary to keep the head warm, especially during sleep. On the other hand, Sinclair himself says it was an old maxim for the preservation of health to keep the head cool and the feet warm. But, he says, "it is too prevalent a custom to sleep with warm nightcaps and spend one-third of one's time in this unnatural manner." He considered that the head thus became more apt to catch cold on any sudden change of the atmosphere, and that the unnatural warmth must occasion fullness of blood and other complaints. This seems to give in popular language the essence of the matter. As a possible explanation of the decline and fall of the nightcap we venture to suggest that it was connected with the passing of the wig. In the early years of the nineteenth century that adornment was still general, and it is easy to understand that the removal of a covering such as the wig of Dr. Parr, called by Sydney Smith the *peya thapa* of barbers, caused an uncomfortable feeling of cold about the head, against which the nightcap was an obvious protection. The war has already taught us much in relation to the care of the health, and it is quite possible that one of its teachings may find expression in the revival of the nightcap. It is obvious that where susceptibility to cold is very great it affords a needed protection. As a means of mitigating the fear of

fresh air, which is still too general, the nightcap, therefore, may have a new field of usefulness. If this return to ancient practice comes about, it will not be the first time in the history of medicine that a popular method rejected by one generation has been restored to favour by an advance of knowledge born of larger experience.

#### ACUTE POLIOMYELITIS IN NEW ZEALAND.

THE epidemic of acute poliomyelitis in New York in 1916 was of such dimensions and was so fully described that attention has naturally been focussed on this particular outbreak, and it may therefore be well to refer to Dr. Sydney Smith's report<sup>1</sup> on the 339 cases noted in the health district of Wellington, New Zealand, during the first four months of 1916. This was by far the most serious epidemic that has ever occurred in the Dominion, the only other of any importance being in the early part of 1914, when there were 58 cases fairly widely distributed but chiefly in the South Island. During the intervening year, 1915, New Zealand was comparatively free from the disease, 3 cases occurring in the Wellington district in March, October, and December. The outbreaks of 1914 and 1916 both began about the end of January, and reached a high level at the end of February; then the curve after falling reached its highest point at the end of March, after that the epidemic died away. In the epidemic of 1916 nearly 80 per cent. of the cases were in children under 10 years of age, and only 7.5 per cent. were in adults over the age of 20 years; 58 per cent. were males; and 46, or 13.5 per cent., proved fatal; the mortality under 1 year was 35 per cent. and over 20 years 38.5 per cent. Urban districts provided 260 cases and rural districts 77. In the main the epidemic spread from the lines of railway or steamer communications and coincided with great heat and a low rainfall. The report contains numerous charts and graphs, and gives the official recommendations for prophylaxis.

#### THE COAL SHORTAGE.

In view of the serious coal shortage Sir Guy Calthrop, the Coal Controller, makes an urgent appeal to the medical profession to support his effort to effect economy in the domestic consumption of coal during the coming winter. "The country," he writes, "is faced with a serious coal shortage, and I appeal to all medical men, whose influence is so great, to do their utmost to bring the facts to the notice of all with whom they come in contact, with the view to enlisting the services of every man, woman, and child in this country in one united effort to save coal. Coal is the key industry of Great Britain and the allies, and the outlook to-day is very much more serious than is generally realized. The causes of the shortage are, first, the call to the colours of 75,000 miners to meet the peril of the German offensive in March; and, secondly, the almost complete stoppage of the mines in Northern France as a direct result of the German advance in the West. The coal of England must be shared with our allies—France, Italy, and America. It helps to carry the American army to France. It helps them to move their army while in France, and it is sold to neutrals to buy shipping to bring American troops over, and is exchanged for food. Except among the poorest houses there will not be a dwelling in Great Britain this winter with as much coal as it would like to burn. England to-day is short of 36,000,000 tons of coal. By the system of household rationing we hope to save 9,000,000 tons of coal. The deficit can be reduced—not made good—only if the miners get more coal, and if householders use less than their ration. Even then the supplies of coal to industrial works will be short, and their workpeople consequently must

<sup>1</sup> *Infantile Paralysis in the Wellington Health District, New Zealand.* By Sydney Smith, M.D., D.P.H., District Health Officer. 1916.



suffer. The stocks of munition works are being eaten into, gas and electric companies are crying for coal to build up their stocks against the winter months. These stocks are not being accumulated at the present time; they are being drawn upon. And we have not been able to fulfil our coal obligations to our allies. The miners' leaders have promised to do their utmost to induce the men to increase the output. Every consumer should try to manage on three quarters of his ration. The domestic open coal fire and the ordinary kitchen stove are certainly wasteful. They must be wasteful because all the by-products are lost, and together with much soot are poured into the atmosphere to produce yellow fogs and ruin vegetation, so that in London, for instance, only a few trees will grow. The plane survives because it cleans itself by shedding its bark. Gas is at present the best substitute; it is cleanly, diminishes domestic labour, and, from a national point of view at least, it is economical. Gas stoves of good design, properly set, are not unwholesome in living rooms. The prejudice against them is due to bad patterns, badly set. The matter is a little different with regard to domestic gas cooking. Gas cookers are very convenient, and if properly managed not extravagant, but they do not warm the kitchen. If the gas engineers and gas companies would realize this and take care to fix a separate stove to warm the kitchen it is probable that the use of gas cookers would become much more popular.

#### PROPHYLACTIC ANTIPNEUMOCOCCIC VACCINATION.

The success of antityphoid inoculation in the United States Army naturally suggested a similar measure against pneumonia which was responsible for probably 80 per cent. of the deaths in camp during last winter. Bacteriological examination of the first hundred cases of pneumonia at Fort Upton showed that 70 per cent. were due to the pneumococcus, and that of these about 50 per cent. were caused by types I, II, or III. In view of this and of the results obtained by F. S. Lister (vide *BRITISH MEDICAL JOURNAL*, 1918, i, p. 351) in the prophylactic inoculation against pneumonia of the South African miners, Cecil and Austin<sup>1</sup> decided to employ prophylactic injections of pneumococci types I, II, and III, vaccination against type IV being impracticable on account of its numerous varieties. The correct dosage and spacing of this vaccine and a knowledge of the reactions, local and constitutional, were determined by inoculation of forty-two volunteers, a study of the agglutinins and protective power of their serum showing a definite immune response to types I and II, but hardly any to type III. This immune response depends on the total amount of vaccine given, and is very slightly affected by the number of doses into which this quantity may be divided; but daily small doses cause hardly any reaction, whereas a single large dose is followed by several severe local and constitutional reactions. On the basis of the preliminary investigations a vaccine, with a total dosage of 6 to 9 billion pneumococci of each of types I, II, and III, was injected hypodermically in four small instalments at weekly intervals into 12,519 men between February 4th and April 15th, 1918, when the division left the camp. Among these inoculated men there was one case (recovery) of pneumonia (type I) due to the types against which inoculation had been performed; it began twenty-four hours after the only injection. During the same period there were among 19,481 non-inoculated men in the camp 26 cases of pneumonia due to types I, II, or III, with 7 deaths, or 27 per cent. It therefore appears that prophylactic vaccination protects against pneumonia due to these types, but how long the immunity lasts remains to be ascertained. The incidence of pneumonia due to pneumococcus type IV and to streptococci was much less among the vaccinated than among the unvaccinated troops, but

the authors cautiously do not advance any explanation for this. The constitutional reaction to the vaccine was usually negligible; only 25 men were sufficiently ill to lie up. In those who reacted severely the symptoms resembled influenza. The local reaction resembled that seen after antityphoid inoculation; the tenderness and swelling at the point of injection usually disappeared in three or four days. In 153 cases an unexpected complication arose, namely, infiltrations at the site of injection, which rarely reached the stage of fluctuation before the sixth or seventh day; these collections were always sterile, and therefore not due, as was at first thought, to careless technique; these at first were incised, but subsequently it was found that they subsided if left alone. Painful and tender at the start, they later became cold and painless, and are considered to depend on cutaneous hypersensitiveness to the pneumococcus or pneumotoxin, but not to any one type of the pneumococcus. In the men in whom these infiltrations occurred they appeared after each dose of vaccine, and these men gave abnormally well marked reactions to intradermal injections of pneumotoxin.

#### TUBERCULOSIS IN THE COUNTIES.

COUNTY COUNCILS in all parts of the country have the duty of administering the Public Health Regulations of 1912 through their medical officers. The extent to which this duty is carried out locally can only be judged from the official reports, but no uniform system of recording cases or of registering results has yet been adopted, and each report has to be judged upon its merits. Certain features, however, are common to them all. The better average of results following early treatment, the liability to relapse on returning to home conditions, the urgent need for segregation of actively infective cases, and finally, the complete failure of notification as an effective means of hastening the eradication of the disease. This latter consideration is brought prominently forward in his fifth annual report by Dr. Hyslop Thomson, M.O. for the county of Hertford, where the death-rate from non-pulmonary tuberculosis has in some places been found to be higher than the notification-rate. He records striking variations between different districts. The average tuberculosis death-rate for the whole county was 0.89, but the local returns showed a range from 2.1 to 0; the higher figure would appear to point unmistakably to local conditions calling for investigation. The provision of sanatorium beds would appear to be growing steadily and the demand may in time be met, but the average of ultimate success as measured by capacity for work is still far too low. Taking 60 per cent. as the rate to be aimed at, only 43 per cent. has as yet been achieved. Much good work has been done by district nurses and health visitors in following up cases after discharge. It is, during the first two years after sanatorium treatment that there is the greatest liability to relapse, and for lack of intelligent regulation of home conditions much of the time and money expended is thrown away. Judging from the high proportion of such relapse, as revealed in reports, it would be well if this part of the work of county councils could be still more fully organized.

At the Trade Union Congress, on September 3rd, a resolution was unanimously adopted declaring that the national control of milk should be made absolute at the earliest possible moment, and that the whole supply and distribution of milk should be nationally owned and managed. Mr. Stuart Bunning, in moving the resolution on behalf of the Parliamentary Committee, said that the Consumers' Council had been told that milk prices must go up and milk supplies decrease. Under the present system it was impossible to ensure for children cheap, sufficient, or anything like pure milk.

<sup>1</sup> R. L. Cecil and J. H. Austin, *Journ. Exper. Med.*, Baltimore, 1918, xxviii, 19-41.



# THE WAR.

## THE MESOPOTAMIA DISPATCH.

The dispatch from Lieut.-General Sir W. R. Marshall, K.C.B., K.C.S.I., published in the *Gazette* of August 29th, deals with the operations in Mesopotamia during six months—October 1st, 1917, to March 31st, 1918. It gives an account of the operations on the Dula, Tigris, and Euphrates, and the activities towards Kirmanshah undertaken to open the main trade route to Northern Persia, a district the Turks had reduced to a state of famine. The operations were carried out with skill and prudence, and the casualties in all were light. With the advent of the new year, the weather, which had been unexpectedly good in December, became consistently wet, so that continuous operations on any large scale were out of the question, and great strain was thrown on the lines of communication and supply formations. Supplies to the fighting troops were maintained with the utmost precision, and the task was greatly assisted by the arrival of extra mechanical transport companies. The Department of Local Resources took over the control of grass farms, the feeding of the civil population, and the arrangements for the collection and transportation of the coming harvest. It is hoped that by the institution of the Department of Agriculture and its co-ordination with the Irrigation Department a very large increase will be shown next year in the agricultural development of the country. A poultry farm has also been formed, primarily to supply hospitals. All this work was designed to make the force as self-supporting as possible, and consequently save sea transport. Disinfecting and repair stations and various workshops were established. The supply of good drinking water was well maintained. Automatic suction chlorination is now in general use, and mechanical plants have been erected, or are in course of erection, at all important posts. The paragraph referring to the medical services is as follows:

"The high standard of efficiency displayed by all ranks of the medical service has been most gratifying to me, and reflects great credit on Surgeon-General A. P. Blenkinsop, C.B., C.M.G., my Director of Medical Services. The health of the troops has shown marked improvement as compared with the corresponding months of 1916-17. The sanitary organization and administration has steadily progressed, and the standard of comfort and efficiency of the hospitals is most satisfactory.

"The nursing sisters have, as always, devoted themselves with untiring care and zeal to the welfare of the sick and wounded. Through the generosity and kindness of Her Excellency Lady Willington and convalescent homes for these devoted ladies are being established at suitable centres.

"I also wish to take this opportunity of recording my gratitude, and that of all ranks under my command, for the valuable help afforded by the Red Cross Society, which has resulted in the increased comfort of the troops."

The following are among the honours and awards in connection with military operations in Mesopotamia announced in a special supplement to the *London Gazette* issued on August 26th.

C.B.—Colonel W. Ham H. Starr, C.M.G., ret. pay, A.M.S.  
C.M.G.—Lieut. Colonel (temporary Colonel) George G. Delap, D.S.O., R.A.M.C. Temporary Major (temporary Lieut.-Colonel) Robert Davis Colley, R.A.M.C.

C.I.L.—Lieut.-Colonels: "Frederick W. Gee, I.M.S., and "Harry G. Melville, I.M.S.; "Major (temporary Lieut.-Colonel) George Macpherson, I.M.S.; Majors: Norman D. H. Scott, I.M.S., and William R. J. Scroggie, I.M.S.

D.S.O.—Majors (temporary Lieut.-Colonels): "Alfred Henry Proctor, I.M.S., "W. V. Coppinger, I.M.S.; "Major Frank P. Wernicke, I.M.S.; "Captain and Brevet Major Thomas J. Mitchell, R.A.M.C.

Military Cross—Temporary Captains: John A. Noble, R.A.M.C., and Kenneth S. Park, R.A.M.C.; Lieutenant (temporary Captain) Ralph R. Thompson, R.A.M.C.; temporary Lieutenant Edward A. M. J. Golde, I.M.S.; Assistant Surgeon Arthur N. de Monte, C.S.M.D.

To be Brevet Major. Captains: "F. C. Cowtan, R.A.M.C., "A. MacD. Dick, I.M.S., "T. J. C. Evans, M.C., I.M.S., A. H. Gosse, R.A.M.C., and "S. W. Kyle, R.A.M.C.

The Royal Red Cross is conferred upon twenty-four ladies of the nursing services.

### Mentioned in Dispatches.

The officers included in the list of those considered by Lieut.-General Sir W. R. Marshall, K.C.B., K.C.S.I., Commanding-in-Chief, Mesopotamian Expeditionary Force, as deserving of

These officers are also included in the list of mentions in Lieut.-General Sir W. R. Marshall's dispatch for distinguished and gallant services and devotion to duty.

special mention for distinguished and gallant services. Supplement to *London Gazette*, August 27th, in addition to those mentioned above, are as follows:

Army Medical Service.—Colonels (Temporary Major-General) A. P. Blenkinsop, C.B., C.M.G., W. T. Mould.

Royal Army Medical Corps.—Lieut. Colonels (temporary Colonels): E. W. W. Cochrane, D.S.O., S. F. S. D. Green, Lieut. Colonel and Brevet Colonel M. H. G. Fell, C.M.G., Major and Brevet Lieut. Colonel and acting Lieut. Colonel D. H. J. Crossley, Major and Brevet Captain: A. S. Minns, D.S.O., M.C., H. G. R. Berts, Lieut. A. Sturges, A. Watson, D.S.O., Temporary Captains: D. F. Bourke, J. I. Bowman, D.S.O., J. A. G. Burton, W. Campbell, L. W. Davies, A. R. Elliott, C. L. Emmerson, G. J. C. Fether, Lieut. C.A.M.C., A. T. Gribble, N. Glover, E. Kidd, C. G. MacKay, G. S. Marshall, H. H. Raw, W. E. Waller, C. A. Weller. Temporary Lieutenants: (Temporary Captain) G. T. Gaudette, L. Jameson. Temporary Quartermasters and honorary Lieutenants: S. Francis, G. B. Walker, M.C.

Royal Army Medical Corps (S.R.).—Captain (acting Major) H. M. Williams. Captains: K. P. Brown, W. Dunlop, H. L. Garsen, M.C., T. P. Inglis, J. P. Mitchell, W. B. Wood. Lieutenant (temporary Captain) W. M. Cameron.

Royal Army Medical Corps (T.F.).—Major (temporary Lieut.-Colonel) F. L. Fremantle. Captains: W. H. Byles, A. L. Bonham, V. Z. Cope, A. H. Gosse, F. T. H. Wood.

Indian Medical Service.—Lieut.-Colonels: T. B. Kelly, D.S.O., R. H. Maddox, temporary Colonel C. N. C. Wetherby, C.M.G., Majors (acting Lieut. Colonels): E. M. Barron, D.S.O., L. P. Brassy, H. M. Cradock, C.M.G., H. Innes, G. J. G. Young. Majors: S. R. Christophers, C.I.E., W. H. Leonard, F. P. Mackie, W. A. Mearns, D. Munro, C.I.E., W. Tarr, W. D. Wright. Captains: A. C. L. O'S. Biddlebeck, H. H. Brown, A. H. C. Hill, R. W. G. Hingston, M.C., A. P. G. Lorimer, R. F. D. Macgregor, M.C., J. B. de W. Molony, J. J. H. Nelson, M.C., M. A. Nicholson, M. Purvis, J. L. Sen, M.C., A. L. Sheppard, C. J. Stocker, M.C., A. J. Symes, W. O. Walker, W. L. Watson. Honorary Captain A. S. Hickling (Dental Surgeon). Lieutenants: B. H. Singh. Temporary Lieutenants: A. Y. Dabholkar, M.C., S. C. Gupta, B. P. B. Naidu, C. E. R. Norman.

The list also contains the names of a number of warrant and non-commissioned officers and privates of the R.A.M.C., 28 assistant and sub-assistant surgeons of the Indian Subordinate Medical Department, 1 member of the Q.A.I.M.N.S., 19 of the Q.A.I.M.N.S. (S.R.), 11 of the T.F.N.S., 4 of the Q.A.I.M.N.S., India, 4 of the Temporary Nursing Service, India, 1 of the V.A.D., and 17 of the British Red Cross.

## CASUALTIES IN THE MEDICAL SERVICES.

### ARMY.

#### Killed in Action.

MAJOR B. C. TENNENT, M.C., R.A.M.C.

Major Bernard Charles Tennent, M.C., R.A.M.C., was killed in action on August 22nd. He was the son of the late Rev. E. C. Tennent of Martinborough, New Zealand, and was educated at Edinburgh University, where he graduated as M.B. and Ch.B. in 1910, and as M.D. in 1913. After filling the posts of house-surgeon and house-physician at the Great Northern Central Hospital, and of house-physician at the Great Ormond Street Children's Hospital, he went back to New Zealand, and went into practice at Wellington. When war broke out he returned to England, and took a temporary commission as lieutenant in the R.A.M.C. on January 9th, 1915. He had served at the front almost ever since, being promoted to captain on completion of a year's service, and to major in May, 1918. He received the Military Cross on August 25th, 1917, and a bar thereto on January 1st, 1918.

CAPTAIN C. W. BOND, R.A.M.C.

Captain Cecil William Bond, R.A.M.C., reported missing on August 1st, 1917, is now presumed killed on that date. He was the second son of the late Mr. James Henry Bond of Milverton Court, Somerset, and was educated at Blundell's School, Tiverton, and at St. Mary's Hospital, taking the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1901. Subsequently he studied at the Royal Dental Hospital, London, and took the L.D.S., R.C.S., in 1912. He served in the South African war, was for some time a surgeon in the P. and O. Company's service, and before the war was in practice at Gravesend. He joined the R.A.M.C. as a temporary lieutenant on June 1st, 1915, and was promoted to captain on completion of a year's service. After serving on the hospital ship *St. George*, and in medical command of the ss. *Aberdonian*, he went to France in the spring of 1917.

CAPTAIN J. JAFFÉ, R.A.M.C.

Captain Jacob Jaffé, R.A.M.C., was reported as killed in action, in the casualty list published on August 24th. He was educated at King's College Hospital, and took the diploma of M.R.C.S. and L.R.C.P.Lond. in 1906. After acting as senior house-surgeon of the Ingham Infirmary, South Shields, he went into practice at Stoke Newington, where he held the appointments of clinical assistant in the skin department at the Evelina Hospital for Children, anaesthetist to the London Throat Hospital, and surgeon



to the Royal Maternity Charity. He took a temporary commission in the R.A.M.C. about two years ago, and was attached to the Somerset Light Infantry when killed.

#### LIEUTENANT J. C. CARSON, R.A.M.C.

Lieutenant J. C. Carson, R.A.M.C., reported as killed recently, was the son of Mr. Thomas Carson of Larne, and the youngest of four brothers serving in the R.A.M.C. He was a well-known Rugby player, having represented Cardiff, Blackheath, and Ulster.

#### *Died of Wounds.*

##### MAJOR J. PROCTOR, R.A.M.C.

Major John Proctor, R.A.M.C., died of wounds on August 12th, aged 30. He was the eldest son of the late Mr. William Proctor of Ballater, and was educated at Aberdeen University, where he graduated M.B. and Ch.B. with distinction in 1913. After filling the posts of clinical assistant at the Samaritan Free Hospital for Women and of assistant medical officer at Grove Hospital of the Metropolitan Asylums Board he went into practice at Eye, Suffolk. He took a temporary commission as lieutenant in the R.A.M.C. on August 22nd, 1914, was promoted to captain after a year's service, and subsequently to an acting majority.

##### CAPTAIN W. O. HALPIN, R.A.M.C.

Captain William Oswald Halpin, R.A.M.C., was reported as having died of wounds, in the casualty list published on August 24th. He was the son of the late W. O. Halpin of Foxrock, County Dublin, and was 32 years of age. He was educated at Trinity College, Dublin, where he graduated B.A. in 1908 and M.D. in 1911. He was house-surgeon and house-physician for two years at the Metropolitan Hospital, after which he took a temporary commission as lieutenant in the R.A.M.C. on August 10th, 1914, and was promoted to captain after a year's service. He was attached to a hussar regiment when killed.

##### CAPTAIN M. A. McKECHNIE, M.D., C.A.M.C.

Captain Malcolm Archibald McKechnie, whose death from wounds we recorded in our issue of August 24th (p. 201), was the son of Mr. and Mrs. T. McKechnie of Walkerton, Ontario, and was born in 1889. He graduated at Queen's University, Kingston, in 1914, and for two years acted as surgeon with the Canadian Northern Railway Company to a construction camp in the Rocky Mountains, an employment which formed an excellent training for work with the army in the field. On joining the C.A.M.C. he was appointed medical officer of the 179th Battalion, and accompanied that unit to England in October, 1916. After having served upon the standing medical boards at Folkestone and Hastings he went overseas in March, 1917, and was appointed to a Canadian field ambulance, with which unit he remained until his death.

##### CAPTAIN T. WHITMORE, M.D., C.A.M.C.

Captain Thomas Whitmore, C.A.M.C., whose death from wounds was reported in our issue of August 24th, p. 201, was born at Dauphin, Manitoba, in 1887, the son of Mr. and Mrs. T. Whitmore. He graduated M.D. at the University of Manitoba in 1915, and after serving as house-surgeon for a year joined the C.A.M.C., arriving in England in August, 1916. After being attached to the Canadian Cavalry Training Brigade and the Granville Canadian Special Hospital he went to the front in August, 1917, and at the time of his death was medical officer to a battalion of Canadian infantry.

##### CAPTAIN J. S. WILSON, A.A.M.C.

Captain J. S. Wilson, Australian Army Medical Corps, was reported as having died of wounds, in the casualty list published on August 30th.

#### *Drowned on Service.*

##### LIEUT.-COLONEL R. H. BRIDGES, D.S.O., R.A.M.C.

Lieut.-Colonel Roland Harley Bridges, D.S.O., R.A.M.C., was drowned on service recently, aged 39. He was born on February 7th, 1879, the third son of the late Colonel Charles Harley Bridges, Bengal Staff Corps, and was educated at St. Thomas's Hospital, taking the M.R.C.S. and L.R.C.P. Lond. in 1902. He entered the R.A.M.C. as lieutenant on January 31st, 1903; became captain on July 31st, 1906; major on October 31st, 1914, and lieutenant-colonel in 1917. He received the D.S.O. on June 3rd, 1917.

#### *Died on Service.*

##### MAJOR-GENERAL W. G. BIRRELL, A.M.S. (ret.).

Major-General William George Birrell, Army Medical Service (ret.), died suddenly at Lochboisdale on August 23rd, of illness contracted on active service at the front, aged 58. He was the second son of the late James Birrell, J.P., of Uttershill, Penicuik, and was born at Penicuik on September 23rd, 1859, and educated at Edinburgh Academy and Edinburgh University, where he graduated as M.B. and C.M. in 1880. He entered the R.A.M.C. as surgeon on July 30th, 1881; became surgeon-major on July 30th, 1893; lieutenant-colonel on July 30th, 1901; colonel on March 15th, 1911; and surgeon-general on March 1st, 1915, retiring on May 30th, 1918. He served in the Sudan campaign of 1885, at Suakin, receiving the medal with a clasp and the Khedive's bronze star; in the Burma campaign of 1886-87, when he was mentioned in dispatches in the *London Gazette* of September 2nd, 1887, and got the medal; in the Nile campaign of 1898, receiving the British and Egyptian medals; and in the present war as D.M.S. at Gallipoli.

##### DR. P. GRAY-MARSHALL.

Dr. Philip Gray-Marshall, surgeon of an Admiralty transport, died at Havre on August 14th. He was the eldest son of the late Dr. John Marshall of Edenkerry, Broomie Knowe. He received his medical education at the Royal College of Surgeons of Edinburgh, and took the triple qualification in 1902 and the D.P.H. in 1903. He had held the office of medical officer of the 3rd District, St. Vincent, West Indies, and subsequently practised in Edinburgh.

#### *Wounded and Prisoner of War.*

##### Captain G. Perkins, R.A.M.C. (S.R.).

#### *Wounded.*

Major F. Ellis, M.C., R.A.M.C. (T.F.).  
Major F. E. Fielden, R.A.M.C. (temporary).  
Major C. R. Merrilees, Australian A.M.C.  
Major A. M. Wood, R.A.M.C. (temporary).  
Captain A. S. Douglas, R.A.M.C. (temporary).  
Captain J. V. Duhig, Australian A.M.C.  
Captain J. C. Eager, Canadian A.M.C.  
Captain J. C. McCullough, Canadian A.M.C.  
Captain J. A. Mackenzie, Canadian A.M.C.  
Captain S. A. W. Munro, R.A.M.C. (temporary).  
Captain J. A. C. Scott, M.C., R.A.M.C. (T.F.).  
Captain D. M. Smith, R.A.M.C. (temporary).  
Captain H. C. Trumble, Australian A.M.C.  
Captain Q. V. B. Wallace, R.A.M.C. (S.R.).  
Captain D. R. Wark, Canadian A.M.C.  
Captain T. Werner, R.A.M.C. (temporary).  
Lieutenant S. B. Turner, R.A.M.C. (temporary).

#### *Prisoners of War.*

Colonel A. Milne-Thompson, C.M.G., M.C., R.A.M.C. (T.F.).  
Captain M. Donaldson, R.A.M.C. (temporary).  
Captain J. A. Gilfillan, R.A.M.C. (temporary).  
Captain E. H. Jones, R.A.M.C. (temporary).

#### DEATHS OF SONS OF MEDICAL MEN.

Bonnyman, G. W., D.S.O., M.C., Captain Argyll and Sutherland Highlanders, youngest surviving son of the late Colonel Bonnyman, R.A.M.C., died recently of wounds. He was educated at Beaumont College, Windsor, and passed into Woolwich, but was rejected for eyesight, in 1906. He got a commission in the Argyll and Sutherland Highlanders on September 23rd, 1914, went to France in May, 1915, and had been out ever since, except for six months' sick leave.

Cummings, Roy Litton, Lieutenant Australian Flying Corps, second son of Dr. H. L. Cummings of Taunton, accidentally killed on active service, August 28th, aged 22.

Davey, William A. Carthew, second son of the only surviving child of the late Dr. Carthew Davey of Liverpool, and a medical student in his first year, was killed in action while leading his platoon on August 28th. He was a promising ability with a promising future.

Edwards, Robert Amos, Lieutenant West Yorkshire Regiment, youngest son of Lieutenant E. H. Edwards, R.A.M.C., died of wounds on July 14th. He was educated at Merchiston, entered Sandhurst in January, 1916, got his commission on the same year, went to the front in March, 1917, was wounded the following month, and went out again in April, 1918.

Fothergill, Wilfrid Thompson, Lieutenant Royal Air Force, second son of Dr. and Mrs. L. Fothergill of Blyth, Northumberland, killed in action on August 20th, 1918, aged 19 years. He was educated at Douai Abbey, Woolhampton, Reading, and at St. Cuthbert's Grammar School, Newcastle. Previous to



ent, until he was a dental student at Durham University, and when he joined the O.T.C. Receiving his commission in the R.A.F., he proceeded to France on August 7th, 1918.

Gray, Maurice, Captain Machine Gun Corps, second son of Dr. Alan Gray of Cambridge, killed August 9th. He was educated at Winchester where he was in the eleven, and captain of the Association football team, and at Trinity College, Cambridge, but gave up his university career to study at the State School. He was in the Inns of Court O.T.C., got a commission in the 2nd Dragoon Guards on August 5th, 1914, and went to the front in June, 1915, being subsequently transferred to the M.G.C. His younger brother, Second Lieutenant E. T. Gray, Rifle Brigade, was killed on March 31st, 1918.

Hall, Basil Claude, Captain Manchester Regiment, only son of Dr. H. S. Hall, medical officer of Leigh Union, Lancashire, killed recently, aged 25. He was educated at Manchester Grammar School, and before the war was learning the cotton business.

Hardyman, John H. Maitland, M.C., Lieut. Colonel Somerset Light Infantry (Prince Albert's Own), eldest son of Dr. Hardyman of Bath, killed August 24th, aged 25. He was educated at Pettes College, where he gained a scholarship, and at Edinburgh University, and before the war was assistant to the professor of botany there. When war broke out he enlisted in the Somerset Light Infantry, got his first commission in that regiment on February 28th, 1915, and became lieutenant-colonel last May. He had twice been wounded, had been mentioned in dispatches, and recommended for the D.S.O.

Horsley, Oswald, M.C., Captain Gordon Highlanders and Royal Air Force, youngest son of the late Sir Victor Horsley, killed flying near Wokingham on August 19th, aged 25. He was born on February 14th, 1893, educated at Bedale's School, Petersfield, and at Christ Church College, Oxford, and joined the Artists Rifles on August 3rd, 1914. He got a commission in the Gordons in November, 1914, but, after being thrice wounded, was unfit for further service in the infantry. He joined the Royal Flying Corps in August, 1917, went abroad again at the end of the year, was promoted to flight commander in March, 1918, and transferred to the home establishment in June. He gained the Military Cross while in the Gordons, and a bar thereto in the R.A.F.

MacLachlan, Donald William, M.C., Lieutenant Australian Imperial Forces, second son of Dr. MacLachlan of Beaulieu, killed recently, aged 32. He was educated at Beaulieu School and Inverness Academy, and had been for seven years in a bank in Australia, when he enlisted at Melbourne, subsequently gaining a commission. He got the Military Cross at Ypres in November, 1917, and was wounded in December.

MacLennan, Aeneas Adam, Private Canadian Forces, of Swallow, Alberta, son of the late Dr. Urquhart MacLennan of Widnes, Lancs, died of wounds on August 16th, aged 24.

O'Sullivan, T. G., Lieutenant Royal Engineers, killed in action on August 21st. He was the son of the late Dr. T. G. O'Sullivan, and brother of Dr. W. J. O'Sullivan of Limerick.

Terres, Hugh, Lieutenant, son of Dr. J. B. Terres, United States Consul-General, killed flying on August 17th, aged 31. He was educated at Westminster and at Christ Church College, Oxford.

Wells, James Bowen Primrose, Lieutenant Bedfordshire Regiment, son of Dr. Primrose Wells of Victoria, and of Pinner Wood Ranch, British Columbia, seriously wounded and taken prisoner on March 27th, and died of wounds as a prisoner on April 4th. He came to Europe with the second Canadian Contingent, and subsequently got a commission in the Bedfords.

Whitaker, Victor John, Captain R.F.C., reported missing on April 6th, 1917, and now officially presumed to have died on or about that date, was the second son of Dr. J. Smith Whitaker (of the National Health Insurance Commission), and was born at Great Yarmouth on June 22nd, 1897. With his elder brother Owen (Second Lieutenant R.G.A., M.C., killed in action August 29th, 1915) he was educated at University College School, where he was a member of the Officers' Training Corps. In October, 1915, he received his commission as Second Lieutenant in the 3rd Battalion Lincolnshire Regiment, was transferred subsequently to the Royal Flying Corps, obtained his wings in May, 1916, and proceeded at once to the front in France, where he served continuously (except for two short periods of leave) till his death. Having proved himself an exceptionally dextrous and fearless, though careful, pilot, he was promoted Temporary Captain and Flight Commander in February, 1917, being still only 19. He was brought down on Good Friday while engaged in a difficult reconnaissance of German positions, east of Vimy Ridge, taken three days later by our army.

Young, Philip, Lieutenant Middlesex Regiment (the 57th, or "Diehards"), son of the late Dr. Young of Hawkhurst, died in the Empire Hospital, Westminster, on August 21st, of wounds received on April 12th. He got his commission on May 18th, 1915.

#### MEDICAL STUDENTS.

Edmiston, Allan John, Second Lieutenant Scottish Rifles, aged 20, died from gas poisoning. He was the third son of ex-Provost Edmiston of Rutherglen, and was a medical student at Glasgow University. His two brothers are on active service.

Elliott, F. P., Lieutenant Manchester Regiment, killed recently. He was educated at Manchester Grammar School and University, where he was a medical student before he joined the army.

We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.

## HONOURS.

The following are the statements of conspicuous gallantry and devotion to duty for which the distinctions announced in the *London Gazette* of March 26th, 1918 (*BRITISH MEDICAL JOURNAL*, April 6th, p. 411), were awarded:

#### Military Cross.

**Captain Alan Colpitts Ainsley, R.A.M.C.**

Whilst attending to a man seriously wounded a shell burst within a few yards of his position and knocked him down. Despite this, he continued with his work and showed the greatest coolness and devotion to duty throughout the day.

**Temporary Captain William Kenneth Bigger, R.A.M.C.**

He personally assisted in getting his wounded away from the dressing station under heavy machine gun and rifle fire. Previous to this he had gone out from the dressing station on several occasions to tend the wounded at a time when no stretcher-bearers were available. He showed great gallantry and devotion to duty.

**Captain William Edward Hugh Bull, R.A.M.C.**

When in charge of a bearer section and collecting post, he worked under shell and rifle fire, and with a few stretcher-bearers collected and tended a number of wounded cases under conditions demanding the utmost coolness, gallantry, and determination, qualities which he displayed in the highest degree.

**Temporary Captain Nicholas Marshall Cummins, R.A.M.C.**

He gave valuable assistance to a unit after a successful attack in the organization of stretcher-bearers, and he also organized several parties at night, which he conducted into "No Man's Land," for the purpose of recovering wounded cases. He worked on until every case had been evacuated, when he collapsed from exhaustion. His courage and devotion to duty were of the highest order.

**Captain Charles Aubrey Godson, I.M.S.**

During an all day attack he organized stretcher parties and collected the wounded, often under shell fire, and at night searched the whole area covered by the attack and cleared it of all the wounded. It was largely due to his courage and initiative that the evacuation of the wounded was carried out so successfully.

**Captain William Goldie, R.A.M.C.**

The rapid and successful evacuation of the wounded, when in charge of a collecting station, in advance of the advanced dressing station, during an attack, was due to his untiring zeal and energy. He showed magnificent courage and coolness under heavy fire, and set a splendid example to those under him.

**Temporary Captain Benjamin Knowles, R.A.M.C.**

He was wounded at the beginning of an enemy attack, but returned to his post and remained there, attending to the wounded throughout with great determination and coolness.

**Captain Percival John Moir, R.A.M.C.**

While he was leaving a party of thirty men and eight camels to a forward position in order to establish an advanced dressing station, the party came under heavy shell fire. He at once got his party under cover, unloaded the camels, and then got his medical stores forward under continuous shell fire. His promptness and courage not only prevented casualties, but enabled the advanced dressing station to be established at the earliest possible moment.

**Captain Charles Newton-Davis, I.M.S.**

During the attack, when the battalion was brought to a standstill by frontal and enfilade fire of all kinds, he exposed himself continually in moving from place to place to render aid to wounded cases. It was owing to his courage, devotion to duty and skilful organization, that the wounded were successfully collected and evacuated.

**Temporary Captain Rex Stansfield, R.A.M.C.**

During an engagement he carried his medical pannier forward through a heavy barrage, and moved about under heavy shell fire over the exposed ground, collecting and tending the wounded. He set a splendid example of courage and devotion to duty.

**Captain Bryan Montague Tuke, R.A.M.C. (S.R.).**

He went forward himself with the attack companies, and throughout the engagement kept moving from one part of the line to another in full view of the enemy, attending to the wounded with the greatest promptitude and courage.

**Captain Rankine Greig Walker, R.A.M.C.**

He was in charge of an advanced dressing station during two engagements, and carried out his duties with great courage and skill, often under heavy shell fire.

**Temporary Lieutenant V. K. Apte, I.M.S.**

He attended to the wounded during an action with great courage and coolness.

**Lieutenant Claude Wells Woolton Baxter, I.M.S.**

When under heavy shell and rifle fire he displayed great gallantry and devotion to duty in tending to and evacuating the wounded. His services proved of incalculable value.

#### OPERATIONS IN GERMAN SOUTH-WEST AFRICA.

The following awards have been conferred for services rendered in connexion with military operations in German South-West Africa:

**C.M.G.**—Colonel Herbert J. M. Buist, D.S.O., attached S.A.M.C., from R.A.M.C.; Lieutenant Colonel Ronald P. McKenzie (R. of O.), S.A.M.C.

**O.B.E.**—Major Harry E. Brown, S.A.M.C.; Captain (temporary Major) Thomas L. Gope, S.A.M.C.

**D.S.O.**—Officers of the South African Medical Service: Lieutenants (Service) M. De Kock, George H. Enapp; Major Leonard H. Hayden; Captain George B. Moffat.

**Military Cross.**—Officers of the South African Medical Service: Captains (temporary Majors) John Pratt-Johnson, Robert N. Pringle, D.S.O., James A. Thwaites, Robert H. Welsh; Captain (acting Major)

† These officers are also mentioned in General Botha's dispatch for distinguished service in the field during the campaign in German South-West Africa.



Thomas J. W. A. Johnston, Captain John L. Briscoe, D.S.O. (R. of O.), Guillaume J. Cille, James J. Lynch, Arthur E. Oakley, Frans Karel de Water.

The Meritorious Service Medal has been awarded to four warrant officers of the South African Medical Corps and one of the R.A.M.C., and the Royal Red Cross to sixteen members of the South African Military Nursing Service.

The Croix de Guerre has been conferred by the President of the French Republic upon Captains Alexander D. Edington, (Gideon J. Joubert, M.C., and William W. McCowat, all of the S.A.M.C.

The Secretary of State for the Colonies has received from the Governor General and Commander-in-Chief, Union of South Africa, a list of officers and other ranks whose names have been brought to notice by General Louis Botha for distinguished service in the field in connexion with the campaign in German South-West Africa, 1914-15. The list includes the following officers of the South African Medical Corps:

Lieut.-Colonels: J. T. Brownlee, D.S.O., V.D., J. Hewat (R. of O.), G. H. Knapp, H. T. Murrell, C. R. Porter (R. of O.).

Majors (temporary Lieut.-Colonels): B. A. Odum (Captain R.A.M.C.), G. H. Usmar, A. B. Ward, D.S.O.

Majors: T. A. Fuller (R. of O.), G. D. Maynard, J. R. McGregor, M. W. McLoughlin, D.S.O. (superannuated list), R. Milner-Smyth, J. A. Mitchell, H. A. Moffat, D.S.O. (R. of O.), F. H. Napier, A. M. Neeshing, M. G. Pearson, F. Pershouse, R. A. St. Ledger, W. B. Skinner, D.S.O., P. Skinner-Clark, D.S.O., E. N. Thornton, O.B.E., P. J. Van Colter, J. H. Whitehead, D.S.O.

Captains (temporary Majors): E. T. E. Hamilton (deceased), D. Horwich, C. T. Moller.

Captains: C. V. Anderson, A. W. Burton, D. Campbell Watt, W. R. Chew, W. S. Cottrill, D. J. Daulton (R. of O.), J. L. van der S. De Villiers, J. W. De Vos, L. K. Edwards, R. Friel, J. F. R. Gaudiner, A. J. Girwood, R. L. Girwood, D.S.O., C. Grobelaar, A. Groenewald, M.C. (deceased), S. Leibson, M.C., C. F. L. Leopoldt, J. J. Levin, A. H. Long, M.C. (Permanent Force (Staff)), R. C. Mullins, C.M. Neale-Hay, P. de la Notte, A. J. Orlepp, J. Z. H. Rosseau, T. L. L. Sanders, O.B.E., C. P. Theron (R. of O.), R. M. Truter, E. F. B. Wilson (R. of O.), W. O. Wilson.

The list also contains the names of a number of warrant and non-commissioned officers and privates of the S.A.M.C., as well as five members of the South African Nursing Service.

Major D. Dongal, M.C., R.A.M.C., has been awarded the French Croix de Guerre with palms.

The King has granted unrestricted permission to Miss Elizabeth Phillips, M.B., to wear the insignia of the Fourth Class of the Order of St. Sava, conferred upon her by the King of Serbia in recognition of her services with the Scottish Women's Hospitals in Serbia.

#### NAVAL OPERATIONS AT OSTEND.

Surgeons S. S. Beare, R. Buddle, and B. S. Collings, R.N., are among those mentioned in Vice-Admiral Sir Roger J. B. Keyes's dispatch on the second blocking operation against Ostend as "rendering good service in attending wounded and during the transportation of wounded at sea."

#### FOREIGN DECORATIONS.

The President of the French Republic has conferred the decorations indicated upon the following officers of the Royal Naval Medical Service for distinguished services rendered during the war: *Legion of Honour—Officer*: Deputy Surgeon-General A. G. Wildey; *Chevalier*: Fleet Surgeons F. J. A. Dalton, R. D. Jameson, and A. J. Hewitt.

## Correspondence.

#### VANGHETTI'S OPERATION.

SIR,—About your article on Vanghetti's operation (July 20th, 1918, p. 68): The terms "cinematization" and "cinematize" are twenty years old and of common use. Only some friend in private letters writes of "vanghettization" and "vanghettize." As you affirm, it has been not at all proved that the idea belongs to others, as was hinted only by Sauerbruch without any proof. The book of Beaufort, cited by him, does not contain anything at all about the "surgical cinematic prosthesis." The same is to be said of other writings of Beaufort. Sauerbruch wrote also that one contemporary (who?) of Larrey (which of the three, 1700-1800?) had planned the idea; but he has forgotten any citation.

On the sentimental field, perhaps, the idea is much more ancient. I gave in *Chirurgia degli Organi de Movimento*, No. 1, 1918, the fac-simile of the transplantation of an entire leg, painted by Beato Angelico. On the scientific field there is no proof that the priority belongs to any other than to myself, and I would be very obliged to any one who could demonstrate the contrary.

The misunderstanding must have originated from this fact, that my term "mechanical cinematic prosthesis"—that is, without any bloody or unbloody surgical treatment—includes also that proposed first by Beaufort. After all, every new invention relates to one old desire of somebody. Heartily thanking you, I am, etc.,

Empoli, August 25th.

DR. G. VANGHETTI.

## THE BURDEN OF COSTLY REMEDIES.

SIR,—If my friend Dr. Fulton thinks that the fact that the action against which I protested at the Representative Meeting occurred under the administration of the Insurance Act in any way influenced me in what I said he is very greatly mistaken. Had it taken place under the common law of the land, or even "Dora," I should have acted and spoken just as I did on that occasion. It did not interest me in the slightest whether or no Dr. Fisher's case were good or bad. The important thing, in my opinion, was that there was a new point of considerable moment to some millions of insured persons and some thousands of insurance practitioners and chemists, and no decision or ruling upon it had been given by the duly constituted authority. The methods of procedure to obtain this object are laid down by statute and regulations, and it was entirely within the right of Dr. Fisher to demand that in his case the matter should be thoroughly discussed, and all sides heard before decision. I objected, and still object, that a senior member of a learned profession, and one who holds the important position in his district which Dr. Fisher does, should be "scolded" for insisting on those rights. The contention that the last paragraph of the "Commission's" judgement applies only to Dr. Fisher's attorney I brush aside at once. Dr. Fisher was the head and front of the offending—*Qui facit per alium facit per se*.

But there is something else in Dr. Fulton's letter to which I must most strongly demur. The contention that any Government department or official is to be immune from all criticism and adverse comment whatever may be done or said by it or him because no reply can be made is quite incapable of maintenance. In the first place, is it a fact? Government officials, from ministers downwards, frequently reply to attacks and criticism (vide *Times*, August 29th). In the second place, if there were such an immunity then it cuts both ways, and doubly and trebly is it incumbent on such a body or person never to give cause for such criticism, or allow the issue of such a paragraph as the one to which I referred.—I am, etc.,

London, W., Sept. 2nd.

E. B. TURNER.

## GENERAL PRACTITIONERS AND VENEREAL DISEASE.

SIR,—I thoroughly endorse every word of Dr. Hogarth's statements, and if more attention and legislation were paid and obtained for this, so ever so much better for the "United Kingdom." If isolation for these female carriers were obtained by legislation some good would be obtained. They take no advice or treatment (treatment too expensive privately, and too public at dispensaries), but parade about and spread disease wholesale. When at last they are driven to see a doctor, the general practitioner is affected because they can get treatment for nothing, being "panel" or "drifters," or because he will not notify them (as they think dispensaries do, since they have to give their names, etc.). This also applies to men—soldiers, sailors, and discharged soldiers and sailors, and merchant seamen, and also, in a larger extent, to civilians of all classes. I may say, further, that those female sections of the community follow and congregate near all camps of our soldiers and sailors, and so spread disease.

The only effectual method of eradicating these diseases from the community is to segregate every case, making no exceptions, until they are proved completely cured of disease.—I am, etc.,

Bradford, Aug. 26th.

W. M. MACILRAITH, D.P.H.

## THE MENINGOCOCCUS OF WEICHSELBAUM.

SIR,—In the *BRITISH MEDICAL JOURNAL* is an interesting letter from Mr. J. Ramsbottom criticizing a paper of mine which appeared on the subject in the *JOURNAL* on September 22nd, 1917. Mr. Ramsbottom appears to be less concerned with the facts recorded in my paper than with the terminology which I employed in the interpretation of those facts. The use of this terminology may or may not have been justified, but in subordinating the importance of facts to that of labels there is always a danger of obscuring



a fundamental truth, and the critic may do less than justice to his subject and to himself by failure to recognize this danger. In Mr. Ramsbottom's case the danger is all the greater because his letter clearly shows, as I shall explain, that he is unaware of the special optical conditions under which my observations were conducted, and also because he has committed himself to a stronger statement on a technical point in mycology than is perhaps justifiable.

Let me, however, at once confess that I cannot lay claim to the smallest fraction of the mycological knowledge which my critic so eminently possesses. Unhappily, the average student of bacteriology cannot to-day hope to be a mycologist, or a protozoologist, nor, be it said, an astronomer or a watchmaker. In my own case, indeed, it is quite possible that I may eventually have to abandon as untenable the view that the giant meninococcus is a meningoascus, the organism which is the subject of my critic's polemics. And this is precisely why I was careful to point out in a footnote that my label was purely provisional. So anxious, however, is Mr. Ramsbottom to deny me any sanctuary that he throws caution to the winds, before he has had an opportunity of examining the living meningoascus at first hand, and delivers himself of a somewhat pontifical announcement on a subject of which mycologists of European reputation are content to speak with considerable restraint. He tells us, for example, that the Hemiascomycetes have no independent existence, and that members of this fictitious group, notwithstanding that they are given a section to themselves in one of the standard textbooks of mycology, "have, so far as studied, proved to belong definitely to" the Phycmycetes or Ascomycetes. Merely as an illustration, one would like to know if this degree of certainty has been reached in the case of Dangeard's genus *Protascus*. It is quite possible that, as with the *Fungi Imperfecti*, the Hemiascomycetes may eventually prove in all cases to be a temporary clearing-house, and Mr. Ramsbottom is fully entitled in his own mind to anticipate events. But he is not entitled, if he will forgive my saying so, in criticisms specifically addressed, amongst others, to "those who profess no knowledge of mycology," to present as fully proven that which is not yet fully proven. His conclusion, therefore, that all fungi with asci are Ascomycetes, meaning—as his context shows—the Ascomycetes proper, is hardly a fair statement to make to laymen in connexion with my specific use of the word Hemiascomycete, unless he at the same time fully explained Brefeld's view of the ascus proper as a phylogenetic modification of the sporangium. And this he has not done. The whole point of my use of the term "hemiascus" was that the meningoascus does not appear to be either a true sporangium or a true ascus, but yet that it has characteristics of both which perhaps justified its provisional inclusion in that type of fungus which is as yet phylogenetically in the position of not having arrived. Admirable, therefore, as Mr. Ramsbottom's description is of the ascus proper his question as to how my hemiascus agrees with a typical ascus is somewhat irrelevant, especially as I had made it quite clear that, although it had some ascoid features, it differed from a fully arrived ascus in the absence of perithecium, and in the possession of a variable number of spores.

I now come to three observations by Mr. Ramsbottom which he would perhaps not have made if he had fully grasped the optical conditions employed as described in my paper. I am anxious not to be unduly argumentative, but I hope he will forgive me for pointing out how gravely he has been misled through not having seen the organisms himself in the living state. The observations I refer to are these:

1. "The increase in the number of spores in the same ascus is not commented on, though it would be among many fungi with so few spores, and is of great significance to cast light on the whole paper. Does this 'ascomycete organism' differ from the rest of the fungi with endospores in that there is not simultaneous spore formation? If there is not simultaneous spore formation how does the number of spores increase? One would not expect the spores to increase by budding in such a form, though the difference in size of the spores, which is, so far as my memory serves, unique, may perhaps suggest that such takes place; but the relative positions in the cells is against this view, and the last four drawings seem to indicate that the difference in size is due to growth."

2. Dr. Hort's "representations of budding in the chart are very unlike what one ever sees in cultures."

3. "The Hemiasci of Brefeld were a group which were characterized by having an indefinite number of spores in a single sporangium (not, be it remarked, a variation in number in the same sporangium)."

These observations have been made with the greatest care, and, though it sounds a paradox, I am grateful for them. They have taught me much, and if I were to do them the justice they deserve I should exceed the space limit. I must therefore be content with the following brief reply.

Owing to the unusually low refractive index of the meningoascus the use of even a high dry lens is of little value, and a good apochromatic oil immersion lens of not less than 1.5 mm. diameter with a suitable N.A. is essential for study of detail. For the same reason the thinnest possible layer of medium must be employed, with consequent risk of distortion by temporary adhesion to the cover-slip or slide. Pressure with a cover-slip must be employed to restrain movement, and to make possible the use of an oil immersion lens when examining the living organism. Many of the buds, both attached and detached, are extremely small, many close to the vanishing point of vision. The larger organisms appear to be fragile and easily deformed. I have little doubt, after continuous observation for several hours at a time over a period of many months, that the endospores may be practically invisible at first, and gradually come into view through gradual enlargement, as in the undoubted case of a well-known Ascomycete.

I have repeatedly formed the impression, though I cannot put it at stronger than impression, that the endospores whilst still within the "ascus" will sometimes undergo equal binary fission, as some of the asci undoubtedly may, other free asci undergoing budding. Only an expert in mycology can tell us whether equal fission of intra-ascus spores is as well known to occur as unequal fission. As no doubt Mr. Ramsbottom is aware, a meninococcus or other coccoid organism, just previous to the appearance of a well marked cleavage line, will often temporarily appear to be considerably larger than the fully separated pair, however closely apposed, will do, and will even take on the appearance of a short ovo-bacillary form. Once cleavage is complete the spherical appearance of each well-formed coccus is manifest, as well as an actual shrinkage in size. Apart from the obvious disparity in size between a single recently divided coccus and the coccus preparing for fission this fugitive enlargement of an endospore about to divide, if my impression is well grounded, may perhaps explain variation in the size of endospores in one ascus or in several, and the suggested equal dichotomy of intra-ascus spores might also account for a true variation in the number of endospores. I have never been able absolutely to satisfy myself, apart from this last, which, as I say, is only an impression, that there is any actual increase in the number of endospores in a given "ascus" (meningoascus). An apparent increase is often seen, as my drawings show. This apparent increase is undoubtedly due in some instances, as I was careful to explain in my paper, as a possible source of error, to rotation and dipping movements of the containing ascus, leading to the sudden appearance of a pre-existing but previously invisible endobody, though I cannot say that this apparent increase can always be thus explained, often on account of eyestrain showing itself at a most inconvenient moment. It should, however, be remembered that under the best conditions these endospores are difficult to see satisfactorily, and the difficulty is often increased by the sudden, but not always noted, advent of minute free spores attaching themselves, in consequence of slight streaming movements, to an "ascus" under observation.

Mr. Ramsbottom's chief troubles, therefore, appear to me to be largely explicable by the fact that he has perhaps not realized that it is impossible to judge of the special difficulties imposed on study of the meningoascus of low refractive index with an oil immersion lens in terms of experience of more easily observed organisms of higher refractive index with a dry lens. And my comments on his difficulties as to variation in the size of the spores, in apparent variation in their number, and consequently on his chief difficulty as to the apparent absence of simultaneous spore formation, as well as to intra-ascus equal binary fission of one or more endospores, he will, I am sure, duly consider.



There remain five smaller points which I should perhaps deal with.

1. By mycelial sprouting I mean the formation of a "true mycelium."

2. "This apparently means that, although the spores are placed in the conditions under which there is abundant vegetative growth, they refuse to germinate—an unexpected phenomenon" (p. 205, line 44 et seq.).

In answer to this I would say, Does not the undoubted fact that the endospores of *Ascobolus*, for example, will only germinate freely after passage through the alimentary canal of herbivorous animals make the phenomenon of reluctant germination of the meningospore in young cultures less unexpected than the above sentence would suggest?

3. "All non-motile fungus spores have definite cell walls, whereas these are absent in *Meningococcus*."

I am not certain that in an early stage my endospores are not motile, and the motility of even fully developed meningococci has been reported on by at least one good observer, though not generally confirmed.

4. Mr. Ramsbottom laments that "the young cells are drawn as being without cell contents, and so it is impossible to tell whether they are originally uninucleate, as are all young asci, and also what nuclear changes take place therein."

It cannot of course be meant by this that I am expected to draw what I do not see. In point of fact, the statement is not quite accurate, because in a few cases young cells are drawn showing cell contents. But, as I have explained, the meningoscus, whether large or small, has a genius for defying satisfactory examination of its contents, nuclear or what not, and if this were not the case, it would have been comparatively easy, even for me, and much more so for the mycologists who have seen it in the living state, to determine its true nature.

5. "There is little or no evidence that it (the *Meningoscus*) is even a fungus."

I must admit that I did not specify the absence of chlorophyll, nor the absence of true parenchyma—cardinal characteristics, in their associated absence, of undoubted fungi. Nevertheless, there does not appear to be any chlorophyll or true parenchyma, and the meningoscus does resemble a hemiascus in its absence of perithecium and in its indefinite number of spores, with still further resemblance to a fungus in the exhibition of gemmation, endosporulation, and mycelial formation. All these points suggesting a fungus may eventually prove to be illusory, but in the meanwhile there they are.

What, then, are these organisms? They are not, as my experiments proved, contaminating organisms, as many profess to believe. They are not involution forms, that last resort of the mentally destitute. They are not plasmokinetic forms, exhibiting the phenomena of abnormal degrees of plasmolysis or plasmoptysis, produced by varying concentrations of solutes within or without the cell, as the disciples of Fischer aver. They are not the expression of a specific response to a specific stimulus provided by a specific element in environment, whatever precisely that may mean.

I perhaps rashly suggested that they were hemiasci, but if there is a better name, *tant mieux*. Whatever else they are, or whatever else they are called, they are not simple bacteria. This is the basic fact for which my paper gives abundant evidence, and to establish which the paper was written; and I trust Mr. Ramsbottom will absolve me from contumacy in thus attempting to place my facts and the ordinary textbook labels, important as these are, in what appears to me a fair perspective.—I am, etc.,

London, W., Aug. 30th.

EDWARD C. HORT.

#### ABSTRACTS OF MEDICAL LITERATURE.

SIR,—I am in a remote part of the country, and so have not seen recent issues of your JOURNAL, but a friend informs me that you have a "leader" in the current number on the need for activity in furnishing abstracts of current medical literature and commending the steps the Medical Research Committee are taking in this direction. May I take the opportunity of congratulating your JOURNAL for this timely expression of this useful view and at the same time draw the attention of your readers to the steps the Physiological Society are taking, and have taken since 1916, in the publication of *Physiological Abstracts*, which is published by H. K. Lewis and Co., Ltd., 136, Gower Street, W.C.2. This journal aims at issuing promptly abstracts of the papers published throughout the world in physiological and allied sciences. Although I may be a biased witness, I nevertheless venture to think that this aim is being very satisfactorily reached, and as pathology is one of the sciences most closely allied to physiology, it is possible that readers of your JOURNAL anxious to obtain the latest views in pathological science will find *Physiological Abstracts* of service to them. A number is published at

the beginning of every month. The present volume (vol. iii) began last April, and already more than 2,000 abstracts have appeared in it. The subscription price is 25s. per annum, but separate numbers of this and preceding volumes can be obtained at 4s. each.—I am, etc.,

W. D. HALLIBURTON,

Editor of *Physiological Abstracts*.

King's College, Strand, W.C.2, Aug. 21st.

P.S.—The price at which we are compelled to issue *Physiological Abstracts* emphasizes the point made in your article that such publications cannot be produced on a purely commercial basis.

#### Obituary.

ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.,

Emeritus Professor of Medicine, University of Birmingham; one time President of the British Medical Association.

We greatly regret to have to record the death, on August 28th, after a long illness, of Dr. Robert Saundby of Birmingham, ex-president of the Association and at one time chairman of its Council.

Robert Saundby was born in London on December 19th, 1849, and as a very young man went out to India as a tea planter. Owing to a breakdown in health, due in part to a serious riding accident, he returned home, and, with some hesitation, due apparently to the fact that he had passed the age when the study of medicine usually is begun, he entered as a medical student at the University of Edinburgh. There he had a brilliant career, and graduated M.B., C.M. in 1874; he was house-physician first to the Royal Infirmary and then to the Royal Hospital for Diseases of the Chest. His standing as a student is shown by the fact that he was senior president of the Royal Medical Society of Edinburgh. In 1876 he was appointed pathologist to the General Hospital, Birmingham, and became physician to it in 1885; this office he retained for twenty-seven years. When, in 1912, he retired the governors marked their appreciation of his services by electing him consulting physician and placing his portrait in oils in the board room. As a member of the medical committee of the board of the hospital he gave careful attention to administrative work, and was a fearless advocate of any measure he believed would benefit the institution. He was also for a long period professor of medicine in the University of Birmingham, and on his retirement was appointed Emeritus professor. He was a member of the Midland Medical Society; from 1895 until 1899 president of the Birmingham Medical Institution, and it was largely due to his influence that the library has been brought to its present state of excellence. Dr. Saundby became a Member of the Royal College of Physicians in 1878, and was elected a Fellow in 1887. In 1890 he gave the Bradshaw Lecture on the morbid anatomy of diabetes mellitus—a subject in which he always took particular interest, and upon which he wrote in *Albutt's System of Medicine*. Last year he gave the Harveian oration, taking for his subject Harvey's work considered in relation to scientific knowledge and university education in his time.

Dr. Saundby had a ready pen, and made numerous contributions, signed and unsigned, to medical literature. His book on the treatment of diseases of the digestive system reached a second edition in 1914, and his lectures on renal and urinary diseases a fourth edition in 1900. He also wrote a volume on the care and treatment of old age, and a short book on urgent symptoms in medical practice in 1915. The position he attained in Birmingham and in the British Medical Association led him to take particular interest in the subject of medical ethics, upon which he published a volume, which reached a second edition in 1907. It was a very valuable work in its day, and may be said to have laid the foundation for the medico-ethical work of the British Medical Association, which has been much extended by the present Medico-Ethical Committee. His connexion with the Association was long—honourable to him and useful to it. He became a member in 1875, and from the first took a deep interest in the local work. At the annual meeting at Birmingham in 1890 he was one of the general secretaries, and much of the success of that meeting was due to his organizing ability. He was president when the Association again met in Birmingham in



1911. His presidential address was largely concerned with the subjects of medical education, the functions of voluntary hospitals, and the relation of medicine to the State. He was chairman of the Council of the Association from 1885 to 1893, was vice chairman of the Constitution Committee, which sat during that period, and in many ways took a very active part in the conduct of the affairs of the Association, giving his services without stint. He represented the University of Birmingham on the General Medical Council from 1905 to 1917, and gave the Ingleby Lecture in the university in 1894. He was Middlemore Lecturer in 1892.

Dr. Saundby married in 1880, and had three sons and one daughter; one son, who was an officer in the Flying Corps, was killed about eighteen months ago, and the two others are on active service. He was himself a lieutenant-colonel R.A.M.C., Territorial, as noted below.

The funeral service at the Cathedral, conducted by the Bishop of Birmingham, was attended by many members of the profession and other friends. The British Medical Association was represented by Major A. Lucas, member of the Council, and by Dr. J. R. Ratcliffe, Honorary Secretary of the Birmingham Branch. The remains were cremated at the Birmingham Crematorium.

MR. GILBERT BARLING, C.B., Vice-Chancellor of the University of Birmingham, and long Dr. Saundby's colleague at the General Hospital, has been good enough to send us the following tribute:

When I first made the acquaintance of Robert Saundby, now nearly forty years ago, he was assistant physician to the General Hospital. He was a handsome, intellectual looking man, full of enthusiasm for the scientific side of medicine and a prodigiously hard worker; his enthusiasm and his industry remained to the end of his life. The value of his services to Medicine in his own immediate district can hardly be overstated. With, perhaps, less eloquent acumen than some of his immediate colleagues in medicine, his bent of mind naturally led him to investigation and to the pursuit of methods in which he excelled; these dominated his work and his teaching. The value of the latter was most appreciated by senior students, and especially by those who had the good fortune to be his house-physicians. In obscure conditions his wide knowledge of medical literature was a source from which his colleagues were always glad to obtain help. Saundby was a prolific writer, especially on nephritis, diabetes, disorders of digestion, old age and its cure, and on medical ethics. Everything he wrote was thoroughly sincere, and was based on, or corrected by, his own observations. He used his position as physician to the General Hospital to the full; conscientious to a degree with regard to the well-being of his patients, he was none the less, so, towards the great opportunities his post gave him, to promote the advance of medicine. But his labours did not end there, for he was always ready to devote himself without stint to the administrative work of the hospital, whether at the board of management or at the medical committee; on both his business-like methods and his critical faculty, made him most helpful. The British Medical Association owes much to the indefatigable efforts of Saundby in the Midland district as well as at the central office. Locally he was perhaps chiefly interested in promoting the scientific work of the Association in the Branch meetings and in the Pathological Section. When the Association held its meeting at Birmingham in 1911 by universal consent and acclamation he was elected President, a position he filled with conspicuous success. It would be ungrateful to forget the services he rendered as editor of the *Birmingham Medical Review*, which would have died of inanition but for his endeavours. Equally or even more valuable was the interest he showed in the Medical Institute of which he was for many years the librarian, and for a long period the president. The provision of this excellent meeting place for all the medical societies, and the extension of its library, owe more to Saundby than to any other person. Some four years ago the early indications of cardiac insufficiency began to show themselves, and perhaps it would have been better if our friend had recognized the wisdom of lessening his work, but this was foreign to his nature, and when he was mobilized as Lieutenant-Colonel, *a la suite*, in the Territorial Service he threw himself into the new duties with his usual ardour; undoubtedly they strained

and overthrew him gravely, and in my opinion they shortened his days. Those who only knew Saundby slightly will perhaps recall occasional offence arising out of temperamental irritability. It would be idle to deny this defect, but it did not represent the real man, and when the moment of irritability was over no one had deeper regret for the incidents than he himself. The dignity and courage with which he bore his prolonged illness and his later great suffering a thousand times redeemed what was in truth a surface fault which was never associated with malice or ill will. For myself I can speak of him as a highly cultivated man, a most loyal and honoured friend and colleague, an inspiration to others to do the best in them. His memory will long be cherished by those who had the privilege of his friendship.

#### C. E. GLASCOTT, M.D.,

Consulting Surgeon, Manchester Royal Eye Hospital.

It is with great regret that we have to announce the death, on August 14th, of Dr. Charles Edward Glascott at his home at Budleigh Salterton, South Devon. Charles Edward Glascott was born in 1847 at Constantinople, and received his education in Edinburgh at the Royal High School and the University. He graduated M.B., C.M. in 1868, and obtained the F.R.C.S. Edin. in 1886. He started practice in Manchester, and soon became known as one of the leading ophthalmological surgeons; for thirty-five years was honorary surgeon to the Manchester Royal Eye Hospital, and, in conjunction with the late Dr. Little, undoubtedly assisted very greatly in making that hospital one of the foremost centres for the treatment of eye disease in the North of England. Later he became senior consulting surgeon, and one of the vice-presidents of the institution. He is perhaps best remembered as lecturer and examiner in ophthalmology at the Manchester University, his lectures being always eminently practical and to the point. He was identified with a number of institutions and societies for the study of eye diseases and the care of the blind. He was the author of a considerable number of monographs on ophthalmological subjects, among which may be mentioned those on the causes and prevention of blindness, published in the reports of the Henshaw's Blind Asylum, Manchester, to which he was honorary oculist. For many years he took an active interest in the work of the British Medical Association, especially on the scientific side; he acted as secretary of the Ophthalmological Section at the annual meeting at Liverpool in 1883, and was vice-president of this section at the annual meeting at Glasgow in 1888 and at Manchester in 1902.

Under a somewhat brusque military manner, which sometimes on first acquaintance made students and hospital patients rather afraid of him; there was really concealed a tenderness and interest in their welfare which quickly endeared him to all who had the privilege of coming under his care. His old pupils, who include a considerable number of the leading eye specialists in the North, greatly missed him when he retired some years ago from Manchester to reside in Devonshire, and have learnt with the deepest regret of his death.

### The Services.

#### INDIAN MEDICAL SERVICE.

##### Additional Administrative Appointments.

APPROVAL has been given to the creation, for the period of the war, of additional military administrative appointments in the Indian Medical Service up to eight in number. The appointments will carry the rank of Colonel, and will be filled as circumstances demand. Service in them will count towards the additional pension of £250 per annum for which Colonels of the Indian Medical Service are eligible after five years' active service in that rank.

##### Indian Army Pensions.

The Secretary of State for India has decided to alter the conditions under which Indian Good Service Pensions may be awarded to officers of the Indian Army and Indian Medical Service, to officers of Royal Artillery selected for continuous Indian service, and to officers of Royal Engineers who have elected for continuous Indian service or who have acquired a right to an Indian retiring pension.

In future only general officers and colonels on the retired list, and such officers of the Indian Army of those ranks as have, owing to suspension of retirements, elected to draw pay equivalent to pension, and officers of the Indian Medical Service on the retired list of not less than twenty-five years'



service, will be eligible for selection. In the case of officers of the Indian Medical Service the possession of an award of a pension for administrative service under paragraphs 728 and 729, A.R.L., vol. 1, or of a compensatory extra pension under paragraph 734 of the same, will disqualify for selection for a Good Service Pension.

### TERRITORIAL DECORATION.

THE Territorial Decoration has been conferred upon Lieut.-Colonels temporary Colonels R. Pickard, L. P. D. Mettman, J. M. Crombie, and W. E. Lodge, and Majors C. A. Goubert, C. Black, and J. W. Cook, all of the R.A.M.C. T.F., as well as upon Major C. E. Goddard, M.D., of the T.F.R.

### THE ORDERING OF DECORATIONS.

D.S.O., M.C., AND D.C.M.

*Services in Action.*

THE Army Council have decided that, in respect of services in the army, the Distinguished Service Order, the Military Cross, and the Distinguished Conduct Medal shall be regarded, as from August 1st last, as distinctions to be awarded for "services in action" only. The term "services in action" shall be held to mean:

1. Services under fire.
2. Distinguished individual services in connexion with air raids, bombardments, or other enemy action which, at the time, produces conditions equivalent to services in actual combat, and demands the same personal elements of command, initiative, or control on the part of individuals, and, in a lesser degree only, possibly entails the same risks.

In no circumstances shall any exception to this rule be allowed.

An Army Council Instruction (754 of 1918) was issued on July 10th showing the order in which Orders, Decorations, and Medals should be worn. The Victoria Cross takes precedence of all. Then follow the Garter, the Thistle, St. Patrick, the Bath, the Order of Merit, Star of India, St. Michael and St. George, the Indian Empire, the Crown of India, the Royal Victorian Order (Classes 1, 2, and 3), the G.B.E., K.B.E., and C.B.E. The D.S.O., the D.S.C. (naval), and the Military Cross come after several civilian orders. This has excited some criticism.

### EXCHANGE.

REGIMENTAL Medical Officer in Northern Command would like to exchange with M.O. Regimental for preference, but not essential; in Western Command, if possible, near to Manchester. Address No. 3450, BRITISH MEDICAL JOURNAL Office, 423, Strand, W.C.2.

## Universities and Colleges.

### UNIVERSITY OF LONDON.

#### ST. THOMAS'S HOSPITAL.

THE second Entrance Science Scholarship (£60) has been awarded to M. C. Sivakara, and N. G. Harris and Emyrs Williams have been honourably mentioned.

### SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have passed in the subjects indicated:

**SURGERY.**—J. Behesnilian, \*J. Gorsky, \*W. H. Haupt, †B. A. M. Henderson, \*F. Lyth, \*H. Lyth, \*H. E. Reburn, \*G. P. N. Richardson, \*W. H. Stevenson, \*J. Stephen.  
**MEDICINE.**—\*H. Carter, \*W. H. Haupt, \*W. D. Macrae, \*G. P. N. Richardson.  
**FORENSIC MEDICINE.**—J. F. E. Burns, F. I. G. Edwards, W. H. Haupt, W. H. Stevenson.  
**MIDWIFERY.**—F. I. G. Edwards, I. R. Florence, W. H. Haupt, J. A. Marriott.

\*Section I. †Section II.

The diploma of the Society has been granted to Messrs. J. Behesnilian, J. Gorsky, F. Lyth, H. Lyth, G. P. N. Richardson, W. H. Stevenson, and J. Stephen.

### LONDON INTERCOLLEGIATE SCHOLARSHIPS BOARD.

THE following are the results of the examination for medical scholarships held in July last:

**University College.**—Bucknill Scholarship: I. W. Gallant. Medical Exhibitions: H. Rosenberg, B. Deane, Rachael Halperin (*pro vice* accessit).

**King's College.**—Warneford Scholarships: P. B. Wilkinson, M. G. L. Perkins, L. H. Savin.

**Westminster Hospital Medical School.**—Natural Science Scholarship: M. Sueber.

**King's College Hospital Medical School.**—Science Scholarships: Christine P. Francis. Arts Exhibition: W. P. H. Sheldon.

**London Royal Free Hospital School of Medicine for Women.**—St. Dunstan's Medical Exhibitions: Margaret L. Reynol's, Ellen M. Howard. Isabel Thorne Scholarship: Ethel A. Perrott. Mabel Sharman-Crawford Scholarship: Dorothy N. L. Leverkus.

DR. NILO PECANHA, Brazilian Minister of Foreign Affairs, has lately announced that Brazil is sending a medical mission of fifty doctors, besides a number of students, to France. They are to be attached to the Brazilian Hospital in the zone of operations.

## Medical News.

THE Minister of Pensions is making a strong appeal for contributions to the King's Fund for the Disabled. The King has handed over to the fund the City of London silver wedding gift, amounting to £53,000, and £25,000 from his own purse. The fund is vested in trustees, of whom Mr. Hodge, the Minister of Pensions, is chairman, and it is hoped to raise a sum of three millions. The object of the fund is to help disabled men to establish themselves in businesses, and in suitable circumstances to help women also; 2,500 cases have already been dealt with, but it is found that the sum of £25, hitherto the maximum of any grant, is in many cases insufficient.

As already announced, Dr. Truby King, on the invitation of the Chester Local Medical and Panel Committee, will give an address on infant welfare centres to a meeting of medical officers of health and medical officers and members of the committees of the centres in Cheshire, at the Crewe Arms Hotel, Crewe, on Saturday, September 14th, at 3.30 p.m.

AN elementary course of lectures on infant care, for teachers, infant welfare workers and mothers, arranged by the National Association for the Prevention of Infant Mortality (4, Tavistock Square, London, W.C.1), will be given at 1, Wimpole Street, beginning on September 30th.

A PREPARATION for preventing condensation on laryngoscopic mirrors, microscopic and camera lenses, spectacles, and other glass surfaces has been placed on the market by Messrs. Arnold and Sons, 6, Giltspur Street, E.C.1. It is called "Claret," is easily applied, and appears to be effective.

AN American war hospital established on the east coast of Scotland has recently been taken over by the American navy. The American staff, consisting of twenty-two medical officers, sixty-three nurses, paymaster, clerical staff, orderlies, and artisans, was organized at Los Angeles, California, by Dr. Rea Smith, surgeon U.S.N., and the commanding officer is Dr. C. M. Devalin, U.S.N. The equipment has been brought from America. British patients from both army and navy are to be received in the hospitals as well as patients of corresponding American services.

THE medical department of the United States Army has appointed to each camp a division surgeon, who is responsible for its health. To assist him he has a sanitary officer and a sanitary engineer, with from one to two hundred men. Particular attention is given in all camps to the cleaning up of places which are breeding grounds for mosquitos and flies. It has sometimes been found necessary to dig channels in streams, drain swamps, and do elaborate ditching work in order to clean stagnant pools. Where it has been found impracticable to drain swamps, slow moving streams and bodies of still water are kept covered with oil, and points within the camp where there is any possibility of mosquitos or flies breeding are daily sprayed with oil. Arrangements have been made with the Federal Public Health Service to carry out similar measures in the territories adjacent to camps. All buildings in which food is prepared or stored are screened. Flytraps have been placed in all buildings; on an average there are 6,000 such traps in each camp. More than 22,700,000 square feet of screening have been used in the camps.

FROM the reports made to the annual general meeting of the Professional Classes War Relief Council it appears that over ten thousand applications had been dealt with, and that the professions most hardly hit by the war were those of musicians, artists, architects, and journalists. It was reported that during 1917 the amount received in subscriptions and donations was £22,802, and on the last day of that year the immediately available assets were £17,945, in spite of an expenditure out of the general fund during the year of upwards of £23,500. The sum of £7,379 had been received during 1917 from American sympathisers, making more than £10,000 in all from that source. During what had passed of the current year, £10,840 had been received and £12,750 expended. The chief expenditure had been upon education—that is to say, the keeping of children at suitable schools. Mrs. Scharlieb, M.D., states that at the Maternity Home supported by the Council about 450 infants had been born, most of them the children of men serving in the forces; in addition fifty mothers had been supported in their own homes, and in some twenty other instances the means had been furnished for the women to find assistance elsewhere.



## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *BRITISH MEDICAL JOURNAL* alone unless the contrary be stated.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the *BRITISH MEDICAL JOURNAL* are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the *JOURNAL* be addressed to the Editor at the Office of the *JOURNAL*.

The postal address of the *BRITISH MEDICAL ASSOCIATION* and *BRITISH MEDICAL JOURNAL* is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Antilogu*, Westrand, London; telephone, 2631, Gernard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2630, Gernard.

3. MEDICAL SECRETARY, *Mediscera*, Westrand, London; telephone, 2634, Gernard. The address of the Irish Office of the *British Medical Association* is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### QUERIES AND ANSWERS.

#### INCOME TAX.

S. T. took over a practice in April, 1917, and has made his income tax return for special assessment "under a letter." Is he bound to accede to the local surveyor's request for a copy of the accounts of the practice from the date of taking over from his predecessor?

\*.\* There is no legal obligation to comply with the request, but at the same time the Special Commissioners are not bound to accept the return, and would no doubt compare it with the past assessments of the practice. If "S. T." did not take over the book debts his "cash" profit would not fairly represent the true profit of the year 1917-18, which, with the last two years of his predecessor, would form the average for assessment. On the whole the request seems not unreasonable, and we would recommend our correspondent to see the surveyor with the figures if practicable. After all, if his return is not accepted the accounts could be demanded on appeal being made against the assessment. We may perhaps add that "S. T." is under a slight misapprehension. The Special Commissioners do not assess under a letter. That is a mode of local assessment rarely adopted.

### LETTERS, NOTES, ETC.

WE have received a letter from Mr. H. W. Bywaters, D.Sc., of Bristol, taking exception to the publication of his name in a leaflet issued by Vitamogen, Ltd. He desires it to be known that the publication should not be taken to imply that he considers "that there are any vitamins in the above mentioned preparation." We have also received a letter from Vitamogen, Ltd., to the effect that they acted innocently in issuing the leaflet, believing that they had Dr. Bywater's consent.

#### THE CASE OF MR. EDWARD YEATES, F.R.C.S.I.

WE have already referred on several occasions to the circumstances under which Mr. Edward Yeates, F.R.C.S.I., was charged with wearing military uniform without lawful authority. Mr. Yeates desires it to be understood that he was appointed, did duty, and was paid as a captain in the New Zealand Expeditionary Force under King's Regulations, and has never resigned, been dismissed, or paid off from that Expeditionary Force. The date of his appointment was September 17th, 1914, and that of the *New Zealand Gazette*, purporting to appoint him to the New Zealand Territorial Force, was October 17th, 1914, at which time he was in Samoa. He denies that he ever belonged to or did duty in that Territorial Force which, he adds, is not under King's Regulations. His contention is that he was found guilty of wearing the uniform of a force to which he never belonged and the uniform of which he never wore. It was, we understand, on the charge of wearing this uniform which he did not claim to wear that he was summoned at the instance of the War Office to a police court.

#### SCOTTISH POOR LAW MEDICAL OFFICERS.

A SCOTTISH MEMBER writes that superannuation should be provided for Scottish Poor Law medical officers. He expresses the hope that the Scottish Committee of the *British Medical Association* will give early attention to the matter.

#### COLLOSOI, MANGANESE, AND BOILS.

MIRABILE DICITUR writes: Having suffered for a year and eight months from repeated attacks of boils, and used autogenous vaccine, stanoxyl, and most drugs in the *Pharmacopoeia*, I tried collosoi manganese intramuscularly—result, no more boils; what was evidently a large one, with distinct boggy pus, cleared up in a week.

#### TREATMENT OF SCABIES.

CAPTAIN ERNEST KINGSCOTE, M.B., C.M. (London, W.1), writes to point out that the treatment of scabies recommended by Oppenheim, as noted in the *JOURNAL* of August 24th (p. 207) is not new. It was, he says, in 1882 the generally accepted method of treating scabies at the Allgemeine Spital, Vienna, in the clinic of Kaposi. "Whether the latter suggested the treatment or his predecessor Hebra I do not remember. In 1883 I saw the same treatment carried out at the Hospital St. Louis in Paris, only in this instance a starch bath was substituted for the zinc paste, and usually completely removed the irritation."

#### CHLLOID.

NORTHERN PRACTITIONER writes: I was much interested the other day in seeing a very marked case of cheloid disease of the skin in a man of middle life, slightly grey, who did not appear to have any other illness. The appearance presented was that of stripes a quarter of an inch broad of pinkish raised skin running in all directions, on the shoulders, arms, and chest, sometimes the well marked claw of three radiating stripes from one extremity which gives rise to the name. The patient said the marks began as heat spots originally; there it was idiopathic. There is a good description of the disease in *Albott's System of Medicine* by Dr. Abraham, but we are still in doubt as to the etiology of the disease. It would appear to have a nervous origin like herpes.

#### THE INAUGURAL ADDRESS.

THE presidential address at the opening of congresses and sessions of scientific bodies is valuable as giving an opportunity for a survey of the gains in knowledge achieved in a given period, but it may have other even more practical uses. An amusing instance was given by Professor W. T. Councilman in an address delivered to the graduate class of the Harvard Medical School. Some time ago he happened to be in the capital of a Brazilian State a fortnight after a gubernatorial election. There had been the customary occurrences which such an event in a Brazilian city produces—some fifty people killed, thrice that number wounded, a newspaper office blown up, and on numerous houses the peculiar pits made by the modern jacketed bullet. At the time of Dr. Councilman's arrival, everything was going on as usual, but he was informed that arrangements had been made to blow up the Governor on his way home after the inaugural address, but the possibilities of that species of eloquence had not been taken into account. The orator spoke at great length, reciting the history of the country from its discovery, describing its existing conditions, and indulging in prophecies as to its future development. Hours passed, and still the address flowed on without any apparent prospect of coming to an end. The conspirators were nervous, the exciting events had robbed many of them of their customary siesta, and under the soothing influence of the orator many slept; others, for various reasons, discovered that they had business elsewhere. In this way the company faded away into thin air; the audience gradually departed with the taxis which were to have formed the procession, and the Governor was finally left speaking to a single devoted friend, who went home with him by a back way. The country for a time was saved.

#### ERRATUM.

IN the note by Dr. Clippingdale on "London's Medical Sheriff," for "Thomas Horesbede" read "Thomas Morestede." Thomas Morestede was present as a surgeon both at Crecy and Poitiers.

THE appointment of certifying factory surgeon at Spilsby (Lincoln) is vacant.

#### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

				£	s.	d.
Seven lines and under	...	...	...	0	6	0
Each additional line	...	...	...	0	0	9
Whole single column	...	...	...	4	0	0
Whole page	...	...	...	12	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the *British Medical Association* at the General Post Office, London. No responsibility will be accepted for any such remittance not safeguarded.

Advertisements should be delivered, addressed to the Manager 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive post-restant letters addressed either in initials or numbers.



## THE DIFFERENTIAL DIAGNOSIS BETWEEN FUNCTIONAL AND ORGANIC PARAPLEGIA.

BY

R. T. WILLIAMSON, M.D. LOND., F.R.C.P.,

CONSULTING PHYSICIAN, ROYAL INFIRMARY, MANCHESTER.

THE differential diagnosis between functional and organic paraplegia or paraparesis is now of much interest on account of the large number of both affections in our military hospitals.

It is important that cases of malingering or of functional paraplegia should not occupy hospital beds for long periods or continue to receive pensions for months or years. It is equally important that men who have done their best to serve their country should not be regarded as cases of malingering or functional paraplegia when they are suffering from organic disease. The detection of indications of commencing organic affection in slight cases, and at an early period of the disease, is also most important.

It is desirable that malingerers should be at once recognized, and that cases of functional paraplegia should be very promptly treated and cured as early as possible by some means. But a definite differential diagnosis between functional and organic cases is necessary before this can be done.

In many cases the differential diagnosis is easy, in others extremely difficult and only possible after repeated careful examinations. Further, we have to bear in mind that functional symptoms may be associated with those of organic disease.

The most valuable indications in the differential diagnosis between functional and organic paraplegia are well known to those who are interested in nervous diseases and need only be briefly named. In this article I desire to draw attention to a few additional indications that I have found very useful in my own practice, and especially to the value of two signs—isolated loss of the vibrating sensation and loss of the tendo Achillis reflex.

The following are well known points in the differential diagnosis, and others might be mentioned:

Paralysis of the bladder, with incontinence of urine (overflow incontinence, or constant dribbling of urine), points to organic disease; it does not occur in functional paraplegia, though in this condition retention of urine occasionally occurs.

Reaction of degeneration on electrical examination of paralysed muscles is found in some cases of organic paraplegia; it does not occur in functional paraplegia.

Marked localized atrophy is not conclusive, but it would be in favour of organic paraplegia. Detection of bullets and foreign bodies, fractures of vertebrae, or of their laminae or processes, by x-ray examination, signs of aneurysm, caries, or growth, etc., are valuable indications in favour of organic disease of the spinal cord in certain cases.

History of a girdle pain, of root symptoms, or of severe pain in the back, for some time previous to the onset of paralysis are points in favour of organic disease, and especially if anaesthesia can be detected in the distribution of the spinal nerve roots at the level of the girdle pain.

Crossed paralysis—marked paralysis of the leg on one side and of the arm on the opposite side, whilst the other leg and arm are less affected, or paralysis of the leg on one side and anaesthesia of the opposite leg—would be in favour of organic disease.

### Sensation.

If anaesthesia is detected, and its distribution and limits correspond exactly to those which have been established for *transverse* lesions at different levels of the spinal cord, then organic disease may be diagnosed. Thus, for example, transverse lesion of the lower end of the cord (third sacral segment) will produce anaesthesia in the gluteal region and scrotum. If higher (up to fifth lumbar segment) the lesion will cause anaesthesia down the back of the thighs, outer side of legs, and soles of the feet, in addition to the area of anaesthesia just mentioned, whilst the front and inner side of the thighs and the inner side of the legs will not be anaesthetic. Similar area of anaesthesia may be caused by lesion of the cauda equina. If

the lesion extends to the first lumbar segment the anaesthesia will extend to the groins, and the whole of the legs, the scrotum, and gluteal region will be anaesthetic.

In an organic spinal *transverse* lesion, if both feet are anaesthetic, the scrotum and gluteal region will be also anaesthetic. If the gluteal region and scrotum are not anaesthetic when the feet are anaesthetic, then the affection may be functional or due to peripheral neuritis, or a very limited spinal lesion, but we should require other signs to enable us to diagnose between the two. We may state this in another form—if the case is functional and the upper limit of anaesthesia is below the middle of the thigh, then the scrotum and gluteal region will probably not be anaesthetic.

If the anaesthesia extends up to the groin, the scrotum and the gluteal region will also be anaesthetic in organic disease due to a *transverse* lesion. If the scrotum and the gluteal region are not anaesthetic, in a case of paraplegia with anaesthesia extending up to the groins, *transverse* organic disease of the cord can be excluded and the case will probably, though not certainly, be functional or due to peripheral neuritis.

The limit of anaesthesia is of value in diagnosis. In a case of paraplegia, if sensation to touch is lost in both legs and the upper limit of the anaesthesia is a transverse line across the long axis of the leg (that is, at right angle to the long axis) at the knee, or just above or just below the knee, functional affection or peripheral neuritis is more probable than a spinal transverse lesion.

These are points of diagnostic value well known to those who are interested in nervous disease, and many others might be added.

### Reflexes.

The diagnostic value of changes in the reflexes is well known. Loss of knee-jerks would of course indicate organic disease. Diminution of the knee-jerks cannot be considered of diagnostic value. When the knee-jerks are obtained in cases of paraplegia we have the various forms of spastic paraplegia to consider; we have often in such cases many points of diagnostic value in favour of organic disease—sustained ankle clonus, "clasp knife" rigidity, rectus clonus, and especially the Babinski and Oppenheim's reflexes. The Babinski or Oppenheim reflexes may be the only definite indications of organic disease in cases of early organic paresis of the legs. The other changes just named and other signs of organic disease may be absent at first. Also pseudo-ankle-clonus and pseudo-rectus-clonus are occasionally observed in functional paraplegia. The clonus, however, is not a sustained clonus. Usually the difference is easily detected, but in extremely rare cases it may very closely simulate a true clonus. A definite Babinski reflex does not occur in functional paraplegia.

The importance of these changes in the reflexes and of the other signs named is well known, but in certain cases the diagnosis is very difficult. The signs already named cannot be detected, or they are indefinite. In certain cases of paraplegia or paraparesis from tumour affecting the spinal cord—diagnosis verified by autopsy in some cases, in other cases clinical diagnosis of spinal meningeal tumour very probable—I have found the reflexes normal for a period at first; the knee-jerks have been normal, and ankle clonus and the Babinski reflexes have not been obtained. But usually in these cases we have a history of root pains or root symptoms for some time before the onset of paresis, and in course of time, often in a short time, the Babinski reflexes and ankle clonus are obtained.

In this article, however, I desire to draw attention especially to the value of two signs in differential diagnosis—(1) loss of the tendo Achillis reflex, and (2) loss of the vibrating sensation, when other forms of sensation are unaffected.

### Value of the Tendo Achillis Reflex.

In many cases of functional paraplegia the plantar reflex is not obtained, and if all other reflexes are normal, loss of the plantar reflexes is a point which should lead to careful consideration of functional disease. The plantar reflex is lost in many cases of organic disease, but in such cases usually other reflexes are affected.

In some cases of paraplegia from organic disease we find the plantar reflexes lost, but the knee-jerks obtained and no ankle clonus. This condition of the reflexes may therefore be found both in functional paraplegia and in organic disease. Usually the testing of the tendo Achillis



reflex enables us to decide between the two conditions. The tendo Achillis reflex is *always* obtained in such cases if the disease is functional. When the Achillis reflex is lost the disease is always organic. But we cannot state the converse, that when the disease is organic the Achillis reflex is always lost. In some rare cases of organic disease the plantar reflex is lost and the Achillis reflex obtained.

The spinal reflex arc that must be intact if the plantar reflex is obtained is situated in the first and second sacral segments of the spinal cord. Just above this is the arc on which the tendo Achillis reflex depends (fourth and fifth lumbar segments). If the plantar reflexes are lost in organic disease, usually by extension of the lesion, the tendo Achillis reflexes are also lost; but in functional disease the tendo Achillis reflexes are always obtained. Hence the value of this tendo Achillis reflex in differential diagnosis. It is desirable to test the Achillis reflex in all cases whenever the plantar reflex is lost.

The tendo Achillis reflex is of special value also because it is very often lost in many cases of organic disease before the knee-jerk. Thus, in peripheral neuritis of various forms (alcoholic, diabetic, etc.), and in tabes at the onset often the Achilles reflex is lost before the knee-jerk. It may be lost when the knee-jerk has never been affected, as in some cases of poliomyelitis (chronic and acute); and it is lost on the affected side in many cases of sciatica. In testing this reflex the patient should turn on one side, if paralysed in bed, or he should kneel on a chair with the feet hanging down over the edge of the seat of the chair, and the calf muscles should be relaxed; or he should kneel with one knee on the chair and place the other foot on the floor at the side of the chair.\*

The reflex is, of course, unexpected by the patient and not likely to be influenced by him voluntarily.

#### *The Vibrating Sensation.*†

The vibrating sensation is often of much service in the diagnosis of organic from functional affections. In cases with marked affection of sensation, organic and functional, the vibrating sensation is, of course, often lost, along with sensation for touch, pain, and temperature. Also, in cases of organic disease limited to the motor parts of the spinal cord and in many functional affections, the vibrating sensation and all other forms of sensation are normal at all stages. But with respect to diagnosis, the important point is that loss of the vibrating sensation is frequently one of the earliest signs of sensory affection in certain organic diseases of the spinal cord. At a later date other forms of sensation may be affected; but for a period—in some cases short, in others long—loss of the vibrating sensation may be the only objective sign of sensory affection in many organic diseases. This may occur in compression of the spinal cord from meningeal or vertebral tumour or caries, in some cases of disseminated sclerosis, in cases of combined postero-lateral degeneration of the spinal cord, and in early multiple peripheral neuritis. This isolated loss of the vibrating sensation is of diagnostic value; and from the examination of a large number of cases of organic and functional affections I think we may conclude that in any cases of paresis or paralysis of the legs, if the vibrating sensation is lost whilst other forms of sensation (to touch, pain, and temperature) are felt, and if the patient persists in this statement in spite of suggestions to the contrary, functional affections (hysteria and malingering) are extremely improbable and may be excluded.

In functional cases, if sensation is affected at all, sensation to touch or other forms of sensation are lost along with the loss of the vibrating sensation, or by suggestion, through the wording of the question, the patient will state that they are affected. He will not persist that the vibrating sensation is *alone affected* and that other forms of sensation are felt normally.

In testing the forms of sensation I think it advisable

to test touch sensation first and the vibrating sensation last. Also a part where the sensation is expected to be normal should be tested first and the examiner should see that the patient recognizes clearly the difference between touch sensation and the vibrating sensation at this part.

In cases of localized lesions of single peripheral nerves or nerve trunks often sensations to touch, etc., are not affected; in other cases lost; but the vibrating sensation is recognized. In these cases the vibrating sensation is often felt normally; it is sometimes diminished, but I have never found it lost entirely. In this respect such cases differ markedly from multiple peripheral neuritis.

The following brief references to cases I have met with in my own practice will indicate the value of certain signs, and especially of the tendo Achillis reflex and of the vibrating sensation, in the early recognition of organic diseases, and in the differential diagnosis from functional affections.

In early cases that at a later period can be clearly diagnosed as the spinal form of disseminated sclerosis, or compression myelitis from vertebral caries, or various forms of spastic paraplegia, for some time paresis of both legs with a Babinski or Oppenheim reflex may be the chief signs and the reflexes just named are the only definite indications that the disease is organic. Occasionally the Babinski reflex is obtained on one side only. If the Babinski reflex cannot be obtained, occasionally the Oppenheim reflex can be detected. Both these reflexes are diagnostic of organic disease. In some of these cases also the vibrating sensation is not felt, whilst other forms of sensation are recognized. This change, if detected, would be an additional definite sign in favour of organic disease.

Cases of peripheral neuritis from alcohol, diabetes, or other causes are occasionally seen at a very early stage, when the knee-jerks are still obtained. The patient complains of weakness and pains in the legs. In such cases the tendo Achillis reflexes are usually lost, and very frequently the vibrating sensation is lost whilst other forms of sensation are felt. Thus we have two definite signs that the affection is not functional.

In chronic anterior poliomyelitis commencing in the legs the Achillis reflex may be lost, though at first the knee-jerk is obtained. In a case of this affection following a very slight injury to one foot the loss of the tendo Achillis reflex enabled me to exclude functional disease or malingering as the cause of the paresis. The knee-jerks were normal in this case and the vibrating sensation and other forms of sensation were felt quite well. The bladder was unaffected, and at first paresis of the muscles of the legs below the knee and loss of the tendo Achillis reflex and feeble or indefinite plantar reflexes were the only signs of the disease. Later the plantar reflexes were lost. In acute anterior poliomyelitis limited to the lower lumbar region we often find the tendo Achillis reflex lost, though the knee-jerks are obtained, and we have thus an important indication in favour of organic disease in the differential diagnosis from functional affections.

In many cases of functional paraplegia, in some cases of hysteria, shell shock, and neurasthenia, the plantar reflexes are lost but all other reflexes normal. This isolated loss of plantar reflex is always in favour of functional disease, and, though not diagnostic, should lead to careful examination for other signs. In any case of paraplegia (or paresis of the legs), if the plantar reflexes are lost and the knee-jerks obtained and ankle clonus not obtained, the tendo Achillis reflex should be carefully examined. The tendo Achillis reflex is always present in functional disease; if lost, organic disease can be diagnosed; if obtained, the case is probably functional though not certainly. The plantar reflexes are normal or increased in other cases of functional paresis or paraplegia, and the other reflexes normal or increased.

In some cases of compression of the spinal cord by a tumour, meningeal or vertebral, or by tumour within the cord, for a period at the onset of the paraplegia (for a few days or longer) the legs may be partially or completely paralysed and yet the reflexes may be all normal and sensation to touch, pain, and temperature normal. Soon changes in the reflexes occur in these cases—Babinski reflex, or ankle clonus, or loss of all the reflexes. But if the case is seen at the early period, when all the reflexes are normal, the diagnosis from functional disease will require very careful consideration. A history of girdle or

\* For more detailed description see writer's book, *Diseases of the Spinal Cord*, p. 66. London: 1911.

† The vibrating sensation may be tested by a large vibrating tuning-fork the foot of which is placed on a subcutaneous bony prominence or bony surface, such as the malleoli, the inner surface of the tibia in the leg, the anterior superior iliac spine, the styloid process of the ulna at the wrist, the sternum, etc. I have found a tuning-fork which is supplied by Messrs. Woolley and Sons, chemists, Victoria Bridge, Manchester, very useful. It is 7½ inches long, and marked A 440. An oval metal foot-piece is attached to the tuning-fork. A few control observations are desirable to see if the patient clearly recognizes the nature of the sensation before a routine examination is made.



root pains or root symptoms for some time, weeks or months, before the onset of the paraplegia would be in favour of compression by growth and against functional disease. After a time in other cases I have found that though sensation to touch, pain, and temperature have been felt quite well the vibrating sensation has been lost, and if, in spite of suggestions to the contrary, the patient persists in these statements, we have a valuable indication against the diagnosis of functional disease. Later a definite Babinski reflex may be obtained and incontinence of urine may occur; these would be symptoms indicating organic disease.

In a number of cases where the symptoms later have indicated combined postero-lateral degeneration or sclerosis, at the earliest stage the symptoms may be only slight weakness or heaviness in the legs and indefinite and slight unsteadiness in walking, and functional disease has to be considered. In such cases I have found the vibrating sensation lost whilst other forms of sensation are felt. At this stage also only an indefinite and occasional Babinski reflex may be obtained. From the loss of the vibrating sensation without loss of other forms of sensation in these cases I have excluded functional affections and later definite Babinski reflexes, ankle clonus, paresis, ataxia, and the symptoms of postero-lateral degeneration have developed.

Difficulty in differential diagnosis occasionally occurs in cases of paralysis or paresis of the muscles below the knee, of the muscles which dorsiflex the foot (anterior tibial muscles), and of those which plantar-flex the foot. The symptom may be bilateral or unilateral. Various lesions of the cord or peripheral nerves may produce this form of paralysis. Sensation and the bladder and rectum may be unaffected, or sensation may be only slightly affected. The knee-jerks may be obtained; ankle clonus is not obtained, and the plantar reflexes are lost or feeble or indefinite. But usually the tendo Achillis reflex is of diagnostic service. If the tendo Achillis reflex is lost the disease is organic. If the disease is functional the tendo Achillis reflex will always be obtained (it might also be obtained in very localized organic lesions). If the anterior tibial muscles only are affected the tendo Achillis reflex may be obtained in organic cases, but in these cases the patient would be able to stand on his toes (with his heels raised from the ground) but not on the heels with toes raised off the ground.

We meet with many cases of functional paresis among soldiers sent home from active service, presenting three pronounced symptoms—rigidity, paresis, and tremor of the legs. Sensation is normal, the reflexes are normal or merely increased, and the bladder and rectum are unaffected. In some of the cases the symptoms have followed an injury and the cases are often incorrectly diagnosed as "spastic paraplegia." Injury and bullet wounds of the cord, pachymeningitis and other organic lesions may cause somewhat similar symptoms. Sustained and marked ankle clonus and rectus clonus would be in favour of organic disease. But they are often absent in the slighter cases of organic disease, and a pseudo-ankle-clonus or pseudo-rectus-clonus may be occasionally obtained in these functional cases, though the clonus is usually less sustained and less marked than in organic disease. Often the "clasp knife" rigidity is of diagnostic service. The rigidity of legs in the extended position at the knee is marked and we have much difficulty in bending the knee at first, but when once it is *very slightly* bent further flexion is easy (as in bending a clasp knife). This form of rigidity would indicate organic disease. Also a Babinski reflex would be definite indication of organic disease.

#### CONCLUSION.

Certain reflexes are of the greatest service in the differential diagnosis and early recognition of organic disease, and especially valuable in early cases are the Babinski or Oppenheim reflex; and in many cases the loss of the tendo Achillis reflex, since these signs may be detected when other definite changes have not yet occurred.

The chief difficulty occurs when the knee-jerks are not lost, and when ankle clonus, rectus clonus, and clasp knife rigidity are not obtained. In one group of cases the Babinski or Oppenheim reflex is obtained, and this is diagnostic of organic disease. In other cases the plantar

reflex is not of the Babinski type, and it may be lost or feeble. In these the loss of the tendo Achillis reflex would be diagnostic of organic disease.

The following are combinations of diagnostic importance, especially at the onset of a number of organic affections.

Paresis with loss of the tendo Achillis reflex, as in early anterior poliomyelitis—chronic, subacute or acute.

Paresis with loss of the plantar reflex and loss of the tendo Achillis reflex (in many organic diseases).

Paresis with double sciatica and loss of the tendo Achillis reflexes, as in early cauda equina lesions.

Paresis with loss of the tendo Achillis reflex, loss of the vibrating sensation, and pains in the legs, as in early peripheral neuritis.

Loss of the vibrating sensation with very slight incoordination and very slight paresis, with or without a Babinski reflex, as in early combined postero-lateral degeneration of the cord.

Paresis, with Babinski reflex (in many organic affections).

Paresis with loss of the vibrating sensation and Babinski reflex (in the early stages of several organic diseases of the cord).

Root pains, or root symptoms, followed after a period of weeks or months by paresis, as in meningeal spinal tumour.

(In all these early combinations the knee-jerks may be obtained.)

When the diagnosis has been especially difficult, or the symptoms slight and indefinite, the three indications of organic disease which I have found of the greatest service in my own practice have been the Babinski or Oppenheim reflex, the loss of the tendo Achillis reflex, and the loss of the vibrating sensation, whilst other forms of sensation are unaffected.

The value of the Babinski reflex is well known, but the cases briefly mentioned and the points emphasized in this article are, I think, sufficient to indicate that in addition to the well known signs in favour of organic affections we have in the loss of the tendo Achillis reflex, or of the vibrating sensation (whilst other forms of sensation are unaffected), two further signs of much service, and deserving of more frequent consideration in the differential diagnosis and early recognition of certain forms of organic nervous disease.

In certain specially difficult cases, when other usual and well known signs are indefinite or cannot be detected, these two signs are often of great diagnostic value.

## AN "IN VITRO" METHOD OF DEMONSTRATING THE "RETURN IMMIGRATION" OF LEUCOCYTES IN BLOOD CLOTS AND IN WOUND TISSUES.

By C. J. BOND, C.M.G., F.R.C.S., COLONEL A.M.S.,

HONORARY CONSULTING SURGEON, NORTHERN COMMAND; HONORARY CONSULTING SURGEON TO THE LIDCHURCH ROYAL INFIRMARY; MEMBER OF THE MEDICAL RESEARCH COMMITTEE.

In articles published in the BRITISH MEDICAL JOURNAL during the last three years<sup>1</sup> I have drawn attention to the phenomenon of the "return immigration" of phagocytes. The main facts established have been: (a) The transportation of pigment particles, previously applied to the surface of granulating wounds, by wandering cells to deeper layers of the granulation tissue. In some cases these pigment-laden cells were recovered from the medullary cavity of exposed bone at some distance from the granulating surface of the wound. (b) These results in the human subject were confirmed by experiments on animals, which also showed in some cases the paths in the tissues traversed by the wandering phagocytes.

Since, however, the question of the possible transference of the pigment granules by the blood or lymph stream arose in all these cases it became important to control these results in the living subject by experiments on excised portions of living tissue, where the circulatory factors could be excluded. In other words, it became necessary to devise some experimental method whereby the only



factor which could be concerned in the transportation of the pigment granules would be the phagocytes themselves.

### Experiment I.

Blood is drawn from the finger into a small-bore glass tube and allowed to clot. After coagulation and contraction the clot, if gently detached, lies in a bath of serum. A few drops of a mixture of finely ground carbon particles suspended in normal saline is now added by a pipette to the serum surrounding the clot. The tube is gently rotated so as to bring the suspended pigment in contact with the whole of the outer surface of the clot. The tube with its contained blood clot floating in a bath of carbonized serum is then incubated. After a few hours, varying from six to twenty-four, the clot is removed from the tube and hardened in 5 per cent. formalin. Sections of the cylindrical clot cut at right angles to its length are then stained with methylene blue or Leishman's stain.

In order, however, to save labour in searching for the leucocytes, it is better to centrifugalize the blood before clotting takes place. We then obtain a cell-free zone above, a red corpuscle zone below, and a leucocyte zone between the two. After contraction of the clot has taken place the pigment mixture is added to the serum, care being taken to bring the pigment in contact with the surface of the clot in the leucocytic zone. Fig. 1 shows

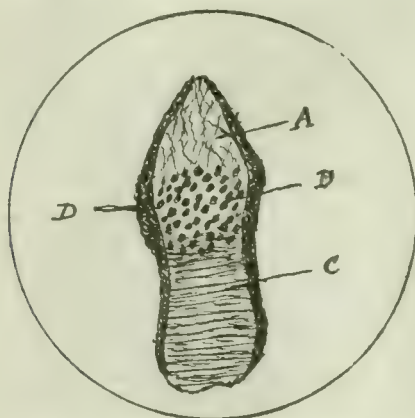


FIG. 1.—Section (semi-diagrammatic) of centrifuged blood clot, after incubation in serum with carbon pigment. A, Cell-free fibrin zone. B, Leucocyte zone. C, Red corpuscle zone. D, Carbon pigment.

the appearance of such a pigment-coated clot. The black coating is especially marked in the leucocytic zone. Fig. 2 shows the appearance of a section cut parallel to the length of the clot. In the upper non-cellular fibrin zone a thin coating of carbon pigment is seen covering the outer surface, but no free pigment in the interior of the clot. In the lower red corpuscle zone the same appearance is seen. In the leucocytic zone, however, not only is the pigment thickly deposited on the surface but pigment granules are found in the interior. With a higher magnification (Fig. 2) these granules will be seen to lie in the interior of leucocytes. Of the number of pigment-containing leucocytes which lie on the surface some will be seen to have passed into the interior of the clot, some have made their way upwards into the cell-free zone, while a smaller number will be found lying amongst the red cells in the red corpuscular zone. Pigment granules are not found lying free in the clot, and those that reach the interior must have been carried there by the return immigration of pigment-laden leucocytes from the surface.

The reason for drawing the blood into a moderate-sized tube in preference to the flat emigration tubes used by Sir A. Wright is in order to secure a copious bath of serum, and to prevent the clot from touching the wall of the tube. Leucocytes which come into contact with and adhere to a foreign body like glass fail to detach themselves and are unable to re-enter the clot. In this experiment the blood was allowed to clot in its own native serum. The contracted clot may, however, be removed from its own serum, and, after gentle washing in normal saline, may be dropped into a tube containing serum from another individual, to which also the carbon pigment has been added. In this way the conditions under which the leucocytes pass to the surface, take up the pigment, and

re-enter the clot can be controlled, and the effect of both native and foreign serum on the amoeboid activities of the phagocytes can be compared. Provided that the foreign serum is not toxic to the leucocytes—this fact can be ascertained by incubating a drop of the blood from the individual providing the clot with a drop of serum from the individual supplying the serum in a closed cell, when, if the serum is non-toxic, the leucocytes will emigrate, adhere to the slide, and show the iodophil reaction when stained with iodine—incubation in a foreign serum seems to cause a larger number of pigment-laden cells to re-enter the clot. The effect on return immigration of adding various chemical reagents to the serum can also be observed.

Such are the facts concerning the movements of the leucocytes in an incubated blood clot. This *in vitro* method may also be used for the examination of the movement of the phagocytes in excised portions of different tissues and organs, and especially in the granulation tissue of wounds.

### Experiment II.

A wedge-shaped portion of granulation tissue removed during operation from a reamputated stump was placed in a closed cell in normal saline; the free surface was coated with carbon pigment, and the tissue was incubated for a few hours. In another case the granulating surfaces of two

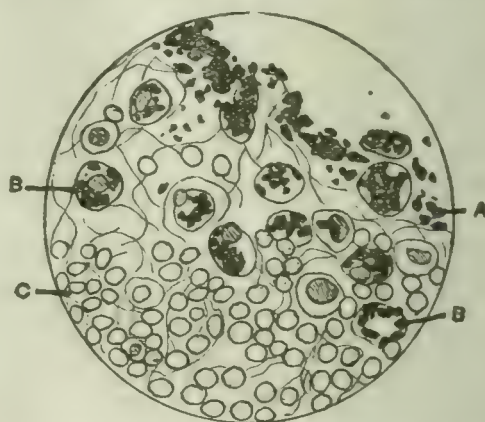


FIG. 2.—Section from blood clot incubated thirty hours in native serum. Shows pigment-laden leucocytes in the fibrin and in the red corpuscle zones. A, Pigment on surface. B, Leucocytes containing pigment. C, Red corpuscles.

portions of tissue previously coated with the carbon pigment were closely applied, and incubated in contact in liquid paraffin. In this way the conditions were reproduced *in vitro* under which secondary closure of a granulating wound is performed, except that the blood and lymph circulatory factors were excluded.

After incubation the tissue was hardened, and sections cut at right angles to the free surface. They show the movements of pigment-loaded leucocytes in a piece of living granulation tissue removed from the circulation and incubated in liquid paraffin. A layer of carbon pigment covers the surface, a large number of the leucocytes on the free surface have taken up the pigment, and of these a certain number will be seen to have travelled from the surface to the deeper layers of the tissue by a process of return immigration. The number of pigment-laden cells found in the tissue will depend, among other things, on the degree of infection—that is, on the healthiness of the wound, and on the density of the tissue to be traversed. These points will be considered later.

### Experiment III.

Instead of limiting the inquiry to the activities of the leucocytes already present in or upon the surface of a piece of granulation tissue, we may investigate the same tissue from the point of view of its suitability as an immigration field for wandering white blood cells, both native and foreign.

Some blood from the patient providing the piece of granulation tissue is drawn during operation into a tube, and some of the carbon-mixture pigment added and mixed with the blood. The granulation tissue is then incubated in a closed cell with this carbonized blood, or foreign blood may be used from another individual, or a differ-



entiating method may be employed; thus, the blood, either native or foreign, containing the carbon pigment may be allowed to clot. After coagulation and contraction a disc-shaped section may be cut from the clot 1 or 2 mm. thick. This disc with its contained pigment-laden leucocytes can then be applied to the surface of a piece of granulation tissue, and the two incubated in contact in blood serum in a closed cell. It is not necessary to use the disc of blood clot immediately, for I have ascertained by incubating discs of blood clot in native serum at varying intervals after coagulation that the contained leucocytes will emigrate freely, give the iodophil reaction, and take up pigment particles twenty-four hours and longer after coagulation has occurred.

By using a disc of previously clotted blood the migration of pigment-loaded leucocytes can be concentrated in one area of the granulating surface. Fig. 3 shows a section from granulation tissue incubated in native blood to which carbon pigment has been added before coagulation. The leucocytes loaded with pigment can be seen in the clot surrounding the tissue and numbers of these pigment-laden cells will also be found in the interior of the granulation tissue at a considerable distance from the surface.

The fact that by suitable experiment *in vitro* the return immigration of pigment-laden phagocytes can be demonstrated in granulation tissue in the absence of both the blood and lymph circulations bears on the clinical problem of the influence of sterile and infected blood clots in wounds and the effect of such coagulated blood on the spread of infection.

This *in vitro* method may also be used for investigating different tissues and organs as fields for leucocytic immigration. The relative avidity with which pigment-laden leucocytes enter and re-enter the intercellular spaces of connective and muscular tissues on the one hand and the tissues of organs, such as the spleen or liver, on the other can be ascertained, the disturbing influence of the circulation having been excluded in each case.

Portions of excised living lymph gland have been incubated with this point in view.

#### Experiment IV.

When a portion of lymph gland is incubated with native blood serum to which carbon pigment has been added, although some of the lymph cells lying on the surface or in the reticulated gland tissue emigrate and adhere to the slide, and although a certain number of these cells ingest pigment particles, they are comparatively few in number. A marked contrast is noted between the behaviour of these small lymph gland cells and the more active white blood cells when incubated under like conditions. While the polymorphs and mononuclears emigrate freely from the clot and ingest pigment particles, the lymph cells, on the contrary, are more sluggish; they preserve their circular outline, adhere with difficulty to the slide, and ingest comparatively few pigment granules.

Also, if a portion of the gland be incubated in native blood to which pigment has been previously added, very little emigration of the loaded leucocytes takes place from the blood into the gland tissue.

Fat tissue has also been examined from this point of view. A piece of excised living omentum was incubated in both native and foreign pigmented blood. In this case carmine was the pigment used. A few leucocytes containing carmine were found in the intercellular spaces of the fatty tissue at some distance from the surface. They were most numerous in the perivascular channels.

#### Return Immigration in Mucous Membranes.

I have also carried out some observations on mucous membranes which point to the occurrence under certain conditions of a "return immigration" of pigment-laden leucocytes from mucous surfaces. These observations are, however, at present incomplete.

#### The Size of the Pigment Particles as a Factor in Return Immigration.

The size of the pigment masses ingested by the migrating leucocytes considerably affects the capacity of those cells to re-enter the clot or the tissues. This fact no doubt depends on physical conditions. A phagocyte distended by a large rigid mass of carbon is less able to insinuate itself between the cellular obstacles in its path than a cell containing smaller granules. It is thus possible that the size and the rigidity of organisms ingested by wandering cells may affect the movements of the phagocytes which have ingested them. I have tried feeding phagocytes on substances like magnetic iron in order to ascertain whether such substances (with the containing cells) can be drawn into the tissues in greater volume and to a greater distance by magnetic influence, so far, however, without definite result, although the iron particles are ingested by the phagocytes.

#### The Varieties of Phagocytes Concerned in Return Immigration.

The examination of the incubated blood clot in pigimentary serum affords some evidence of the relative activities of the different varieties of leucocytes in emigration, ingestion, and return immigration. The observations now recorded confirm the facts already known as to the movements of the leucocytes in the living body. While the polymorphs are the most active in these three directions the mononuclears also take a considerable part. The eosinophil cells with large granules rarely seem to ingest pigment particles.

#### The Factors Determining Return Immigration.

The outward emigration of leucocytes to the surface of the blood clot seems to be a general movement shared in by all kinds of wandering cells. I have been impressed by the great tendency shown by all white blood cells to get clear of the fibrin and red cells after coagulation has taken place in a blood clot. Sir A. Wright has described leucocytic movement as of two kinds: (1) Eleuthotropic or aimless and general, and (2) chemiotropic in a definite direction. The movements of the leucocytes in "return immigration" are more obscure in character. Of the many thousands of white cells which occupy the leucocytic zone of a blood clot incubated in a bath of serum and pigment only comparatively few pigment-laden cells re-enter the substance of the clot. Of these, the greater number pass obliquely upwards from the surface into the cell-free fibrin zone, and only a few pass into the red cell portion of the clot.

This difference may depend partly on physical conditions. The more open spongy network of the fibrin zone may provide the easier route. The important question still remains: What are the factors which determine whether a pigment-loaded phagocyte shall drop off the surface of the clot into the serum or remain attached to the surface, or whether it shall work its way back into the interior of the clot? The causes are probably both intrinsic and extrinsic. The leucocytes differ in age and vigour, and probably in their capacity to respond to environmental stimuli. The condition of the environment, whether the surrounding serum be a native or foreign serum, the presence of chemical reagents in the serum, all these may influence the result. I have already alluded to the importance of preventing the clot from coming in contact with the wall of the tube by the intervention of a sufficient layer of serum. Leucocytes that have attached themselves to foreign substances become damaged, and seem unable to detach themselves completely. They may crawl for a short distance over the glass surface, but (unlike the amoeba, which is accustomed to the outside world) they do not become free again or re-enter the tissues. No doubt the pigment particles present a foreign surface, but, if not too large, these are englobed by the cells, and the continuity of the



FIG. 3.—Granulation tissue, incubated twenty-four hours with "native" blood and carbon pigment. A, Pigment on surface. B, Leucocytes containing pigment.



protoplasmic surface is restored. This injurious effect of contact with foreign material which cannot be ingested plays an important part in wounds. Living phagocytes which come in contact with a dressing remain adherent to it. Hence the injury produced by frequently removed dressings in a healing granulating wound.

#### *The Influence of Infection on Return Immigration.*

In the living body the return immigration of wandering cells is complicated by the presence of a blood and lymph circulation, but here also the pigment-laden cells which re-enter the tissues are comparatively few in number and the inward flow is frequently limited to definite areas on the granulating surface.

Organisms are present in few or in large numbers in or on the granulation tissue of practically all open wounds. This also will influence the movements of the leucocytes, because where organisms are present in large numbers there large numbers of the emigrating cells also perish and are thrown off as pus cells, much tryptic digestion goes on, and few phagocytes survive and return to the tissues.

The complicating element of the organisms and their toxins is, however, eliminated in the case of a blood clot incubated in pigmented serum under aseptic conditions. Here, therefore, we find that a larger proportion of cells take up the return journey. In general terms the relative number of phagocytes which re-enter the tissues after emigration on to the surface of a granulating wound depends largely on the virulence of the infective process, or in other words on the efficiency of the defensive mechanism, that is on the healthiness of the wound.

If the surface of a piece of granulation tissue excised from a moderately infected wound be washed in normal saline and then incubated for a few hours, careful examination with the lens will show collections of pus cells at certain points on the surface. Suppuration, in fact, continues during incubation in the absence of a blood and lymph circulation. Under these conditions, however, there is no uniform secretion of pus over the whole surface. The leucocytes emigrate in certain areas, partly determined by the presence of organisms and partly by ease of transit. In the same way the pigment-laden phagocytes, or as many of them as are not thrown off as dead pus cells, re-enter the tissues in certain areas also.

#### *The Effect of Chemical Reagents on Return Immigration.*

The effect of different reagents applied to the surface of the incubated tissue or blood clot during incubation varies considerably, and requires further investigation by the *in vitro* method. A coating of liquid paraffin, or the immersion of the tissue in a bath of liquid paraffin during incubation gives better results than normal saline as far as the activities of leucocytes are concerned. Fewer cells are thrown off as pus cells, a larger number take up the pigment and re-enter the tissues. Gum solutions act somewhat in the same way, but less favourably. These inert substances seem to favour return immigration more than the active antiseptics. I hope to record further observations on the effect of liquid paraffin on the movements of leucocytes later.

#### *The Ultimate Fate of the Phagocytes which Re-enter the Tissues.*

In the BRITISH MEDICAL JOURNAL, December 23rd, 1916, I suggested that pigment-laden phagocytes may under certain conditions discharge their pigment loads (possibly by the cytolysis of the cells) and that the pigment granules so liberated may be taken up by the fibroblasts, endothelial and other connective tissue cells. Careful examination of a blood clot in which return immigration of pigment-laden leucocytes is going on will sometimes show little collections of pigment grains lying free in the fibrin network, as though liberated by some cell which had undergone cytolysis. The blood clot, however, contains no tissue cells capable of taking up the liberated pigment. In granulation tissue, on the other hand, pigment granules may sometimes be observed in cells which look like connective tissue cells at some distance from the surface. Since the blood and lymph circulation is absent these carbon granules must have been carried to these situations by wandering cells. These facts bear on the problem of the spread and

the recrudescence of infection, and on the mode of action of the defensive mechanism.

#### *The Importance of the Problem.*

Having now shown that a process of "return immigration" of pigment-laden phagocytes occurs under certain conditions in wounds, and probably also on free mucous surfaces, the next step is to show that phagocytes containing ingested organisms behave in the same manner.

If this occurs, as we have every reason to believe, then the importance of the "return immigration" of phagocytes becomes at once apparent. Evidence accumulates (see observations by Peyton and Rous, Kyes, Bull, and others) which tends to show that pathogenic organisms when ingested by phagocytes are not always killed by intracellular digestion. I have previously (see BRITISH MEDICAL JOURNAL, December 23rd, 1916) drawn attention to the association between the spread of infection in certain diseases, the recrudescence of local sepsis in wounds, and the return immigration of phagocytes. The fact now established that return immigration can take place apart from the blood or lymph circulation affords further corroboration of this view.

#### REFERENCE.

<sup>1</sup> BRITISH MEDICAL JOURNAL, June 3rd, 1916; December 23rd, 1916; February 3rd, 1917.

## MUSCULO-SPIRAL NERVE DISABILITIES.

BY

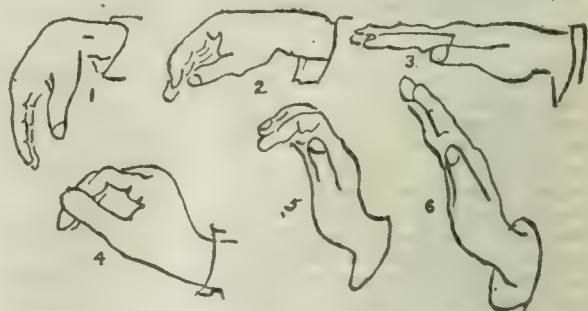
ASTLEY V. CLARKE, M.D., COLONEL T.F.R.,

AND

N. I. SPRIGGS, M.D., B.S., F.R.C.S., CAPT. R.A.M.C.(T.),  
LEICESTER.

As many and various appliances are now in use for cases of wrist-drop, each presumably with the object of ensuring "complete and continuous relaxation of all the affected muscles over long periods," it seems desirable that precise and definite information should be obtained, anatomically as well as clinically, of the value of the various positions in which the hand is retained by the apparatus.

The positions met with among soldiers and pensioners with this disability may be classified into the six shown in these sketches:



- FIG. 1. Complete wrist-drop. No appliance.
- FIG. 2. Flat straight splint extending to the palm of hand.
- FIG. 3. Flat splint to finger tips. Generally not including thumb.
- FIG. 4. Small metal "cock up" splint. (Fingers and thumb free for use.)
- FIG. 5. Long "cock up," to support first phalanges, often also thumb.
- FIG. 6. Extra long, which supports terminal phalanges and also thumb.

To test these positions anatomically in relation to each individual "muscle relaxation," we have made observations and measurements on adult male cadavera.

The procedure we adopted to estimate quantitatively the amount of "muscle relaxation" in each muscle affected by musculo-spiral disability was:

1. The tendons and muscle bodies on the dorsum of the forearm were exposed and differentiated.
2. A narrow band of annular ligament was left *in situ* to form a "fixed point."
3. The hand was placed in complete wrist-drop (Fig. 1), and in this position a small stitch was placed



through each tendon under the fixed point, to give the "moving point."

4. Measurement was made, in millimetres, of the distance the "moving point" could be retracted from the "fixed point"—no force being used—in each position of the hand. This gives the average "muscle relaxation" value for each muscle shown in the following table:

*Muscle Relaxation Length (in mm.).*

	Position—				
	2	3	4	5	6
Ext. carpi radialis longior .. .. .	6	6	25	25	25
Ext. carpi radialis brevis .. .. .	13	13	28	28	28
Ext. carpi ulnaris .. .. .	3	3	6	6	6
Ext. communis digitorum, including ext. indicis and ext. minimi digiti	3	15	15	28	28
Ext. longus pollicis .. .. .	0	6	13	32	32
Ext. ossis metacarpi pollicis and ext. brevis pollicis	0	0	0	0	0

It will be noticed that muscle relaxation is not promoted in extensor ossis metacarpi pollicis or extensor brevis pollicis by any of these positions. To provide this it would be necessary to abduct the hand at the same time as the thumb was extended. As abduction of the hand can only take place to any extent when the hand is in position 3, there are great difficulties in providing muscle relaxation in these muscles.

Taking the positions seriatim—

Position 1 is totally bad; such neglected cases should not be met with, and should not be allowed to remain so when discovered.

Positions 2 and 3 (the straight splint series) provide only a small percentage (25 to 50) of the total muscle relaxation possible, and are therefore inadequate.

Position 4: The splints maintaining this are the small "cock up," usually metal, and therefore light and easy to wear, and are comfortable to sleep in. They are not disliked by patients who can do remedial work and exercises in them. We have noticed in these cases that the wrist extensors nearly always appear to show improvement before the long extensors of the fingers; this is probably accounted for by the facts as shown in the table, that the former are approximately in position of 100 per cent. of muscle relaxation, whereas the latter have only approximately 50 per cent. muscle relaxation.

Positions 5 and 6, which provide equally well the total muscle relaxation possible, are very infrequently adopted for any long period. They can be obtained only by broad and cumbersome splints, which the patients find irksome, particularly when otherwise well, and consequently, if they are out-patients, they frequently rid themselves of the apparatus between their visits. Position 6 has no advantage over position 5, and has the disadvantage that the phalangeal joints are liable to become stiff.

We have found that cases which have got to a standstill in position 4 have rapidly improved by putting them up for a limited period in position 5, and as there seems valid reason for this, the importance of this line of treatment should not be lost sight of, for 100 per cent. greater muscle relaxation is obtained for the long common extensor, and also for the long thumb extensor, by this means.

To sum up: position 4 seems to offer the most all-round advantage as a daytime position for prolonged treatment with occasional temporary resort to position 5 for a limited time; if the value is plainly stated to the patient and he is willing to put up with the disadvantages of it, he should adopt position 5 when sleeping, and so gain advantages for the long extensors.

THE United States Public Health Service offers anti-typhoid inoculation free of charge to all who apply to any of its hospitals or field offices. Many of these offices are in zones surrounding military cantonments, and stress is laid on the fact that the prevention of typhoid fever in these zones is one of the most important means of preventing the interchange of the disease between the military and the civil population.

## AN EPIDEMIC OF FIFTY CASES OF INFLUENZA AMONG THE PERSONNEL OF A BASE HOSPITAL, B.E.F., FRANCE.

BY

LIEUT.-COLONEL C. J. MARTIN, F.R.S., A.A.M.C.,  
PATHOLOGIST, No. — STATIONARY HOSPITAL, B.E.F., FRANCE.

For the medical details in the following report I am indebted to my comrades Major T. J. T. McHattie, R.A.M.C.(T.), and Major F. S. Jackson, R.A.M.C.(T.).

### EPIDEMIOLOGY.

On June 15th, 1918, in the afternoon, twenty orderlies reported sick with fever, headache, and backache. During the following three days, 5, 10, and 6 similar cases respectively occurred, including the staff of the pathological laboratory (who had been taking blood cultures from the patients), all the servants of the officers' mess, seven medical officers, and four sisters, three of whom had nursed some of the earlier cases.

Three further cases occurred amongst the sisters during the next few days. Finally, the sister who had charge of the sick nurses fell a victim, and the epidemic terminated.

### SYMPTOMS.

In every case there was headache, backache, and general malaise. The temperature reached 102° F. on the first or second evening, and in one case rose to 104° F. The duration of the fever was—

In 1 case ...	7 days	In 26 cases...	3 days
In 2 cases ...	6 "	In 7 " ...	2 "
In 3 " ...	5 "	In 5 " ...	1 day
In 6 " ...	4 "		

Pain in the back of the eyes and some tenderness of the globe was general. The eyes were suffused in 14 cases, photophobia was present in 5. In 4 cases there was vomiting during the first day, and this was accompanied by diarrhoea in one instance. A feeling of rawness over the trachea was commonly experienced. An irritating cough occurred in 25 cases. There was little or no expectoration, as a rule, during the first few days, and when any sputum was obtained, it was composed of thin, frothy mucus. In most cases the cough disappeared with the fall of temperature, but in 12 instances it persisted with mucopurulent expectorations for some days.

### CONVALESCENCE.

The temperature generally fell quickly to normal, or nearly normal, but it was not unusual for a subsequent rise to 99° to 100° F. to occur next day for a few hours, after which it remained normal. Patients were allowed up on the second day on which the temperature remained normal, and generally expressed themselves as fit for work on the following day. In cases in which the fever lasted for five days or upwards, and in two in which a cough persisted for a week or more after the fall of temperature, convalescence was delayed.

### BACTERIOLOGICAL INVESTIGATIONS.

#### A. Blood Culture.

Ten c.cm. of blood was drawn into 70 c.cm. citrated broth during the acute stage of the illness (first or second day) from twenty-four patients. Apart from a few instances in which contamination had occurred, the flasks remained sterile.

#### B. Investigation of Sputa.

This was undertaken in twenty patients. In the early stage of the illness few of the men could produce sputum suitable for investigation. Although many had a worrying cough, the amount of expectoration that came from the trachea was minimal. It was generally thin clear mucus full of bubbles, and its contents indicated that most of it was derived from the back of the throat. It was full of microbes of all sorts, and I rarely succeeded in recovering anything resembling the influenza bacillus from it. As mucopurulent tracheal expectoration became increasingly available I was more successful, and the following observations refer more particularly to the sputum of this kind



1. *Observations upon Stained Films.*

In the tracheal mucus from eight patients during the first or second day of disease occasional groups of Gram-negative bacilli resembling *B. influenzae* were seen, and in similar material from three patients these were present in considerable numbers. The total number of organisms of all kinds was small, the prevailing microbes being staphylococci, pneumococci, or Gram-negative micrococci. As the sputum later became increasingly purulent, the influenza-like bacilli increased greatly in number and in proportion to other microbes. In some cases in which the cough persisted they occurred in immense numbers to the practical exclusion of all other organisms. The bacilli were pleomorphic. Their size varied from 0.5 to 1.2  $\mu$  in length and 0.3 to 0.6  $\mu$  in breadth. Many were almost square; coccid and diplococcal forms 0.37 by 0.3  $\mu$  were numerous.

2. *Cultivation upon Blood Agar.*

Usually the total numbers of colonies which grew upon blood-agar plates implanted from a washed piece of tracheal mucus was small. From the sputum of fourteen patients (that is, nearly three-fourths of those examined) on the plate taken at some period of the disease, minute colonies of small Gram-negative bacilli were obtained. In five instances such colonies were very abundant.

In the primary culture from the sputum the colonies, after twenty-four hours' incubation, were from 0.1 to 3.2 mm. in diameter, hemispherical in shape, and quite clear. Those colonies which had developed in the neighbourhood of staphylococci or pneumococci were larger than the average. On subculture upon blood agar they grew well, the colonies increasing in size with each successive subculture until, in the case of some strains, they obtained a diameter of 0.5 to 1 mm. after twenty-four hours' incubation. They failed to grow, when subcultured, upon nutrient agar or serum agar, or inspissated egg-yolk media.

The bacilli were larger in cultures than they were in the original sputum, varying in dimensions from 1.5  $\mu$  by 0.5  $\mu$  to 0.6  $\mu$  by 0.4  $\mu$ . Some colonies exhibited some involution forms usually 5  $\mu$  to 6  $\mu$  in length, but sometimes as long as 20  $\mu$ .

*Persistence of the Influenza-like Bacilli in the Respiratory Passages.*

From one case, in which cough with expectoration of purulent mucus persisted for upwards of a fortnight after the temperature had reached normal, sputum teeming with organisms indistinguishable from *Bacillus influenzae* Pfeiffer was ejected each day.

There were very few other organisms to be seen or grown from this sputum. For the first ten days the organisms were not seen inside the leucocytes, but from that date onwards the numbers of polymorphonucleated leucocytes which contained these rapidly increased. Coincident with this increase in phagocytic activity a marked improvement was noticed in the patient's condition. The cough became less troublesome, the sputum more purulent but diminished in amount, and "slackness," which had been a marked feature, soon disappeared. In two other cases in which persistence of infection was observed the patients had been admitted on suspicion of having one of the enteric fevers. Both had some bronchitis, and the sputum contained influenza-like organisms in countless numbers. The sputum smeared over plates of blood agar afforded each day nearly pure cultures of bacilli indistinguishable from *B. influenzae*.

In these two cases also phagocytosis of the bacilli was not observed until the twelfth and eighteenth day respectively, and was coincident with a marked improvement in the pathological condition.

The fourth case was observed by accident. The patient was convalescent from cerebro-spinal fever and cultivations were made at intervals from his nasopharynx to exclude the presence of meningococci prior to discharge from hospital. On the serum-glucose-agar plate a number of colonies grew which possessed all the characters of *Bacillus influenzae*. In this case they had grown direct from the throat mucus without the assistance of blood, but in subculture they only grew on blood-agar. On inquiry it was found that the patient had suffered from a sore throat and fever for three days a fortnight previously when the epidemic was affecting the hospital staff. The bacilli were still present in the nasopharynx two weeks later.

*Leucocyte Count.*

Total and differential enumeration of the leucocytes in the blood was made in five cases. The total number varied from 8,000 to 12,000 per c.mm. and the distribution of the different varieties was within normal limits.

*Agglutination of Patient's Serum.*

The serums of five patients who had had a severe attack were tested fourteen days after they were taken ill for the presence of agglutinins for the bacilli isolated from the sputa. The highest agglutination titre, by naked-eye method, reached was only 1 in 40, and in two control serums it was 1 in 20. There was not a significant increase—a result which I believe is consistent with previous experience of influenza.

## CONCLUSION.

There appears to me no doubt that the outbreak described above was an epidemic of influenza.

It was associated with the presence of haemophilic bacilli in the respiratory passages. The bacilli possessed all the characters of Pfeiffer's *B. influenzae*, but in the absence of any specific tests for this bacillus, identity cannot be established.

### THREE CASES IN WHICH LAMINECTOMY FOR THE REMOVAL OF SHELL FRAGMENTS FROM THE SPINAL CANAL WAS PERFORMED.

By CHARLES F. M. SAINT, M.S., F.R.C.S. Eng.,  
MAJOR R.A.M.C.(T.F.).

SURGEON SPECIALIST, — CASUALTY CLEARING STATION, B.E.F.

The following three cases are published as they exemplify a condition which is relatively uncommon among the spinal injuries of war, and not because there is anything remarkable in them *per se*.

In each case the missile was a shell fragment with particles of clothing attached to it. In each it had caused some destruction of the bony covering of the canal, had opened the spinal dura, leading to the free escape of cerebro-spinal fluid when the opening was exposed, and was lodged partially or wholly in the spinal canal. In all cases the clinical evidence went to show that the spinal cord was not divided, thereby rendering the prognosis much more hopeful than is ordinarily the case.

## CASE I.

Pte. P. (December, 1917). His story was that a shell burst close behind him, and that complete loss of power in the lower limbs followed immediately on the receipt of the injury. On admission to a casualty clearing station he was crying out because of intense pain in both legs.

There was a small wound of the back an inch and a half to the left of the mid-line, at the level of the third lumbar vertebra. The legs were completely paralysed, except that there was slight movement of the toes. There was inability to pass urine, which was drawn off by catheter and was normal. The chief alteration of sensation was intense hyperaesthesia of the legs and feet, so marked that the weight of the blankets could not be tolerated; indeed, while being x-rayed, he insisted that if anything touched his feet he would not hold himself responsible for breaking the machine. X-ray showed a small foreign body, dead in the middle line, opposite the body of the first lumbar vertebra, and situated two and three-quarter inches from the skin (Captain Eustace).

*Operation.*

The entrance wound and track in the erector spinae were excised twenty-four hours after being wounded. The track led upwards and inwards to the left lamina of the second lumbar vertebra, which was fractured, the missile entering the vertebral canal through the upper part of it. Laminectomy was proceeded with as follows: Starting from the excised wound and extending upwards and downwards, a flap of skin was marked out, reaching from the last dorsal to the fourth lumbar spine, with its convexity to the left, the limbs of the crescent passing about one inch across the mid-line. The flap of skin and subcutaneous tissue was turned back. The erector spinae was separated on either side from the last dorsal and upper three lumbar vertebrae by vertical incision in the mid-line, followed by the free use of a rugine, haemorrhage being controlled by hot saline pack on one side while the other was being dealt with. The spines were nipped off by laminectomy forceps, and the laminae of the second and first lumbar vertebrae removed by ordinary skull nibblers, bleeding here again being controlled by pressure. A free exposure of the spinal



canal was thus obtained and a small vertical slit in the dura mater showed where the missile had entered. There was a considerable escape of cerebro-spinal fluid. The dura was incised in an upward direction from this slit and the foreign body, a piece of copper driving band, half an inch by a quarter of an inch, was found embedded superficially in the spinal cord, about half an inch above its termination. It was removed, together with some fragments of cloth, the wound in the cord being bipped, and the canal sutured with fine catgut. The rest of the operation area, with the track in the erector spinae, was then bipped and the whole completely sutured, with catgut for the muscles and silkworm gut for the skin.

#### After-History.

The patient was retained in hospital ten days. The excessive pain and hyperaesthesia were much improved the following day, and disappeared very quickly. By the third day he was able to flex both knees and hips, and the power in his limbs increased up to the time of his evacuation. A catheter was passed night and morning at first, and the bladder washed out with boric lotion. On the fourth day he micturated himself, but for the next two days required a catheter again. From the seventh day he micturated regularly, and completely emptied his bladder. The wound had healed completely before his evacuation to the base, and his general condition was very satisfactory.

#### CASE II.

Pte. N., stretcher-bearer was admitted (April, 1918) with a wound of the back, about 2 in. to the left of the middle line, and opposite to the fifth lumbar spine. His chief complaint was of pain down the left leg, like sciatica, aggravated by the weight of the clothes. There was loss of power in the leg, though it was not completely paralysed, the movements being limited and weak. The right leg was much less affected. He said he had tried to pass urine and had failed, and there was a feeling of numbness in the penis. X rays were not available. A catheter was passed and normal urine withdrawn.

#### Operation.

About eighteen hours after being wounded the wound and damaged erector spinae were excised, and the track found to lead into the vertebral canal on the left side between the laminae of the fourth and fifth lumbar vertebrae, with fracture of the fourth. On introducing the beak of an artery clip along the track into the canal, it came into contact with the missile, the characteristic metallic sound being elicited. An attempt to extract the fragment resulted in its being pushed further up the canal, the manipulations being accompanied by contractions of the limb muscles. Laminectomy was proceeded with as in Case I, the skin flap being turned over to the right side, and the third, fourth, and fifth lumbar spines snipped off by nibblers. The foreign body, which was a piece of shell the size of a hazel nut, could not be removed till the laminae of the third as well as those of the fourth lumbar vertebrae were partially nibbled away. The fragment, which had particles of clothing attached to it, appeared to fill the canal, and there was considerable damage to the nerves in the cauda equina. The hole in the dura mater was quite ragged and there was considerable escape of cerebro-spinal fluid. The hole was not sutured. The whole operation area and track were bipped and completely closed, with catgut for the muscles and silkworm gut for the skin.

#### After-History.

On account of pressure the patient was only retained in hospital for six days. After the operation temperature and pulse were normal, and, apart from what he called a "chronic dyspepsia," his general condition was quite good. A catheter was passed night and morning and the bladder washed out. He complained of numbness in the left leg rather than pain, though he continued to have some of the "sciatic pains," which diminished in severity with time. In addition to the leg, he complained of numbness of the penis. The loss of power and the movements in the legs were about the same as before the operation. At the time of his evacuation to the base the wound looked quite well.

#### CASE III.

Bombdr. B. was admitted (June, 1918) with multiple wounds. His story was that he lost the power of his legs at the moment of being hit, and at the same time he experienced severe pain shooting down the legs, especially the left. Since being wounded, in addition to the pain, he complained of a feeling of "pins and needles," referred to the left leg particularly, as well as numbness and loss of power. The movements in the left leg were very slight, but quite good in the right. He had experienced no difficulty with his urine. His injuries consisted of:

1. A penetrating wound on the back of the left wrist.
2. Entrance and exit wounds of the left side of the scrotum, with a large haematoma.
3. A large dirty tangential wound on the inner side of the left thigh, close to the fork.
4. Entrance and exit wounds of the left buttock, superficial.
5. A small penetrating wound of the back 1 inch to the right of the middle line, at the level of the fourth lumbar spine, associated with considerable swelling.

#### Operation.

He was operated on about twelve hours after being wounded.

1. The wound over the back of the left wrist was excised, and a large piece of shell was found embedded in the lower end of

the radius. It was removed, and the hole in the bone scraped and cleaned. The track was then bipped and left open.

2. The entrance and exit wounds of the scrotum were excised, and much blood clot evacuated. The testicle was found to be destroyed; it was removed. The wounds were bipped and sutured up completely.

3. The thigh wound was excised and sutured completely.

4. The entrance and exit wounds of the buttock were excised, and the track cleaned and bipped. It was left open.

5. The small entrance wound of the back was excised. The track extended inwards, fracturing the spine of the fourth lumbar vertebra and passing across the middle line. It continued between the laminae of the third and fourth lumbar vertebrae into the vertebral canal, chipping the lamina of the third en route. On passing the beak of an artery clip into the canal the metal foreign body was struck, but it could not be gripped. Laminectomy was proceeded with as in the other cases, the skin flap being turned over to the left side. The spines of the second, third, and fourth lumbar vertebrae were removed, and the laminae of the third only. The missile had passed through the left side of the canal, and at the time of operating was half in the spinal canal and half impacted in the back of the body of the third lumbar vertebra. It was removed, together with some shreds of cloth, and turned out to be a shell fragment  $\frac{3}{4}$  in. by  $\frac{1}{2}$  in. There was the usual escape of cerebro-spinal fluid. The hole in the vertebral body was scraped with a spoon and cleaned. No serious damage to the cauda equina was noted. The whole area was bipped and completely sutured, with catgut for the muscles and silkworm gut for the skin.

#### After-History.

The patient was retained at the casualty clearing station for twelve days.

1. The wrist did quite well, and, as there was no inflammation, it was sutured up on the ninth day.

2. The scrotal wounds healed by first intention.

3. The thigh wound was slightly moist from repeated fouling, but no stitches had to be removed and it did very well.

4. The entrance and exit wounds of the buttock remained quite clean; and both apertures were sutured on the ninth day.

5. The spine incision healed completely by first intention.

The patient had no trouble with micturition from the beginning. Pain gradually diminished in the limbs, and sensation and power improved. He described himself as being "ready for anything" when he was evacuated.

Apart from the complications arising from the nervous injury, those that may be expected in cases of this nature are the same as in other injuries. Haemorrhage, which may be considerable both from the muscle detachment and the bone removal, is controlled, as has been mentioned, by hot packs and pressure, and, as in head cases, the application of bipp to the cut bone surface has been found to be of assistance.

Sepsis may lead to a spinal meningitis, but, in addition, prolonged catheterization is very liable to end in infection of the urinary passages, with serious results. At the same time, in cases like those here recorded, where probably it is a question of a few days only before micturition is re-established, one is loath to do suprapubic cystostomy. (The risk of this infection ceases with the re-establishment of micturition.) Unfortunately no report of Case II after his evacuation is to hand from the casualty clearing station, though one was asked for.

No shock was observed in any of the cases, and they were well from the first.

These are essentially the class of case in which x rays are of the greatest assistance, but they were only available in the first. Fortunately in the other two the missile could be actually felt in the canal on passing the beak of an artery clip along the track.

NOTE.—In a letter from England from Bombdr. B. (Case III) dated August 6th he says he is "out of bed for the first time." From it I judge his recovery was uninterrupted.

## THE VALUE OF FLAVINE.

### A CLINICAL APPRECIATION.

BY

H. MEARNs SAVERY, M.R.C.S.ENG., L.R.C.P.LOND.,  
LATE CASUALTY SURGICAL OFFICER AT THE EAST SUFFOLK  
AND IPSWICH HOSPITAL.

CASUALTY surgical practice always affords a large proportion of septic injuries which, although "minor" from the point of view of the operating surgeon, nevertheless are extremely disabling to the patient for the time being, and, as in the case of finger lesions, may result in permanent impairment in the earning capacity of an artisan. Therefore I have devoted much attention to the treatment of these cases with flavine. The observations were almost



entirely clinical, but in a few cases I was able to compare the numbers of organisms before and after the application of flavine by taking frequent cultures, as well as by microscopic examination. The results obtained in these seemed disappointing at first, because I often found very little difference in the rapidity of growth or number of colonies before and after treatment and in cases treated otherwise, but I almost invariably found that, whereas in those cases not treated with flavine there was usually a considerable amount of local inflammation, lymphangitis, enlarged glands, and high temperature, and that repeated incisions and removal of tissue (all most vexatious to the patient) were required before a cure was obtained, on the other hand, in cases treated with flavine I have come to regard the absence or marked decrease of constitutional symptoms as the rule. Further, if these local or general symptoms pointing to active infection are present, flavine properly applied has actually worked wonders in bringing about rapid improvement.

The application of flavine should be very carefully attended to. I have known several workers who condemned it, but upon inquiring into their methods it was clear that their results were undoubtedly due to improper use of the antiseptic. For instance, it is not uncommon to hear that cases have been treated for days or weeks with flavine and, except for an initial good effect, the condition has not improved at all. This is very true, but it is due to failure to make use of the valuable properties of flavine. In my experience, which entirely corroborates that of Drummmond and McNee<sup>1</sup> and Carslaw and Templeton,<sup>2</sup> it is the early effect of flavine, which follows within several days after its application, that is the most important feature; the great advantage to be gained from its use at this stage does not seem to be sufficiently recognized.

A few essential facts must be borne in mind for the use of flavine: (1) In the first place it is imperative that all affected parts should be reached as far as possible, and in order to carry this out thoroughly I always endeavour to introduce flavine solution by means of a hypodermic or dental syringe. (2) The flavine-soaked gauze should always be applied as wet as possible and any cavities filled up with the solution immediately before, and the part covered with a piece of mackintosh and wool. (3) A third important feature is the duration of the use of flavine; if applied continuously, a yellowish "pellicle" will appear on the surface of the wound in the course of a few days. This pellicle appears to be composed of leucocytes and fibrin. It is noteworthy that in several cases I have observed that the pellicle failed to appear when using flavine in double saline solution (that is, 1.7 per cent. NaCl) instead of the usual normal saline. It is not well to use this solution over prolonged periods, however, because it seems to predispose to irritation of the skin and the appearance of a rash.

I have been led to conclude that the best results from flavine have been obtained from its early application and that the appearance of the pellicle is an indication that a change should be made—for example, to eusol, brilliant green, or magnesium sulphate—on the fourth day or thereabouts and then to revert to flavine once in every three days. This method has given me great satisfaction. It is clear that an enormous amount of sepsis would be prevented by the primary use of flavine, and therefore its use is to be advocated in every case septic or likely to become septic.

The use of the hypodermic syringe has been mentioned above. One of the best conditions to demonstrate the procedure is the common whitlow; after incision, the needle is inserted well down into the tissues a short distance proximal to the lesion and inclined towards it; it will then be found that on emptying the syringe the fluid exudes from the incision and thoroughly irrigates the infected base. It may be necessary to inject in two or more places in order to get a satisfactory irrigation of all parts, and it has been found advantageous that some of the fluid should infiltrate the tissues. By this method it has been possible almost entirely to do away with the practice of fomentations and baths. Admittedly the initial treatment is somewhat more painful than putting on a fomentation, and so it is advisable to use a dental syringe with its fine needle. In spite of the initial discomfort many of my patients have remarked on the rapidity of healing. In this connexion the use of flavine which I have practised in the

treatment of lymphangitis and enlarged and painful glands is worthy of note. Although in most cases efficient treatment of the primary lesion speedily causes relief of this condition, in severe cases, seen for the first time after lymphangitis and lymphadenitis have developed, 10 to 20 minims of flavine (1 in 1,000) have usually been injected into two or three places along the tract of lymphangitis after treating the primary lesion; the results have been excellent. I have also found that 1 in 1,000 flavine solution may be safely introduced into the abdominal cavity in cases of appendix abscess, gastric perforation, etc., a quantity being left in the peritoneum after the completion of the operation. I should like to emphasize the value of this procedure, as I am convinced of its advantages. For general use the most efficient preparation has been found to be acriflavine 1 in 1,000 in normal saline.

## REFERENCES

<sup>1</sup> *Lancet*, October 27th, 1917. <sup>2</sup> *Ibid.*, May 4th, 1918.

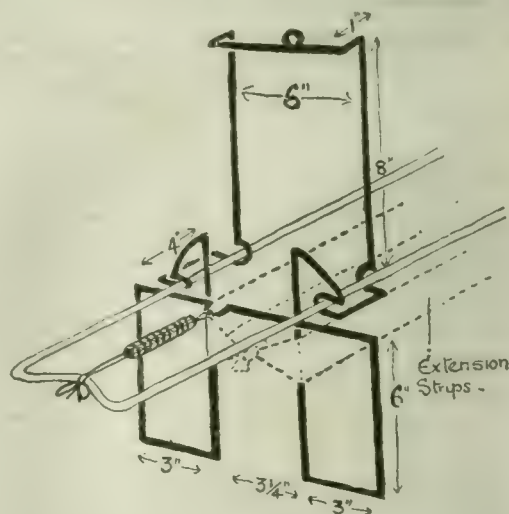
### EXTENSION APPARATUS FOR FRACTURE OF THE FEMUR.

BY CAPTAIN DENNIS W. CRILE,  
HARVARD UNIT. — GENERAL HOSPITAL.

MANY cases of fracture of the femur arrive at base hospitals without extension which extends. The surgeon at the casualty clearing station may have applied a good extension and seen to it that sufficient pull was applied. When the case left his hands the extension strips were exerting traction, but there are several reasons why the case may arrive at the base without extension—the extension strips stretch, the ring of a Thomas splint settles into the buttock, and no provision has been made for these factors.

The trouble lies in the footpiece. There are many—far too many—in use, and each has some single virtue. None perform all the functions required, so that a surgeon must choose which function is most important and use that footpiece.

The footpiece I have devised combines the important features of practically each of the old models and has the additional advantage of allowing the leg to be slung below the level of the bars of the splint. The extension strips



can be tied to the bars of the footpiece which render a spreader unnecessary, since these are just wide enough apart to clear the malleoli and not so wide as to produce anterior-posterior cutting about the ankle.

To compensate for the loosening of the extension, a spiral spring may be hooked to the cross-bar of the foot-piece provided for the purpose. By tying the distal end of the spring to the end of the splint, extension is produced which acts through the spring. The spring is such that 20 lb. pull will stretch it  $1\frac{1}{2}$  in., that is, 7 lb. per  $\frac{1}{2}$  in. Then the extension may loosen  $1\frac{1}{2}$  in. before it becomes loose. This obviates the necessity for watching the tension of extension strips. An advantage of the spring is that as the fracture stretches out the pull automatically



decreases. If the spring is set primarily at 20 lb. (with  $1\frac{1}{2}$  in. leeway) a stretching of 1 in. will leave the spring with  $\frac{1}{2}$  in. leeway and a pull of 7 lb. The spring may have a dial inside its coils reading in pounds and inches.

Lately we have been using an extension applied with a cold glue composed of two parts mastisol and one part Canada balsam. The extension proper consists of a length of cotton stockinette, such as is ordinarily used by American orthopaedic surgeons in applying plaster casts. It comes in 25 yard rolls, and is circular, with a breadth of 4 in. The required length is cut off from the roll and rolled on itself, so as to make a garter-like circle. This is slipped over the foot, the leg is then painted in sections with the glue, and the stockinette is unrolled on to it, all the stretch being taken out during the unrolling. A roller bandage is then temporarily bound around it. The strip overhanging the foot, which is purposely left, is then split front and back and tied to the bars of the footpiece, from which the pull is taken at once. The foot is supported by glueing a piece of stockinette to the sole and suspending it from the footpiece.

If there are wounds of the lower leg, windows can be cut in the stockinette. There is seldom blistering, due to the fact that stockinette takes the pull evenly from every part of the skin, but care must be taken that the glue is not acid, or blistering may occur. Stockinette applied in this way does not slip as adhesive plaster does, and will hold a 20 lb. weight.

With this apparatus applied at the time of the first operation at the casualty clearing station a patient can travel comfortably, and arrive at a base with efficient extension and considerable reduction of the fracture. Incidentally this means immobility and the resultant good effect on sepsis and prevention of shock.

These appliances are all cheap, simple, and of wide application, and, except for the stockinette, can be used again and again.

## SOME OBSERVATIONS ON SIX CASES OF RUPTURED SPLEEN.

BY

CAPTAIN R. JAMISON, R.A.M.C., F.R.C.S.,

LATE SURGICAL SPECIALIST TO NO. — CASUALTY CLEARING STATION.

WHILE with this casualty clearing station in Macedonia a somewhat remarkable series of accidental abdominal injuries came in for treatment within the space of a few months. They comprise the following cases of rupture of the organ mentioned: Kidney, 2 (both recovered); duodenum, 1 (recovered); small intestine, 1 (died); omentum, 3 (of whom 2 recovered and 1 died); spleen, 6 (all recovered).

It is only with the cases of ruptured spleen that I propose to deal, as the others are familiar injuries, while injuries of the spleen are not usual except where malaria adds to the size and vulnerability of the organ, and further extended notes of the individual cases have been omitted in the interests of paper saving.

In all this series the amount of violence was considerable, although rupture of the spleen may occur from slight injuries, and sometimes even spontaneously. In three cases the injury was a kick by a mule, in one a charge at football, one man fell across a trench, and in the next the injury was a bullet wound.

### *Condition of the Patient after the Injury.*

Immediately after the injury the patient suffers violent abdominal pain and is collapsed, and may vomit or faint. An improvement in the general condition is observed in about an hour; this is followed by exacerbation of the pain and the signs and symptoms of progressive internal haemorrhage. Generally speaking, the gravity of the condition increases proportionately to the interval which elapses between the injury and the time of observation, but is modified in individual cases by the rate of haemorrhage, the external temperature, and the pain and suffering involved in transport over rough country. The administration of morphine greatly lessens the suffering and shock due to transportation, and consequently patients who have received an injection arrive in better condition than those who have not. The shortest time which elapsed between injury and operation was two and a half hours and the longest twenty-four hours.

### *Diagnosis.*

The condition presents all the usual signs and symptoms of a grave abdominal injury, accompanied to a greater or less degree with those of internal haemorrhage. The pain, which may not be excessive as the patient lies quietly, is rendered extremely violent on movement, and particularly on coughing or deep breathing. In a case of left-sided abdominal injury in a malarial country the organ probably involved is the spleen. The history of the injury and sometimes the mark of the bruise confines the possible injuries to the left side of the abdomen—that is, kidney, intestine, omentum, and spleen. The question whether the kidney is involved is easily decided by the presence or absence of blood in the urine. If the liver dullness is present the omentum or spleen will be involved—that is, a case of haemorrhage without free gas. However, as distension of the intestine occurs early in these cases the liver dullness is often absent, and then diagnosis is impossible. Similarly, a differentiation between omentum and spleen cannot be made. It is fortunate that it is of no assistance to the operator to have this differentiation made before making the incision.

### *Operation.*

On arrival the patients were disturbed as little as possible. They were put to bed and their clothes removed. They were not washed. They were given an hour in bed before operation with hot-water bottles and many blankets to rest and get warm. All had an injection of atropine.

A vertical incision 3 in. in length was made about an inch to the left of the middle line through the skin and anterior layer of the rectus abdominis; its lower end was at the level of the umbilicus. The rectus was then freed from its attachments to its sheath and drawn outwards. The posterior layer was divided in the line of the skin incision. Through this incision the abdomen was investigated and when a ruptured spleen was discovered the opening was rapidly enlarged, chiefly by extending it upwards to the costal margin.\* If necessary the rectus can be divided transversely either in part or entirely. A considerable amount of room is gained by this manoeuvre, but the occasions on which it is required are extremely few and the chances of a bad scar enormously increased. Moreover, if the spleen is "mobilized" in the manner to be described the necessity for the extra amount of room will not be felt.

Standing on the right side of the patient, the right hand is passed below and behind the spleen and the lienorenal ligament identified and torn through with the fingers. When this has been done, further pressure backwards and upwards directed against the lower pole of the spleen will cause the upper pole to rotate forwards and appear in the wound, when the organ is readily delivered. In this manner control of the entering vessels, and consequently of the haemorrhage, is most rapidly attained. Some cases of rupture can be dealt with by suture, but in the whole of this series the tears were multiple and the spleen tissue too friable for the sutures to hold. Consequently the pedicle was ligatured in two or three sections close to the hilum and the spleen removed. The proximal end of the lienorenal ligament must be examined for possible bleeding vessels, and these dealt with if found. The advantages of mobilizing the spleen at once may be thus summarized: All bleeding is under control in about a minute from the time the hand is passed down to the organ; neither a transverse division of the rectus, nor, in fact, a very long incision is required; the fate of the spleen can be decided without interference from fresh haemorrhage. The remainder of the operation consists in mopping out the blood from the peritoneal cavity when the patient's condition allows and closing the wound.

### *After-Treatment.*

The after-treatment does not differ from that of any other considerable abdominal operation. Actually the following procedure was carried out: (1) Intravenous injection of two pints of glucose solution, commencing during the closure of the wound; (2) half a pint of saline

\* From recollections of a picture of a paracostal incision in a book on operative surgery such an incision was tried on one occasion. Fortunately the case was one of ruptured omentum which could be dealt with by this route, as neither the spleen nor any other organ could be easily approached from this direction. It is unsound anatomically.



solution hourly by the rectum as long as the patient continued to retain it; (3) pituitrin  $\frac{1}{2}$  c.cm. every four hours until the pulse settled down. In practice this amounts to three or four injections.

#### *Appearances of the Spleen Removed.*

With one exception all the spleens were enlarged. The largest weighed 19 oz., 20 oz., and 28 oz. respectively. The tears were multiple in all, and varied in severity from nearly complete division of the organ to mere rents in the capsule. Extravasations of blood into the spleen pulp were also numerous. The spleen tissue was soft and friable.

#### *Effects of Removal of the Spleen.*

(a) No ill effect was noticed while any of the patients were in the casualty clearing station, and news of two patients some months after operation was entirely satisfactory. No information about the remaining four has been obtained. (b) A very high leucocytosis occurs rapidly after splenectomy, which is not apparently to be accounted for except as a consequence of the loss of the organ. No series of observations was made, but the following figures from four cases are illustrative:

(a) 42 days after operation	...	...	22,300
(b) 16 " " "	...	...	20,000
(c) 5 " " "	...	...	45,000
(d) 2 " " "	...	...	16,000
12 " " "	...	...	12,000

White counts on two cases of nephrectomy for injury showed no excess. (c) Any operation in a malarial subject is likely to determine a relapse. A case of splenectomy is no exception, and the relapse does not differ clinically from those occurring in patients with spleens. (d) Late haemorrhage occurs sometimes after splenectomy. This event occurred in one case. About ten days after the operation there was a sudden severe haemorrhage from vessels in the abdominal wound. A considerable amount of blood had managed to find its way into the peritoneal cavity, but its origin was entirely extraperitoneal; it was arrested by ordinary methods and did not recur. There was no history of haemophilia and to a rough test the coagulation time appeared quite short.

I am indebted to Colonel Kelly, A.M.S., for permission to publish this series of cases.

### SOME POINTS CONCERNING THE OPERATION FOR VARICOSE VEINS.

BY

F. J. STEWARD, M.S., F.R.C.S.,  
SURGEON TO GUY'S HOSPITAL.

I RECENTLY witnessed an operation for varicose veins performed by another surgeon; it was needlessly tedious and bloody. As the operation is much simplified by the method that I have adopted for some time, I have thought that an account of it might be helpful to others.

I have tried the various new implements that have been devised for the operation, such as strippers and extractors, but they have not given satisfactory results in my hands, so I have returned to the simpler method of excision, which I perform as follows:

The night before operation the limb is dry shaved, rubbed with ether, painted with iodine, the veins marked with an indelible pencil, and then wrapped in a sterile dressing. The patient having been anaesthetized, the limb is held in the vertical position for a couple of minutes and emptied of blood as thoroughly as possible by firm upward kneading, and a tourniquet applied to the thigh as high up as necessary.

Suitable incisions are then made and the veins removed, the cut ends of the main veins and the larger tributaries being ligatured with fine catgut. The incisions are then closed by means of Michel's clips, the limb wrapped in large sterile pads, and a bandage applied evenly and firmly, but not too tightly, from the foot upwards. The tourniquet is then removed.

As the limb is bloodless the operation can be performed very rapidly, for the thickened veins are quite easily recognized and dealt with. Time need not be wasted in tying small tributaries, for the firm bandage effectually prevents subsequent oozing with the formation of those haematomata

which so delay healing. The use of Michel's clips has many advantages over ordinary interrupted or continuous sutures—they are far more rapidly applied, the necessary eversion of the skin edges is ensured, and the wounds consequently heal soundly with the formation of firm linear scars. The edges of the wounds are so thin that the use of any other form of suture is almost bound to result in more or less inversion of the skin edges, so that gaping of the incisions takes place after the sutures are removed, and results in slow and tedious healing, leaving thin wide scars that are often tender.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### AN ASPIRATOR FOR PARACENTESIS THORACIS.

I HAVE found the apparatus here described and figured very convenient for tapping haemothorax. Others may be using a similar arrangement, but, as I have not seen it described, a short note on it may be useful. It is quite simple and inexpensive, and can be put together from easily obtained materials. In most hospitals there is only one aspirator, but in a ward where chest cases are dealt with a second, not in general use, is a considerable convenience.

The apparatus, as shown in the figure, consists of two bottles connected by pressure tubing. The larger bottle, B, holds anything up to two quarts of water, and has an outlet at the bottom, D, to which is attached about a yard of indiarubber tubing furnished with a pinchcock (not shown in the figure). The bottle A holds fifteen to twenty ounces, and is connected by the tube C to some form of aspirating trocar and cannula. It is convenient to graduate it in ounces. The whole apparatus must be airtight at all joints. When in use the bottle B is filled with water, and the long tube D is allowed to hang vertically, its lower end dipping below the surface of some water in a large jar. The pinchcock is placed near the lower end of the tube, and a little water run out to remove any air bubbles. The trocar and cannula having been inserted in the pleura the pinchcock is opened, and negative pressure set up in the bottle A by the fall of level in the water in the bottle B.

I have found an aspirating needle known as Hodder's convenient to use, as it provides a good attachment for the indiarubber tube. The side tube of the ordinary Potain's trocar is too short to allow of an airtight joint. When the bottle A is full, the pinchcock is closed, the indiarubber cork removed and the bottle emptied; B can similarly be refilled with water if required. The stream of blood or serous fluid is watched as it runs into A, and its volume regulated by partially opening or closing the pinchcock, and thus altering the rate at which the water escapes from B.

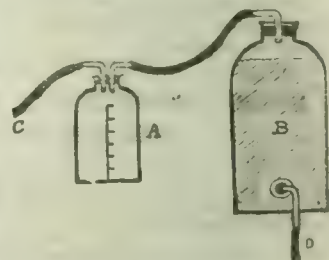
The advantages of the apparatus seem to me to be: (1) It is cheap and easily made; (2) it is easily cleaned; (3) a continuous negative pressure is maintained; (4) there is no arm-aching exercise of pumping necessary; (5) there is no pump to get out of order.

It might be elaborated by introducing a manometer through the cork in the bottle B, or a funnel for filling it, but in practice I do not think these are required.

J. M. FORTESCUE-BRICKDALE, M.D., M.R.C.P.,  
Officer in Charge, Centre for Gunshot Wounds  
of the Chest, 2nd Southern General  
Hospital, Bristol.

#### BLOOD PRESSURE IN WAR TRAUMATISMS.

IN THE BRITISH MEDICAL JOURNAL of August 10th (p. 132) Dr. E. F. Cyriax states that in certain cases of unilateral traumas the blood pressure readings taken with the Riva-Rocci apparatus were different in the two arms, but that this difference tended to disappear as recovery took





place. From the figures he gives it appears that usually, though not invariably, the systolic pressure was higher on the injured side.

These cases are probably special instances of the general law suggested by Leonard Hill and myself in a paper read before the Royal Society in 1913.<sup>1</sup> We suggested that the organism has the power to alter the character of the blood flow to any particular capillary area by altering the resiliency or lability of the walls of the arteries supplying that area. Thus, if the walls of the arteries and arterioles contracted and became hard, almost the full percussive systolic pressure obtaining in the great arteries would be brought to bear in order to beat open the capillaries, while with lax arterial walls the capillaries would be exposed to a low systolic pressure. We instanced the conditions obtaining in an inflamed area and in a secreting gland.

It is to be hoped that Dr. Cyriax will continue his observations, as they promise to furnish confirmatory evidence of what is probably a very important though little realized function of the arterial walls.

London, W.

S. RUSSELL WELLS, M.D.

#### LIFE HISTORY OF ASCARIS LUMBRICOIDES.

Medical practitioners who have worked in tropical and subtropical countries cannot fail to be deeply interested in the recent discussion in the *BRITISH MEDICAL JOURNAL* on the life-history of *Ascaris lumbricoides*, and in Dr. George C. Low's paper on the same (March 9th, 1918). I have worked for fifteen years in the Fuh Kien Province of China. By systematic examination of the stools of hospital in-patients I established the fact that 100 per cent. of the population of that particular locality harboured *Ascaris lumbricoides*. Long before there arose any discussion concerning a possible pulmonary circuit I had learnt to know the "wormy cough" of the more heavily infected. It had also become a matter of practical experience that bronchitis in children could not infrequently be cured by doses of santonin and aperients alone without the assistance of expectorants. In fact, it almost seems to me now that the scientific results arrived at by the work of Lieut.-Colonel Clayton Lane and Major F. H. Stewart should have come as platitudes to us of the East—they so obviously fit in to our knowledge of signs and symptoms of *Ascaris lumbricoides* infection. On the other hand, the intermediate host theory did not fit in. By experience (often bitter experience) we knew that vegetables fertilized with night-soil were a most sure cause of infection, and that all uncooked and partially cooked vegetables must be rigorously avoided. We also knew, though I cannot give the scientific basis of the knowledge, that for any foreign resident in China a bi-monthly dose of santonin is a wise precaution. This raises the question of the duration of the life-circuit. Other questions of great importance to the practitioner in infected districts concern the length of time that the eggs can retain their vitality (a) stored in pits of night-soil, (b) in the air or in damp soil. Ankylostome eggs are destroyed by prolonged storage in pure night-soil, but it does not appear that the eggs of *Ascaris* are destroyed by any process to which the Chinese agriculturist submits them.

MABEL PANTIN, L.M.S.S.A. Lond.,  
Dong Kan Hospital, Fuh Kien, China.

<sup>1</sup> The Influence of Resiliency of the Arterial Wall on Blood Pressure and on the Pulse Curve. S. Russell Wells and Leonard Hill. *Proceedings of the Royal Society*, Series B, 1912-1913, p. 180.

H. VINCENT and G. STODEL have described to the Académie des Sciences (July 16th) a serum for gas gangrene prepared from the horse by injecting the chief varieties of anaerobic microbes which cause the disease. They produced gas gangrene in 89 guinea-pigs by inoculation of the *Bacillus perfringens* into the thigh muscles, followed by crushing by pincers these muscles in the anaesthetized animals; after this double action of the bacillus and the trauma gas gangrene usually appeared in about eighteen hours. The mortality of the unprotected animals was 79 per cent., of the protected only 44 per cent. The serum was used in fifty soldiers with severe badly infected wounds of thighs or buttocks; all remained free from gas gangrene. It was used in thirteen cases of more or less advanced gas gangrene, four of which were regarded by the surgeons as hopeless; twelve recovered. The local and general symptoms usually showed rapid amelioration, sometimes within a few hours of the inoculation of the serum.

## Rebrius.

#### ANATOMY APPLIED TO PHYSICAL TRAINING.

In the welcome book on *Applied Anatomy and Kinesiology*<sup>1</sup> by Professor BOWEN we have further evidence of a discontent with the conventional method of teaching the action of muscles. In noting the appearance of Dr. W. Colin Mackenzie's work, the statement was made that the causes which are revolutionizing our manner of looking at muscles in action were at work in pre-war times. The work now under review is further proof that this surmise is correct. Professor Bowen has approached the subject not from a clinical point of view, as Dr. W. Colin Mackenzie did, but from the standpoint of a man who has to teach teachers the principles of physical education—the principles of orthopaedics, if we use that word in its original sense. He found that even our best textbook in anatomy did not help him to explain how the movements employed in physical training were carried out, nor could the standard textbooks in physiology give him direct help as to how those movements assisted in making the growing body straight and symmetrical. Professor Bowen found, as the clinician had also discovered, that the men who could help him were Duchenne, Beavor, and Sherrington, and we have no doubt, if John Hunter's writings were as well known to our American allies as they deserve to be, Professor Bowen would have also acknowledged his help. What the author of this work has done—and he is the first to have done it so far as we are aware—is to apply to the anatomical facts of our textbooks the observations of men who have studied muscles in living men, under conditions of health as well as under conditions of disease, and has thus produced a much-needed work. Professor Bowen's book is the first volume of "The Physical Education Series," edited by Dr. R. Tait Mackenzie, Professor of Physical Education and Physical Therapy in the University of Pennsylvania. The editor, in a preface, states his belief that "a large audience awaits" Professor Bowen's book. We have no doubt that is true as regards the United States, and we hope it will also prove true of our own country, for the conditions of our industrial life make physical education a matter of real importance to us.

There are many points, had space permitted, which deserve our commendation, and a few, perhaps, which demand our criticism. There is one of these latter points which, because of its practical importance, we cannot afford to let pass by without protest. It is one regarding the improvement of breathing by physical training. In his account of expiration Professor Bowen repeats the erroneous statement, so common in even our best textbooks, that expiration is a purely physical, not a muscular, act. When, however, he comes to interpret the traced records taken of the movements of the living thorax, he realizes that there is the clearest evidence in their expiratory phases that expiration is just as much a controlled and muscular act as inspiration; but evidently the authority of tradition is too great for him, and, instead of trusting his own eyes and judgement, he repeats the ancient and erroneous teaching. The inclination to follow accepted teaching in spite of his better judgement is a weakness shown in many parts of Professor Bowen's otherwise excellent book. He accepts, too, the well-expanded—super-expanded—chest as the ideal for which teachers should work. For instance, he notes that when we attempt to fill our lungs beyond a certain point we expand our thorax at the expense of our abdominal capacity. In the extreme phase of inspiration, as the thorax expands the abdomen diminishes, because the abdominal viscera are drawn within the subdiaphragmatic space. He would aim at obtaining all the expansion that could be obtained by both thorax and abdomen for the direct expansion of the lungs. Now those who are familiar with the training in chest expansion by a certain school of London teachers know that irrevocable harm has been, and is being, done to the lungs of young men. Lungs are really delicate organs, and Nature has taken a great deal of pains to safeguard them

<sup>1</sup> *Applied Anatomy and Kinesiology: The Mechanism of Muscular Movement*. By Wilbur Pardon Bowen, M.S., Professor of Physical Education, Michigan State Normal College, Ypsilanti, Michigan. Philadelphia and New York: Lea and Febiger, 1917. (Med. 8vo, pp. xlii + 316; 189 figures.)



against over-expansion. Professors of physical training take endless efforts to break down these safeguards, and in many cases succeed. We hope Professor Bowen will think over this point, and particularly follow out the after-history of the young athletes who trained themselves until they became poulter-chested. Our experience is that they become more liable to lung and heart disturbances than those who have never emerged from a state of physical deterioration.

#### ANTITYPHOID LIPOVACCINE.

MANY millions of men and women must have received antityphoid inoculations during the last four years to protect them against typhoid, paratyphoid A, and paratyphoid B fevers. The types of T.A.B. vaccines employed are notoriously various, and none has received general recognition as the best. All have the disadvantage of producing local or general reactions in a greater or smaller percentage of the vaccinated; such reactions are attributed to the presence of adventitious matter—culture medium or what not—that accompanies the bacterial antigens forming the active agent of these vaccines, and cannot always be got rid of in the processes of preparation. Drs. LE MOIGNIC and SÉZARY have recently published a book<sup>2</sup> on anti-enteric vaccine made with an oily excipient in place of the watery excipient commonly used, of which we gave a short account on July 13th, p. 41. The dose is 1 c.cm., containing a minimum of 2,600 million of *B. typhosus* and about 2,300 million each of *B. paratyphosus* A and B. Being held in an oily menstruum, the bacterial antigens are but slowly absorbed from the tissues, and so a single large dose of the lipovaccine is said to be enough to immunize an adult. The lipovaccine is made from nineteen-hour cultures of the virulent strains of the bacteria on agar, washed in normal saline and partially dried in the centrifuge, suspended in oil, and killed by heating to 57° C. for an hour; a little eugenol is added as antiseptic in the case of the paratyphoid bacilli, which are more resistant to heat than typhoid bacilli. The oil used is a mixture of lanoline and oil of vaseline; the bacilli are measured out by weight (5.50 mg. in all to 1 c.cm. of oil). The injection of this T.A.B. lipovaccine is to be made in the subcutaneous tissue of the left deltoid region with the most scrupulous antiseptic precautions. Anything like a severe reaction is said to be quite rare with this new vaccine. It has been administered to over fifty thousand men in France, and is said to give a good degree of immunity for a year, when reinoculation with the same dose is advised.

#### A STUDY OF HINTON'S PHILOSOPHY.

JAMES HINTON, the aural surgeon as well as writer of many philosophical works, the least forgotten of which is *The Mystery of Pain*, not to be confused with his senior colleague at Guy's—John Hilton, the author of the *Lectures on Rest and Pain*, so well known to a former generation of students—died at the Azores of cerebral tumour in 1875. For many years a presentation of his moral speculations has been in preparation, first by Mr. Havelock Ellis, who, however, handed it over some twelve years ago to his wife, by whom the completed manuscript was delivered to the publishers shortly before her death in 1916. The volume, *James Hinton: A Sketch*,<sup>3</sup> is not a biography, as the title might suggest, and indeed this need was met in 1878 by Miss Ellice Hopkins's biography, but an analysis of Hinton's peculiar views and aims and of the new civilization he foreshadowed. He was a remarkable man and came of an ancestry with unusual characteristics, and it is of him as seer and semi-mystic, and not as an aural surgeon, that this detailed psychological study is presented to the reader. Sir Samuel Wilks, a truly realistic biographer, wrote, "When I say that Hinton was one of the most remarkable men in our profession, I feel astonished that he was in it, but being in it he was not of it. I believe that accident alone made him a medical student, just as a kind of chance gave him his speciality."

Hinton's revolutionary suggestions on sexual relations and his drastic conclusions for the reformation of prigs and hypocrites were so often lacking in humour that it is

no wonder his hearers went away open-mouthed saying, "This man hath a devil." It is a pity that he advocated polygamy in place of monogamy without attempting to define exactly what he contemplated in these sexual relationships. He was rent by the apparent contradictions of his theories, which, when attempted in practice, often led to disaster, and he was probably within the mark in his statement that it would take two hundred years for his ideas to work out, and yet he put them forward to his followers as if ripe for immediate adoption. This well-written volume is an interesting study of his mental outlook, but, like *The Mystery of Pain*, though at first attracting, will subsequently rather puzzle the ordinary reader.

#### \* ANATOMY OF THE NOSE AND EAR.

DR. ADAM E. SMITH'S *Studies in the Anatomy and Surgery of the Nose and Ear*<sup>4</sup> will be welcomed by many readers on account of the attractive collection of plates quite as much as for the letterpress. The latter is somewhat diffuse, and wanders rather vaguely from the anatomy and surgery of the nose and ear into the discussion of such questions as the importance of nasal breathing and the treatment of intranasal conditions, which is, of course, very instructive but a little out of the picture. The anatomy is very well displayed in several series of frozen sections with clear descriptions; no one can carefully study them without obtaining additional grounding in his knowledge of his way about the intricacies of the nose and its annexes. The approach to the pituitary body is made very clear, and operations on it seem to come within the scope of rhinology; at the same time it is certainly at the furthest limits of the field, and it is to be hoped that rhinologists will not be too greatly daring unless their experience in intranasal technique has been considerable, however simple the operation appears to be made by the atlas before us.

In regard to the ear the author begins with a disquisition on the postural treatment of otitis media or mastoiditis. This is combined with active treatment, which includes a prompt and extensive paracentesis, to which we should attach more value in preventing mastoid involvement than the influence of posture in regard to such small cavities as the inflamed antrum and aditus in which there is little scope for gravitation. The antero-posterior sections illustrating the anatomy of the ear and temporal bone, if studied from without inwards, will be found to afford good guidance in operating on those parts. They should, however, be compared with an actual temporal bone, so that the perspective of the parts may not be lost. The ingenious partition of the surface of the mastoid region is easy to remember, and with some allowance for variations will be most helpful to the young operator, as long as he is prepared to go slowly and layer by layer. There is a little obscurity as to the depth of the facial nerve, which in one place (p. 130) is described as 2 cm., and in another (p. 136) 1½ cm. from the surface of the mastoid. The process of exposing and everting the facial nerve is well described.

Altogether this is a good practical work which, measured by its information, can be most strongly recommended.

#### NOTES ON BOOKS.

A PAMPHLET by Dr. TRUBY KING, C.M.G., entitled *The Natural Feeding of Infants*,<sup>5</sup> has been issued, with an introduction by Dr. J. S. Fairbairn, by the Babies of the Empire Society, under the auspices of the Overseas Club and Patriotic League. It is a comprehensive essay, written in a popular style and well adapted to attract and retain the attention of the mothers to whom it is addressed. The same society has issued another pamphlet by Dr. Truby King on *The Story of the Teeth*.<sup>6</sup>

The war has given us many poets, and among them must be reckoned Mr. DONALD H. LEA of the New Zealand Expeditionary Force. His volume of poems entitled *Stand Down!*<sup>7</sup> shows no little power to feel and ability to express the major and minor tragedies of war. Many of the poems are written in dialect; they are full of promise and often reach the level of true poetry.

<sup>1</sup> *Nouvelle méthode de vaccination antityphique: le lipovaccin T.A.B.* By E. le Moignic and A. Sézary. Paris: J. B. Baillière et Fils. 1918. (Cr. 8vo, pp. 78. Fr. 2.)

<sup>2</sup> *James Hinton: A Sketch.* By Mrs. Havelock Ellis, with a preface by Havelock Ellis. London: Stanley Paul and Co. 1918. (Eight illustrations, 1p. xxviii. + 265. 10s. 6d.)

<sup>4</sup> *Studies in the Anatomy and Surgery of the Nose and Ear.* By Adam E. Smith, M.D. New York: Paul B. Hoeber. 1918. (57 pp., 45 illustrations. 4.00 dobs.)

<sup>5</sup> London: Whitcombe and Tombs, Ltd. 1s. net each.

<sup>6</sup> *Stand Down!* By Donald H. Lea. With a foreword by Sir Thomas Mackenzie, K.C.M.G. London: Elkin Matthews. 1917. (Roy. 16mo, pp. 77. 2s. 6d. net.)



## DRIED MILK AND THE LOCAL GOVERNMENT BOARD.

THE Cheshire Local Medical and Panel Committee has addressed a letter to the President of the Local Government Board, directing attention to the dangers of misdirection of effort apparent in some developments of the maternity and child welfare and other "health campaigns" fostered by the Local Government Board. The letter continues:

"1. My committee apprehends that the authority of medical practitioners in the guidance of their patients may be undermined by the teachings of partially trained or untrained persons working in connexion with approved child welfare centres. The tendency shown by those in authority to entrust the direction of the campaign to partially trained persons may be illustrated by your own remark in your address on August 2nd to the conference at the Central Hall, Westminster, to the effect that the health visitor was the axis round which the whole centre revolved. I am to point out that this pronouncement is exactly contrary to the principles which my committee understood were authoritatively laid down by Sir Arthur Newsholme in his covering letter to the order on which the scheme is based. In that letter the medical officer of the centre, not the health visitor, is emphatically stated to be the directing and originating factor of all its activities.

"2. A second danger is that of extending the sphere of work of the centre to embrace treatment. In the opinion of my committee the need should be met thus: The medical officer to a centre should prepare and send a weekly return to each doctor whose patients attend, stating the names of those patients, the nature of the hygienic and dietetic advice given, and any abnormality, illness, or tendency to disease requiring his attention. That would be a true step in preventive medicine. Even when something more than *general practitioner treatment* is necessary, it should be the patient's own doctor who initiates it.

"It may be remarked, parenthetically, that there are few general practitioners who are not capable of carrying out treatment in one or more of the special departments of practice. There are few who cannot transcend, in one direction or another, the dead level of purveying 'such treatment as is of a kind which can consistently with the best interests of the patient be properly undertaken by a general practitioner of ordinary professional competence and skill.'"

"It is *facilities* that are lacking, such facilities as are provided by the local voluntary hospitals, but which are inadequate both in amount and distribution for the needs of present-day practice. As Sir Bertrand Dawson says: 'Though it is quite right that consultants and specialists should be available to help the general practitioner, these are not nearly so important as providing the means for the general practitioner to help himself.'"

"3. The third danger which I am to mention is the advocacy of mistaken measures.

"The responsibility assumed by the Government in advocating methods of dealing with conditions of health and disease based on recent departures from established medical practice has not always been justified by results. Three recent illustrations may be given:

"(a) The launching, on the model of 'tuberculin' dispensaries, of the present scheme of tuberculosis dispensaries."

The letter points out that tuberculin as a remedy for pulmonary tuberculosis, the only defensible *raison d'être* for the dispensaries, has fallen into discredit. "The argument that the dispensaries could examine *contacts* was an afterthought, a bolster to a failing cause. *Contacts* can be far better examined by the family doctor, who could provide the chief tuberculosis officer with more useful information than would be otherwise obtainable. In our judgement the *chief* should be the *only* tuberculosis officer in a county. He should be a physician of established reputation, not necessarily a whole-time officer. Such an one, with the assistance of a county profession enjoying the clinical facilities alluded to, would organize a far more effectual campaign than would any dispensary

system. The whole scheme was built on the shifting sands of immature knowledge.

"(b) The second illustration my committee desires to adduce of action taken by the executive authority on immature knowledge was the setting up of unnecessarily large and costly venereal disease treatment centres by the public authority on the special ground that general practitioners could not be trusted to administer salvarsan. As Lieut.-Colonel Harrison (of the Rochester Row Hospital) has shown in his recent book, salvarsan administered by intramuscular injection—a proceeding precisely similar to other injections which form part of every practitioner's routine work—is of superior efficacy to the same drug when administered by the more delicate intravenous method which was supposed to be beyond the competence of an ordinary doctor. In this county, happily, the true facts, after vigorous representations by this committee, have been wisely recognized by the county council and the Local Government Board, and salvarsan is now gratuitously obtainable by any practitioner from the public authority for administration to such of his patients as may need it.

"(c) A third departure from established medical practice is the prominence given in child welfare clinics held under the auspices of the Local Government Board to the use of dried milk in infant feeding.

"The Local Government Board leaflet, *Dried Milk for Infants*, dated March this year, states: 'Experience during the last twelve or fourteen years shows that dried milk is one of the most satisfactory forms of cow's milk for use in the feeding of infants.' That is a most misleading statement. The very large and carefully recorded experience of the Manchester Children's Hospital on the relative sickness incidence in breast-fed babies, babies fed on cow's milk, and babies fed on dried milk, shows that whilst breast-fed babies suffer least, babies fed on dried milk have a far higher sickness-rate than those fed on fresh milk. Dr. Ashby, Physician to the Manchester Children's Hospital, writes on June 11th, 1918: 'I have no hesitation in saying that I have found cow's milk superior to any dried milk or artificial food in my work with infants and young children at Manchester and Salford.'"

Dr. Truby King, C.M.G., and Dr. Chapin are quoted in support of the contention that "A food that causes a gain in weight may not be a good food for an infant. The scales alone are not a safe guide." The letter continues:

"My committee do not pose as experts on infant feeding; but the matter is one with which, as general practitioners, they are much concerned; and they recognize that the very convenience of dried milk may be its passport to a dangerous popularity, and that the governing authorities would be on safer if more difficult ground in pursuing the campaign for clean milk than in popularizing what after all is admittedly a damaged article. Want of cleanliness in the source, handling, and transport of milk cannot usefully be remedied by subsequent methods of treating the fluid which impair, if not its food value, at any rate its stamina-producing value. Tuberculous infection from some source is inevitable sooner or later. You may boil a child's milk; but, as Mr. Robert Mond says, you do not boil his butter. His stamina is his best protection. Much, however, in the opinion of some of my committee, could be done to reduce milk-borne tuberculosis if the authorities were to encourage the policy advocated by Professor Delépine, at the Mid-Cheshire Farmers' Club and elsewhere, of feeding all cows, in herds in which instances of tuberculosis have occurred, for the butcher, at the end of the fourth lactation, when latent tuberculosis will seldom have become manifest, or communicable, either through milk to the human consumers or through the nasal and alvine discharges to other animals."

The committee, in submitting these instances of the increasing degree in which the Local Government Board is entering the province of the medical practitioner, remarks:

"You cannot diminish the responsibility of the practitioner for his patient. It is therefore impolitic as well as unfair to limit or hamper him in the execution of his duty. Either he is competent, or he should not be on the *Register*. If competent, he is conscientious. He will know what form of treatment he can himself undertake, and for what he must refer his patient to a consultant. His position

<sup>1</sup> Insurance Act, Med. Ben. Reg., 1st Sched., § 2 (i).

<sup>2</sup> BRITISH MEDICAL JOURNAL, July 13th, 1918.



and authority are only weakened if a third party with an official status, and on official instructions, offers advice to his patient. The practitioner needs help and facilities which it is in the power of the Government to supply, especially those facilities provided in some districts, and in some degree already, by the smaller voluntary hospitals in which general practitioners can treat their own patients; and it is hoped that to fostering developments with that object the activities of the department of Government concerned may be directed."

### THE AUSTRIAN MINISTRY OF HEALTH.

The Ministry of Health which has recently been established in Austria with the object of centralizing the work of many Government departments has a most ambitious programme. Not only is the work of existing departments to be taken over, but new departments and services are to be instituted and radical reforms of medical education and the conditions under which medical work is done are to be effected. Though little has been heard in this country of the origin of this Ministry, its birth, to judge by stray references, has not been easy. The agitation for it has lasted several years, and it does not appear to have escaped bitter obstruction. Now it is pointed to enviously by writers in the German medical press as an institution which ought to be speedily copied in Germany. The following outline of the Ministry's functions is given by Professor Schwalbe:<sup>1</sup>

Professor Horbaczewski, formerly a Minister without portfolio, is the new Minister. Sixteen different spheres of activity are created:

1. Infectious diseases (including tuberculosis and venereal disease) and drunkenness.
2. Veterinary matters and the laws and regulations affecting the health of man.
3. Municipal sanitation (without prejudice to the powers of the Ministry of Public Works with respect to building and water), housing and town planning, and regulations affecting health resorts and precautionary measures in mining industries.
4. Commercial hygiene, including hygiene at sea and in connexion with emigration.
5. Food hygiene. Supervision of food supplies without prejudice to the Ministry for Food. Examination of foods.
6. Mother and infant welfare. Care of the young in crèches and other establishments, and of orphans. Co-operation with the Ministry for Education in matters affecting the health of the school child, and with the Ministry for Public Works in hygienic matters connected with industry and courses of instruction. Medical supervision of the young above school age and of the physically and mentally deficient.
7. Professional and industrial hygiene, with special reference to the prevention of industrial diseases and accidents. Control over work at home and the work of women and children. Hygiene of mining industries. Participation in the medical aspects of public and private insurance.
8. Supervision of general, maternity, foundling, and mental hospitals. Care of the incurable. First aid and ambulance work.
9. Prison hygiene.
10. Supervision of the trade in drugs, including dietetic and cosmetic preparations. Control of poisons and substances injurious to health without prejudice to the Ministry for Commerce.
11. Supervision of affairs relating to the disposal of the dead.
12. Health matters affecting war sufferers. After-care of the sick and wounded, with participation in their re-education, in providing homes for soldiers, and in the care of war refugees, including rebuilding in areas devastated by the war.
13. Supervision of doctors, chemists, midwives, and nurses. Participation in the management of medical and pharmaceutical education, and in dentistry.
14. Penal matters affecting national health.
15. National health statistics.
16. Support of all voluntary efforts to promote national health, with special reference to various societies and funds.

The Ministry is also given certain powers in connexion with the railway services.

By the inclusion of all these departments under one Ministry it is anticipated that a many-sided problem as that of tuberculosis, involving such widely different matters as housing, food, etc., will be grappled with more successfully than heretofore. The campaign against venereal disease is to include a limited scheme of compulsory notification and, under certain conditions, compulsory examination and treatment of persons particularly exposed to, or likely to convey, the disease to others. The

new regulations will apply chiefly to prostitutes, wet nurses, domestic servants, and to foundling homes, asylums, and other public institutions. Penalties for propagating venereal disease knowingly are included in the Ministry of Health's programme. The campaign against drunkenness is to take the form of legislative measures affecting children and adolescents, as well as special services (railway, medical, teaching and others). The war having revealed the evil of an unregulated food supply, the Ministry will undertake to protect the consumer, particularly the poor and the young, from exploitation, and to provide an adequate supply of nutritious food.

Medical supervision is to be extended to adolescents above school age, and under the department for industrial hygiene a special medical service is to be established, admission to which will require special graduate as well as post-graduate training; it is not clear whether, in the graduate teaching for this work, subjects are to be eliminated from, as well as added to, the standard curriculum of medical education. If, as seems possible, the Ministry intends to create a medical service staffed by men who have specialized in a particular branch from the commencement of their studies, a principle has been adopted which will probably have far-reaching effects on the status of the medical profession. Other prospective changes in the medical curriculum include the institution of the "practical year," for securing clinical experience. Special training is also to be provided in such subjects as tuberculosis, and maternity welfare, and post-graduate study is to be systematically encouraged. It is further intended that by providing medical officers of health with greater powers, as well as a more specialized education, they shall hold more independent positions than heretofore. Hitherto they would appear to have been hampered by routine office work and by the fact that their duties were advisory and consultative rather than responsible and executive.

### ROYAL MEDICAL BENEVOLENT FUND.

At the meeting of the Committee held on August 13th twenty-four cases were considered, and £212 6s. 8d. voted to twenty-two of the cases. The following is a summary of some of the cases relieved:

Widow, aged 51, of M.B.Glasg. who died in April, 1918. Left entirely without means, and suffering from chronic rheumatism. Daughter, aged 25, at home to look after mother; son, 22, second lieutenant, prisoner of war; son, 19, in the army, and allows his mother 3s. 6d. a week. Voted £4, with leave to apply again in October.

Daughter, aged 60, of M.R.C.S.Eng. who died in 1904. Applicant's only income £30 from investments; in the winter suffers severely from bronchitis, so only able to earn a little in the summer. Voted £12 in twelve instalments.

Widow, aged 39, of L.R.C.P.Edin. who died in March, 1917. Applicant was left with two children, now aged 5½ and 3½ years. She earns £115 in a temporary post, and her father, who lives with her, pays the rent of the house. Asks for help towards education of children. Voted £4; the Guild will help.

Daughters, aged 56 and 53, of M.R.C.S.Eng. who died in 1890. Each has an income of £11 6s. from dividends. They obtain occasional work as governesses. Each relieved three times. Voted £9 in twelve instalments.

Widow, aged 51, of M.R.C.S.Eng. who died in 1906. Was left with limited means and one daughter, now aged 19, who is training for a teacher. Income from dividends, £10. Voted £10 in two instalments.

Daughter, aged 68, of M.R.C.S.Eng. who died in 1881. Applicant lost her income by the failure of an Australian bank and is a permanent invalid dependent on friends and help from the Fund. Relieved five times, £60. Voted £12 in twelve instalments.

Widow, aged 76, of M.B.Edin. who died in 1913 after a very long illness which exhausted all their savings. Voted £12 in twelve instalments.

Subscriptions may be sent to the Acting Honorary Treasurer, Dr. Samuel West, at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild is now called upon, as a result of the war, to deal with many widows and children who, in happier times, would not have thought of asking for assistance. It is glad to receive secondhand clothing and household linen. The class of clothes most wanted is that suitable for boys and girls working in offices, for women, and for old men. The gifts should be sent to the secretary of the Guild, 43, Bolsover Street, W.1.

<sup>1</sup> *Deut. med. Week.*, January 10th and 17th, 1918.



# British Medical Journal.

SATURDAY, SEPTEMBER 14TH, 1918.

## THE ORGANIZATION OF RESEARCH.

THE Committee of the Privy Council for Scientific and Industrial Research has published its third annual report (for the year August 1st, 1917, to July 31st, 1918).<sup>1</sup> Practically it is a new Government department which administers the Imperial Trust for the Encouragement of Scientific and Industrial Research. During the last financial year the Committee expended £30,825, and it is convinced that the value to the nation of the work done is beyond all comparison greater than the cost, and will, as time goes on, bring continually augmented returns, for the garnering of the harvest of research is sure though slow. The estimated expenditure for the current financial year is £163,350, which includes a sum of £89,750 for the National Physical Laboratory. In addition, the laboratory is rendering services to the several war departments, which will be met out of the vote of credit, at an estimated cost of £74,100. The grants in aid of industrial research associations will be met out of the fund of one million held by the Imperial Trust.

The report by the Advisory Council, of which Sir William McCormick is chairman, and Sir Frank Heath, K.C.B., secretary, gives an account of the progress made in the establishment of these associations and the steps that have been taken in the organization of national research. Some thirty industries are actively engaged in establishing such associations, and licences have already been issued by the Board of Trade to three. Among them is the British Scientific Instrument Research Association, founded through the efforts of the optical industry; the Department has guaranteed a total expenditure by this association, in accordance with an approved scheme, of not more than £40,000 during the first five years. In accordance with the terms of the agreement with the Royal Society, the Department became responsible for the maintenance of the National Physical Laboratory on April 1st, and has given special attention to the salaries of the scientific and technical staff. Hitherto the laboratory, to balance its expenses, has been obliged to rely in the main upon fees paid to it for testing; as a result its officers have been seriously underpaid, and the best of its senior men are continuously being attracted away from it. It is now recommended that the scales of salaries should be completely overhauled, and that adequate provision should be made for superannuation.

One of the subdepartments through which the Department of Industrial and Scientific Research works is the Food Investigation Board, of which Mr. W. B. Hardy, secretary of the Royal Society, is director. This board has several subcommittees—on fish, on meat, on fruit and vegetables, on oils and fats, and on engineering. It has been giving particular attention to the preservation of food, especially by cold storage. It is acting in close consultation with the Food (War) Committee of

the Royal Society, and the work has grown rapidly. On this head the report contains the following significant observation: "Events have justified the rapid decisions which we took in the summer of last year, while experience has shown that the appointment of a responsible director to organize a group of researches of national importance assisted by an advisory board of distinguished men of science and affairs greatly facilitates prompt action and the proper co-ordination of all the work in accordance with a definite scheme. Research work, like other forms of creative activity, will not flourish under committee rule."

Last year, at the invitation of the Home Office, the Department appointed a committee, of which Dr. J. S. Haldane is a member, to inquire into the types of breathing apparatus used in coal mines. This committee has just presented its first annual report,<sup>2</sup> in which it draws attention to certain serious defects in existing mine rescue apparatus, and in the training of men to use them. The defects, it is stated, are mainly matters of detail, and suggestions are made for their improvement, for the fixing of standards of achievement, and for preparing the ground for further progress in experimental investigations. Experimental work is being carried on for the committee at the Heriot Watt College, Edinburgh, under the direction of one of its members, Dr. Henry Briggs, who has established a physical testing station which will be run by a military staff attached to the Scottish command. For the War Office the committee has examined and reported on several sets of captured enemy breathing apparatus, and has advised that special inquiries should be made into the storage and supply of liquid and compressed oxygen, and other gases. In conjunction with the Admiralty and the War Office a research clearing house committee has been appointed to co-ordinate the investigations into gas problems conducted by the different departments, and to ensure rapid interchange of knowledge and experience, questions of particular difficulty being referred to the science department.

The Department has also established, jointly with the Medical Research Committee, an industrial fatigue research board with Professor Sherrington as chairman. With the board is associated a panel of representative men and women from each of the industries being studied, who will join the board as each trade in turn comes under review. It will investigate "the relations of the hours of labour and of other conditions of employment, including methods of work, to the production of industrial fatigue, having regard both to industrial efficiency and to the preservation of health among the workers." Grants are made to aid researches undertaken by independent bodies and also to individual students in research work; in making them the Council has been guided by its knowledge of the quality of the research work undertaken by the professor or head of the department who recommends the student.

In referring on a previous occasion to the work of this new department we expressed the hope that though it was primarily established to encourage the application of scientific research to industrial methods, it might become the rallying point of other scientific branches subsidized by the Government, eventually developing into an independent Ministry of Science. These hopes have been realized to a considerable extent, and we find no evidence that the department is regarded as a temporary expedient. Indeed, another step forward has been taken which we hardly dared

<sup>1</sup> Report of the Committee of the Privy Council for Scientific and Industrial Research for the Year 1917-18. H.M. Stationery Office, Price 4d. net. (Cd. 9144.)

<sup>2</sup> Department of Scientific Industrial Research. First Report of the Mine Rescue Apparatus Research Committee. H.M. Stationery Office, Price 1s. 9d. net.



to anticipate. The annual report of the Department contains a series of paragraphs relating to the development of the organization of research in the Overseas Dominions. The home Department has been in close touch with the Canadian Honorary Advisory Council for Scientific and Industrial Research, which was incorporated by a Canadian Act of Parliament a year ago. This Canadian council has promoted many valuable researches and inquiries, some of which have already produced important results. Again, in Australia, an Advisory Council of Science and Industry has been established, and has started a number of investigations which have aroused the active interest of manufacturers and others likely to benefit by the systematic application of science to industry. The New Zealand Government took initial steps to organize scientific and industrial research as long ago as 1916, but the matter does not there seem to have passed beyond the stage of discussion. In South Africa there is an Industries Advisory Board, which deals not only with scientific and industrial research, but also with statistics of production, factory legislation, the encouragement of industries, and the development of natural resources. Finally, it is the intention of the Government of India to establish after the war an Industrial Board and Department, which will succeed the Indian Munitions Board and extend its sphere of operations. As the chairman of that board has pointed out, munitions for a modern army cover practically all the wants of the civil community. It is also to be noted that a National Research Council was established in the United States of America in 1916, under the auspices of the National Academy of Sciences, and largely through the initiative of its president, Dr. Welch, and of Professor Hale. This council, as we have shown on previous occasions, did much valuable preparatory work before America entered the war, and since then it has so grown in usefulness and power that President Wilson has issued an executive order putting it upon a permanent basis.

The letter in which the Lord President, Lord Curzon of Kedleston, presents the report of the British Advisory Council to the King in Council, concludes as follows: "The foundations of a national system of scientific research are being truly laid. In the final structure as they (the Advisory Council) are planning it, the universities and technical colleges, the learned societies and the industries will be found taking their due place; not in subordination to the State, as our enemies like to see them, but working together for the common good in helpful co-operation."

### THE REVISED "NOMENCLATURE OF DISEASES."

THE *Nomenclature of Diseases*,<sup>1</sup> the fifth edition of which has recently been published, is an official register of the names which at the time of its appearance are applied to diseases and morbid conditions in general. It has been drawn up by a joint committee appointed by the Royal College of Physicians of London, and the work may be regarded as a decennial stock-taking of medical terminology. The object of a national nomenclature is to secure uniformity and consistency in the terms used in making returns for statistical purposes wherever the English language is spoken. Since the least vagueness or contradiction in the use of terms is fatal to the

compiling of accurate statistics, and seriously hampers the progress of science, the aim of the *Nomenclature* is to ensure that only such names as are generally recognized and in common use are included in its lists, and that the same names convey the same meaning to all who use them. It does not assume responsibility for the appropriateness of names which it registers, nor attempt to replace them by others which might seem more suitable or less barbaric to the compilers. As far as possible the work is up to date, but it does not profess to include the name of every rare and recently described morbid condition, and the entry of some names of obscure disorders must be regarded as provisional.

With regard to the principles upon which a nomenclature of diseases is based it must be admitted that there is no such thing as uniformity in methods of naming them. The conception of a disease includes its etiology, localization, symptoms, physical signs, course, and pathological consequences upon the organs and tissues which it affects. But a disease in this sense is merely a mental abstraction—it does not exist in its entirety. Our knowledge concerning it is often deficient in one or other particular, and for this reason inconsistency in naming diseases is unavoidable. Thus some diseases are named in accordance with their etiology, and this applies in the main to the large group of "diseases due to infection"; yet some of these, such as syphilis and malaria, although the infective cause is known, still retain the names which they held before their origin was traced. Others, whose causation and pathology are unknown, are called after the symptoms or groups of symptoms to which they give rise; examples of these are "periodic paralysis" and myasthenia gravis. Some names are topographical and descriptive, such as "glosso-labio-laryngeal paralysis," "pulmonary osteoarthropathy." Other disorders are known by the pathological conditions which they produce—for instance, "arteriosclerosis," "amyotrophic lateral sclerosis," "progressive lenticular degeneration with hepatic cirrhosis." The names of some are purely arbitrary, popular, or colloquial, such as mumps, measles, leprosy. Many such designations are of remote antiquity, and except to avoid inconsistency, no special object is gained by rejecting them. Some diseases have Latin and some Greek names, and some have hybrid combinations of the two; some again are English, and some are named in the language of the country of their origin. The practice of naming diseases after those who first described them is open to objection; yet the desire to perpetuate the fame of distinguished individuals is natural and excusable, and few would wish the names of Bright, Addison, and Hughlings-Jackson to be forgotten in this connexion. Proper names, however, should not be used as main headings but only as synonyms. In regard to the use of synonyms in general, the name of the disease which appears first in the *Nomenclature* is that by which it is usually known; the synonym is the Greek or Latin or English equivalent. The compilers state that in making a return it is optional to employ the name of the disease which appears first, or its synonym.

To meet complaints that the *Nomenclature* does not distinguish between diseases and symptoms an asterisk is affixed to the names of all symptoms, and refers to the footnote printed on every page: "When the cause is known, return should be made under the head of such cause, the local condition being also specified." It has also been contended that a nomenclature of diseases should not contain the names of symptoms at all, yet symptoms and physical signs are an integral

<sup>1</sup> To be purchased through any bookseller, or directly from H.M. Stationery Office. Price 2s. net.



part of disease—the outward and visible, or inward revelation of its presence—and there is force in the plea that, if only for the promotion of verbal economy, recognized names of symptoms should be registered as well as those of diseases.

Nomenclature and classification are intimately connected, and in the progress of science classification is the more important. Names do not matter much so long as all are agreed as to their meaning, but it is essential that things named should be classified so as to show their resemblance and relationship to, and their distinction from, one another. Diseases cannot at present be classified into orders, genera, and species. Their classification must be artificial rather than natural, and it is necessarily tentative and provisional, as each succeeding edition of the *Nomenclature* shows. As stated in the preface to the first edition (1869), "diseases might be classified according to their symptoms, their causes, their intimate nature; according to the tissues or the systems of the body affected; or according to the parts of the body as they lie anatomically." The method of classification which the compilers of the first edition adopted was topographical, diseases being divided into those which affect the body as a whole and those which affect locally different systems and the organs and tissues of which they are composed. The compilers of the fifth edition have adhered to this principle. They have, however, introduced some changes of importance. A large and heterogeneous collection of diseases called "general" in former issues has now been split into three new groups—Diseases of the blood, Diseases of the ductless or endocrine glands, and Diseases due to disorders of nutrition or of metabolism. We note, too, the removal of the whole group of myopathies from the section on diseases of the nervous system to that on diseases of the organs of locomotion. Amongst diseases of the nervous system, and also in other sections, there yet remains a large group which can only be classified at present into "Names of symptoms, groups of symptoms, diseases named with reference to their symptoms, and diseases of which the pathogenesis is not accurately known." A more scientific classification of these disorders has yet to be devised. Overlapping is unavoidable in a topographical division of diseases; thus, for instance, purpura appears amongst diseases of the blood and diseases of the skin. Intoxications, which formerly occupied a column by themselves, are now very properly relegated to the list of poisons in the appendix, and infective diseases are more appropriately termed "Diseases due to infection."

In so far as individual organs and structures admit such classification, the order is as follows: (1) Inflammation and its varieties; (2) vascular conditions—hyperaemia, haemorrhage, anaemia, oedema, thrombosis, embolism, necrosis, gangrene; (3) hypertrophy and atrophy; (4) local manifestations of general diseases, such as syphilis, tuberculosis; (5) diseases and disorders of function special to the organ under consideration; (6) local nervous affections, such as atony, spasm, paralysis; (7) degenerations; (8) mechanical results of disease; (9) cysts and new growths, non-malignant and malignant; (10) effects of parasites; (11) effects of poisons; (12) malformations; (13) injuries; (14) foreign bodies. Varieties or special forms of diseases are usually indicated by being "indented"—that is, printed below and somewhat to the right of the main heading.

The change in the new edition which will perhaps excite most comment is the omission of the triple column of Latin, French, and German equivalents or

translations which formed a prominent feature in former issues. The preface states the grounds on which the Subcommittee on Classification decided upon this omission as follows: (1) The ambition of the compilers of the first edition to be the founders of an international nomenclature has not been realized. (2) It is impossible to guarantee the correctness of the French and German equivalents except by international agreement. (3) The insertion of the French and German names of every disease is beyond the scope of a British nomenclature of diseases. As for the omission of Latin and Greek equivalents, it is pointed out that the Latin equivalents are very often translations of English phrases, and that many of the names of diseases in common use are framed upon a Latin or Greek basis, or are hybrid combinations sanctioned by time. Such names, therefore, need not be expressed in separate Latin columns. Moreover, "Latin and Greek names have been incorporated in the text either as synonyms of English names, or as main headings in any case in which the Latin or Greek name is more frequently used than the English equivalent."

In conclusion it may be noted that the *Nomenclature* is not in any sense a textbook of diseases. It is neither didactic nor educational. Its sole aim is to record the names of diseases which are recognized and in common use at the time of its publication, in order that statistics may be rendered both uniform and accurate, and so facilitate control of public health. It will hardly be used except as a work of reference, yet careful comparison between the present and former editions affords valuable indications of the progress of medicine during the fifty years which have elapsed since the Royal College of Physicians first undertook the compilation of the *Nomenclature of Diseases*.

#### VOLUNTEER FORCE MEDICAL OFFICERS.

DURING the last year our pages have contained records, taken from the *London Gazette*, of the appointment of a large number of medical officers to the Volunteer Force usually with the rank of temporary lieutenant or captain. Owing to the insistent need for the adjustment of medical man-power it is of some importance to consider the circumstances in which these appointments are made. Under Army Council Instruction 18 of 1917 registered medical practitioners are eligible for appointment to the Volunteer Force. Paragraph 2 of the regulations of this force states that: "Liability for service in the Regular or Territorial Forces is in no way affected by enrolment in the Volunteer Force." A.C.I. 18 of 1917 further stated that "membership of the Volunteer Force in no way excuses a medical man from liability to be called up for service by the Central Medical War Committee." The National Service Ministry and the Central Medical War Committee are, we understand, aware of these conditions. But when we come to the liabilities which are incurred by medical men who join the Volunteer Force the position is much more doubtful. The ordinary citizen who now joins the Volunteer Force has ceased in most cases to be a volunteer. In a memorandum dated August 20th, 1918, and issued to the tribunals by the Local Government Board and the Scottish Office, it is pointed out that under Section 4 (6) of the Military Service (No. 2) Act, 1918, "every person to whom a certificate of exemption shall be granted by a tribunal after the 30th April, 1918, shall, unless the tribunal by which the certificate is granted otherwise direct, be liable on being so required in such manner as may be prescribed by Order in Council to join the Volunteer Force and remain a member of that force for the period during which the certificate remains in force, and shall, during that period,



attend such drills, undergo such training and undertake such military duties as may be so prescribed." In paragraph 3 of the memorandum the Local Government Board indicates that where no entry relating to service in the Volunteer Force is made on the certificate of exemption, an ordinary citizen up to 50 and a doctor up to 55 automatically becomes liable to volunteer service if and when required unless he is a Grade 3 man noted as fit only for sedentary work; though even in this case, when granting exemption, tribunals should "consider whether some form of alternative part-time service should not be imposed." Where a tribunal "considers that it would not be reasonable to require the man to perform volunteer service, they must be careful always to enter in his exemption certificate that he is relieved of the volunteer liability." We gather that it is the practice of the Central Medical War Committee, when sitting as a medical tribunal, to relieve of the Volunteer Force liability medical men whose application for exemption from military service is granted. Consequently, for most of the medical men who join, service in the Volunteer Force remains a voluntary service. Nevertheless, the Volunteer Force being now what it has paradoxically become—namely, a compulsory service for certain classes of men—it is clear that the duties of the members of the force will, in the future, be much more definite and exacting. The Local Government Board memorandum describes the duties required from members of Section B of the various arms of the service to which the Volunteer unit which a man is required to join belongs, under two headings: those required of men placed in Division (T) of Section B, and those placed in Division (S). While the duties of men placed in these two divisions of Section B do not appear to involve extensive or continuous training, still the medical officers of the force, even though they are not serving in Section B, must of necessity undergo some commensurate form of training, the more so if they happen to be called on to assist these units in relieving other troops in home defence. So far we have not discovered any clear definition of the liability, either with regard to training, or in connexion with service in an emergency, of medical men who join the Volunteer Force. But there would seem to be indications that the duties of Volunteer medical officers are likely to become more onerous than may have been anticipated by the medical men who join. If this surmise should prove correct, the Professional Committees would do well to urge the military authorities to define at the earliest possible date the duties they expect the medical officers of the Volunteer Force to perform.

#### THE SINKING OF THE "LLANDOVERY CASTLE."

THE results of a careful inquiry made by the Minister of Overseas Military Forces of Canada, Sir Edward Kemp, into the sinking of H.M.H.S. *Llandovery Castle* on June 27th are embodied in a report published in the August issue of the *Bulletin of the Canadian Army Medical Corps*. The report states that "official verification of the facts surrounding the sinking of H.M.H.S. *Llandovery Castle* confirms two main points—the supreme devotion and valiant sacrifice of the medical personnel and the ship's company, whose courage and resignation were in keeping with the proudest traditions of the British army and Merchant Marine Service; and the utter blackness and dastardly character of the enemy outrage on this defenceless institution of mercy—a crime surpassing in savagery the already formidable array of murders of non-combatants by the Germans. Deliberate in its conception, every circumstance connected with the incident reveals the German in the light of the cunning murderer who employs every foul means of destroying all traces of his despicable crime. No other explanation can be attached to the systematic attempts of the submarine to ram, shell, and sink the lifeboats and wreckage floating helplessly with

their two hundred and fifty-eight unfortunate victims, one hundred and sixteen miles from land—a work of destruction so successfully performed that only one boat, containing twenty-four survivors, escaped." The ship had been in the service of the Canadian Government as a hospital ship since March, 1918, and had made four voyages to Halifax. She was on her return voyage, carried a crew and the regular hospital establishment, but no military patients, nor any passengers. The accusations of the German submarine commander that she had on board American flying officers or munitions of war are pure fiction. "The regulations covering the control of hospital ships were being observed, both in the spirit and the letter." It is clearly established that there was no ground whatever for mistaking the ship for anything other than what she was—a ship immune by every law of war and peace from attack or molestation. One medical officer, a sergeant, and four privates of the C.A.M.C. were saved; all other members of the medical personnel were lost, including the commanding officer, Lieut.-Colonel Macdonald, of Port Hawkesbury, Nova Scotia. Throughout it all nothing stood out more brilliantly than the courage and coolness of the fourteen Canadian nursing sisters, every one of whom was lost. The number of the submarine which torpedoed the ship without warning is not mentioned, nor the name of its commander. To the communication issued by the Admiralty on September 6th, enumerating the fate of the commanders of 150 German submarines sunk, is an appendix in which it is stated that the names of German officers guilty of particularly wanton or despicable outrages are carefully noted by the Admiralty, and special endeavours are made to bring their active careers to a swift end. Among the five mentioned as prominent in this disgraceful list is Kapitänleutnant Wilhelm Werner, "who excels in the sinking of hospital ships."

#### FOOD RESTRICTIONS IN THE FRENCH REVOLUTION.

DR. R. HELOT of Rouen has given an account,<sup>1</sup> based on documentary evidence, of the food restrictions imposed before the French Revolution and continued during the Republican and Napoleonic wars; they reached an acute stage in the period of the Continental blockade. In 1789 corn was already scarce, and the Government was faced with the necessity of taking steps to check the rise in prices. The starving people cried to the National Assembly, "Bread, and not so many long speeches." In 1792 the National Convention made many enactments dealing with profiteering. The exportation of grain from the territory of the Republic to Holland and elsewhere, where better markets were to be got, was made a capital offence; interference with the free access of provisions to Paris was also punishable by death. Many arrests were made in consequence of riots caused by the holding up of supplies and the inflation of prices. The Convention attempted to grapple with the problem of food for the poor. The price of grain was out of proportion to the wages of working people; therefore taxes were levied on "large fortunes," out of which was defrayed the excess in the price of bread compared with the wages of necessitous citizens. This looks very like our super-tax and ninepenny loaf regulation. In 1793 it was decreed that "every merchant, cultivator, or proprietor of grain and flour shall be compelled to make to the municipality of his place of domicile a declaration of the quantity and nature of the grain or flour in his possession, and approximately of the amount of grain remaining to be threshed. . . . Every citizen convicted of selling or buying grain or flour beyond the maximum price fixed shall be liable to punishment." In the same year an ordinance was made that land neglected by the owners or farmers called up for army service or abandoned for whatever cause should be

<sup>1</sup> *Chronique Médicale*, June 1st, 1918.



cultivated by daily labourers, or by the neighbouring proprietors or farmers. Grain from abroad reached Paris with difficulty, the convoys being attacked on the way. The imposition of a maximum tariff made the famine more acute; cultivators held up their produce while waiting for better prices. Meat and bread were rationed; salt was scarce, and could be obtained only by holders of bread cards. These measures seem to have had some success, for during the following years provisions became more abundant. Nevertheless, the Government continued to watch with anxious vigilance over the food supply.

#### THE COUNTESS OF DUFFERIN'S FUND.

The thirty-third annual report of the National Association for Supplying Female Medical Aid to the Women of India for the year 1917, drawn up by the honorary secretary of the Central Committee, Lieut.-Colonel H. Austen Smith, I.M.S., and Dr. Margaret Balfour, joint secretary, gives evidence of continued progress and good work. A large map which accompanies the report shows the location of some 107 hospitals staffed by women—a condition unexampled in any other country. Two new hospitals at Amritsar and Quetta were opened by Lady Chelmsford, who visited a number of existing institutions. The Women's Medical Service continues to render excellent duty in charge of twenty-one hospitals. Several of its members volunteered for civil employment to liberate officers of the Indian Medical Service for war work, and one of them was employed, at the head of a unit, in a military hospital. A conspicuous feature of the report is the increasing effort to educate women in medicine. A return indicates that 144 were studying for university degrees and 205 for lower qualifications. In the Lady Hardinge Medical College at Delhi, now in its second year, 52 women were being instructed for the higher examination. A great number of native *dais* were also under training throughout India. The report specifies many objects which remain to be fulfilled in promotion of the fundamental ends of this beneficent organization. They are: more well-equipped and staffed women's hospitals to form centres of training for nurses, compounders, and midwives; schools where young women of respectable families can be trained by their own sex in large numbers as subassistant surgeons; special classes where women health visitors and sanitary inspectors can be passed out; maternity centres; organizations for supervision of midwives; and post-graduate classes for women assistant and subassistant surgeons. "All this," it is added, "requires money, energy, organization." The funds at the disposal of the association appear to be sufficient to meet present requirements, but for the accomplishment of the purposes thus indicated additional contributions are necessary. The provincial reports show that good work is being done in these hospitals.

#### MENINGOCOCCAL SEPTICAEMIA.

Cases of meningococcal septicaemia pure and simple, without meningitis, are rare. Professors Morpurgo and Ferrio describe an instance in an elementary school teacher, aged 37. After a prodromal fortnight of morning headache and general debility the disease began suddenly with a rigor, pains in the muscles and joints, a temperature of 104° F., and no headache. The fever fell after three or four hours, with profuse sweating, and for the next month the temperature rose to about 104° F. (on one occasion to 105.5° F.) every evening, returning to about normal every morning. After two months the evening temperature was no higher than about 100.4°, but it rose again three weeks later. Every evening there was a rigor if the temperature was very high; the patient felt shivery if it was lower. The respirations and pulse-rate rose in proportion to the temperature; the pyrexia did not respond to quinine or colloidal silver. The heart and lungs were

normal, the spleen was not enlarged, the liver was a little enlarged and tender, the pupils and the reflexes were normal, the mental faculties were not affected. The patient complained of pains in the bones, joints, and muscles, and there was a little tenderness along the bones of the legs; latterly, too, movement became difficult because of pain in the joints. The joints themselves showed no abnormality. The patient slept well; he was constipated, and after two months of fever was growing thin. He described the appearance of a rash on the second or third day of the disease, consisting of pink and tender papules varying in size up to a centimetre in diameter, appearing on the hands, the legs, the anterior surface of the trunk, and the bald vertex. The eruptions seen by the authors were erythematous and macular, not unlike the spots of typhoid fever or measles in colour and shape, most often on the hands and fingers and flexor surfaces of the arms, lasting a day or so, most conspicuous when the fever was highest. The blood showed 70 per cent. of haemoglobin, and a leucopenia of 3,200; blood cultures made on May 24th and June 5th gave a growth of the meningococcus, agglutinating in 1 in 300 dilution with meningococcal agglutinating serum. The patient's own serum gave practically no agglutination in 1 in 50 dilution. The fate of the patient is not definitely specified, but it is stated that injections of antimeningococcal serum gave excellent results. It would seem that this is the seventh case of meningococcal septicaemia recorded in the literature.

#### EXPERIMENTS ON ANIMALS IN 1917.

A RETURN showing the number of experiments performed under licences on living animals during the year 1917, and distinguishing the nature of the experiment, has been issued by the Home Office.<sup>1</sup> In view of the pressure due to the war, the chief inspector, Professor G. D. Thane, again submits in summary form his report for England and Scotland. Twenty new places, mostly laboratories connected with Government hospitals or Government establishments, were registered for the purpose of experiments on animals, and seven places were removed from the register. The number of persons who held licences was 671, of whom 392 performed no experiments. The return, giving the names of those licensees who returned experiments, and the number performed by each, is divided, as usual, into two tables for the purpose of distinguishing experiments performed under anaesthesia from those in which anaesthetics were not used. The number in the first category was 1,334; the second is devoted entirely to inoculations, hypodermic injections, and a few other proceedings performed without anaesthesia, and includes 54,208 experiments. The total number of experiments recorded in the two tables was 10,500 less than in 1916. More than 12,000 experiments, about equally divided between the two tables, were performed in the course of cancer investigations; some 19,000 were made on behalf of Government departments and public health authorities; and over 22,600 were for the purpose of preparing, testing, and standardizing serums, vaccines, and drugs. The inspectors frequently visited the various registered places and witnessed a large number of experiments, the visits being made, as a rule, without previous notice. They report that the animals were suitably lodged and well cared for, and the licensees generally attentive to the requirements of the Act and to the conditions attached to their licences by the Home Secretary. Two irregularities only are recorded. The advisory committee appointed by the Home Secretary to assist him with advice in the administration of the Act consists of Lord Moulton of Bank, F.R.S., Sir Anthony Bowlby, Sir John Rose Bradford, Sir Bryan Donkin, Sir Alfred Pearce Gould, Sir Seymour Sharpey, and Mr. Charters J. Symonds.

<sup>1</sup> To be obtained through any bookseller, or directly from H.M. Stationery Office, price 2d.



A brief report by Mr. R. F. Tobin, on the work done in Ireland during 1917, is appended, together with a tabular statement showing the number and nature of experiments performed by each licensee. The number of experiments was 832, of which 720 were simple inoculations; and the inspector records his belief that the holders of licences have obeyed the spirit as well as the letter of the Act, and that experiments were not unnecessarily multiplied.

#### THE NEED FOR MEDICAL ADVICE IN PARLIAMENT.

WE are asked to state that Dr. Addison, Minister of Reconstruction, will speak at a meeting of the medical profession to be held at Steinway Hall, Wigmore Street, London, W., on October 1st, at 5.30, under the chairmanship of Sir Henry Morris. The object of the meeting is to secure the election of representative medical men to the House of Commons so that expert advice may be available on vital questions concerning the national health. All members of the medical profession are invited to attend.

THE *London Gazette* of September 10th announces that the King has appointed Sir Anderson Critchett, Bt., C.V.O., to be Surgeon Oculist in Ordinary, and Mr. Richard R. Cruise, C.V.O., to be Surgeon Oculist Extraordinary to His Majesty. This notification is in substitution of the announcement in the *London Gazette* of July 19th, 1918.

## MEDICINAL OILS AND FATS.

### WAR EMERGENCY MEASURES.

WE have received for publication the following memorandum, addressed to the medical profession, on the measures necessary to meet the existing shortage, or a possible discontinuance of the supply, of lard, olive oil, and castor oil for medicinal purposes.

*Memorandum by the Home Office Committee.*

1. The committee appointed by the Home Office, in August, 1914,<sup>1</sup> to deal with questions of economy in the use of drugs during the war, desire to bring to the notice of the medical profession the present position as regards supply, for medicinal purposes, of lard, olive oil (and certain similar vegetable oils), and castor oil; to invite their co-operation in effecting economies necessary in the national interest; and to submit suggestions for their assistance in this regard.

2. As members of the profession may be already aware, the prior claims, partly of the food supply and partly of munition production, have for some months compelled restriction or even discontinuance of the use of the substances above named for medicinal purposes, and the present position is that: (i) *Lard* is no longer released for medicinal use; (ii) the amount that can be set free for such use of *olive oil* (and of the possible substitutes *sesame* and *arachis* oils) is uncertain; and (iii) little, if any, of the quality of *castor oil* hitherto required for conformity with the Pharmacopoeial standard can be used.

3. To obviate the difficulties that might have arisen through the fact that these substances are ingredients of many official preparations, the General Medical Council, after consultation with the Home Office Committee, directed, in an alteration and amendment of the *British Pharmacopoeia*, 1914 (published in the *London Gazette* of March, 1918),\* that certain preparations be withdrawn from the *British Pharmacopoeia* until further notice, while in the case of other preparations containing oils and fats, the use of various substitutes was sanctioned.

4. By these alterations of the *Pharmacopoeia* considerable latitude was accorded in the dispensing of prescriptions that contained the official preparations affected. It therefore appeared desirable that some understanding should be established between prescribers and dispensers

which should obviate uncertainty, and that this would best be effected by the suggestion of alternative preparations of definite formulae. The Pharmaceutical Society, acting in co-operation with a body of representative manufacturers, and in consultation with the Home Office Committee, undertook the necessary experiments, and have now constructed a set of war emergency formulae which are published by the Society. (*Codex Addendum*, 1918.)

5. The following suggestions are offered for the assistance of practitioners in prescribing, in view of the position as above described.

6. (a) *Lard* can no longer be dispensed either as such or as an ingredient of a prescription. A base consisting of 5 per cent. wool fat, 10 per cent. hard paraffin, and 85 per cent. soft paraffin is on the market, and will, it is believed, afford a suitable substitute for most cases in which lard would previously have been ordered. For some cases the practitioner may find it advisable to modify the proportions of the ingredients named.

(b) Ointments containing lard, or lard and suet, are now allowed to be prepared with wool fat or paraffin, or mixtures of these in place of the lard or lard and suet which may no longer be used. The base described above (named for convenience *Adeps factitius*) has been found to afford a satisfactory substitute in the preparation of these ointments, and war emergency formulae containing it have been constructed. Practitioners will assist by ordering these formulae, except in special cases in which they think it advisable to modify the composition of the base.

7. (a) For *olive oil*, sesame oil or arachis oil may be substituted, but none of these vegetable oils should be ordered avoidably. When required for *external purposes*, a specially prepared mineral oil derived from petroleum (known as *paraffinum liquidum flavum*) is now obtainable, and will in most cases be found to afford a satisfactory substitute.

(b) Four liniments containing *olive oil* have ceased to be official. War emergency formulae, containing the specially prepared mineral oil above mentioned, have been devised; liniments so prepared are on the market, and may be substituted for the former official preparations.

8. (a) For *castor oil* it has been found, as the result of investigations by the Medical Research Committee, that the neutralized seconds castor oil, now recognized by the *Pharmacopoeia* and readily obtainable, affords a satisfactory substitute for the first quality oil hitherto used.

(b) One preparation containing castor oil has been withdrawn—namely, liq. cresol saponatus.

9. For the preparations containing castor oil remaining official—that is, collodium flexile, lin. sinapis, and liq. epispasticus—the neutralized seconds oil will be used by the manufacturer or chemist in place of the oil previously official.

#### Alternative Formulae.

The *Codex Addendum* 1918, referred to in the above memorandum, gives alternative formulae for the medicinal preparations containing lard or vegetable oils which have been officially withdrawn as an emergency measure from the *British Pharmacopoeia* 1914, or are now modified therein. It was published in full in the *Pharmaceutical Journal* of August 31st.

The four liniments containing olive oil which have ceased to be official are linimentum camphorae, linimentum chloroformi, linimentum hydrargyri, linimentum terebinthinae aceticum, and alternative war formulae for them are given in the *Codex Addendum*. The war emergency formula for *liquor cresol saponatus* contains linseed oil in place of castor oil. With regard to ointments, lard substitute (*adeps factitius*) is considered suitable for use in place of prepared lard in making *adeps benzoatus* and the following unguenta: *Aconitini*, *atropini*, *cocaini*, *iodoformi*, and *lanae compositum*. Benzoated lard made from lard substitute is suitable for use in the following official unguenta: *Cantharidini*, *gallae*, *hydrargyri ammoniati*, *hydrargyri iodidi rubri*, *hydrargyri oleati*, *hydrargyri subchloridi*, *myrobalani*, *plumbi iodidi*, *potassii iodidi*, *staphysagriae*, *sulphuris*, and *zinci*. No alternative formula is suggested for *unguentum hydrargyri nitratis*. Lard substitute is further proposed to be employed in the preparation of the following unguenta: *Belladonnae*, *capsici*, *hydrargyri*, *hydrargyri compositum*, *iodi*. The substituted formula for *unguentum picis liquidum* is identical with that of the official preparation except that yellow soft paraffin takes the place of prepared lard. In *unguentum resinae* lard substitute may be used instead of the mixture of yellow beeswax, olive oil, and prepared lard of the Pharmacopoeial ointment. Lastly, the *Codex Addendum* gives the characters and tests of the mixture of liquid hydrocarbons known in the war emergency formulae as *paraffinum liquidum flavum*.

The *Addendum* is published under the direction and by the authority of the Pharmaceutical Society, which alone is responsible for the formulae and for the publication of them in or through the *Pharmaceutical Journal*.

<sup>1</sup> The present members of the committee are as follows: Dr. J. Smith Whitaker, of the National Health Insurance Commission (chairman); Sir Thomas Barlow, Bt., K.C.V.O., ex-President R.C.F., Consulting Physician, University College Hospital; Dr. Alfred Cox, O.B.E., Medical Secretary of the British Medical Association; Dr. E. Rowland Fothergill, Member of the Council of the British Medical Association; Dr. B. A. Richmond, Secretary of the London and Country Committee; Dr. F. J. Smith, Physician, London Hospital; Dr. W. Hale White, Physician, Guy's Hospital. The secretary is Dr. E. W. Adams, Medical Officer of the National Health Insurance Commission, late Lecturer in Pharmacology, University of Sheffield.



# THE WAR.

## CASUALTIES IN THE MEDICAL SERVICES.

### ARMY.

#### *Killed in Action.*

MAJOR F. N. JOHNS, M.C., N.Z.M.C.

Major Frederick Noel Johns, M.C., New Zealand Medical Corps, was killed in action on August 25th, aged 30. He was the elder son of F. J. Johns, of Wanganui, New Zealand, and was educated at Edinburgh University, where he graduated M.B. and Ch.B. in 1913. He received the Military Cross on January 1st, 1918.

#### *Died on Service.*

MAJOR W. A. WARD, R.A.M.C.

Major William Alfred Ward, R.A.M.C., died suddenly at Wellesley House Hospital, Aldershot, on August 30th, aged 50. He was born at Southampton on October 8th, 1867, and educated at the Middlesex Hospital, taking the L.S.A. in 1892 and the M.R.C.S. and L.R.C.P.Lond. in 1893. After acting as casualty medical officer and house-physician at Middlesex Hospital, he entered the R.A.M.C. as surgeon-lieutenant on January 29th, 1896, becoming captain on January 29th, 1899, and major on January 29th, 1908. He was recently employed as specialist in dermatology for the London district. He served in the South African war 1899-1902, in the operations in Natal in 1899, the actions at Rietfontein and Lombard's Kop, and the defence of Ladysmith, including the sorties of December 7th and 10th, 1899; and in operations in 1900-1902 in the Transvaal, the Orange River Colony, and Cape Colony; was mentioned in dispatches in the *London Gazette* of September 10th, 1901, and received the Queen's medal with four clasps and the King's medal with two clasps.

CAPTAIN F. J. AYRE, R.A.M.C.

Captain Frederick John Ayre, late R.A.M.C., died at Mundesley Sanatorium on August 10th of tubercle contracted on active service. He was educated at St. Mary's Hospital, where he gained an entrance scholarship in natural science and the first year scholarship in general proficiency, and took the L.S.A. in 1896, also subsequently the M.R.C.S. and L.R.C.P.Lond. in 1907, and the D.P.H. of the London Colleges in 1913. After acting as medical officer to the Elm House Industrial School for Girls at Parson's Green, he went into practice at Llantwit, Glamorgan, where he was Admiralty surgeon and agent and surgeon to Trinity House. He took a temporary commission as lieutenant in the R.A.M.C. about two years ago, and was promoted to captain on completion of a year's service, but had to resign recently on account of ill health contracted on service.

Captain and Quartermaster A. F. Marshall, Canadian Army Medical Corps, was reported as having died on service, in the casualty list published on September 5th.

#### *Wounded.*

Lieut.-Colonel A. H. Habgood, D.S.O., R.A.M.C.(S.R.).  
Major A. D. Stirling, D.S.O., R.A.M.C.  
Major A. G. S. Wallace, M.C., R.A.M.C.(S.R.).  
Captain D. J. Evans, R.A.M.C. (temporary).  
Captain J. L. Mackay, M.C., Australian A.M.C.  
Captain W. D. Newland, R.A.M.C. (temporary).  
Lieutenant W. M. Heald, R.A.M.C. (temporary).  
Captain and Quartermaster H. J. Polhill, R.A.M.C.

#### *Prisoner of War.*

Captain and Quartermaster J. D. Genese, R.A.M.C.

#### ERRATA.

The official casualty list published on August 24th contained the name of Captain J. Jaffé, R.A.M.C., reported as killed in action. Captain Joseph Jaffé graduated M.B., Ch.B. at the University of Aberdeen in 1913, and before joining the R.A.M.C. was in practice at Addo Station, Uitenhage, Cape Province, South Africa. He took a temporary commission on May 13th, 1916, and was promoted captain after a year's service. He was attached at

the time of his death to the Somerset Light Infantry. We regret that in our obituary notice of Captain Jaffé on September 7th particulars were given of the career of Dr. Jacob Jaffé of Stoke Newington, who, we are glad to learn, is alive and well. In the same issue a similar mistake, due to identity of names, was made in the case of Major John Proctor, R.A.M.C., who died of wounds on August 12th. Major Proctor graduated, as stated, at Aberdeen in 1913, but did not hold the civilian posts attributed to him.

#### DEATHS OF SONS OF MEDICAL MEN.

Carter, Andsley Ralph, Major Royal Garrison Artillery, attached Royal Air Force, third and youngest son of Dr. Godfrey Carter of Sheffield, killed August 28th, aged 24. He entered Woolwich in March, 1911, got his commission in 1913, went to France with a heavy battery in the autumn of 1914, and had been through most of the fighting there in the past four years.

Gerrard, J. M. H., Second Lieutenant Royal Field Artillery, eldest son of Major-General Gerrard, A.M.S., died on August 28th of wounds received the same day. He was educated at Ampleforth and at the Royal Military Academy, Woolwich; got his commission on June 5th, 1918, and went to France immediately after.

MacGregor, Donald Hamilton, Second Lieutenant Gordon Highlanders, only son of Dr. MacGregor of Jedburgh, killed August 23rd.

Sandoe, C. F., M.C., Captain Duke of Cornwall's Light Infantry, second son of Dr. J. W. Sandoe of Broad Clyst, Exeter, killed August 30th, aged 20. His elder brother, Second Lieutenant M. W. A. Sandoe, Devon Regiment, was killed in action on May 9th, 1917, aged 21.

Dr. W. Ainslie Hollis, Brighton, late President of the British Medical Association, has received information from the War Office that his son, Major H. S. Hollis, R.A.M.C.(T.F.) has been wounded.

#### MEDICAL STUDENT.

Sheridan, Charles J. G., Second Lieutenant Royal Air Force, killed recently, was a medical student at Glasgow University before joining.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]

#### HONOURS.

MAJOR-GENERAL W. G. A. BEDFORD, C.B., C.M.G., A.M.S., has been appointed an Additional Member of the Second Class, or Knights Commanders, of the Order of St. Michael and St. George, for services rendered in connexion with the war.

The following awards have been made for distinguished and gallant services rendered on the occasion of the destruction or damage by enemy action of hospital ships, transports, and store ships:

D.S.O.—Temporary Lieut.-Colonel A. G. P. Gipps and Major R. B. Purves, R.A.M.C.  
Military Cross.—Temporary Captains P. L. T. Bennett and H. W. Hodgson, R.A.M.C.

The following awards have been made for distinguished services in connexion with military operations in Egypt and Hedjaz:

To be Brevet Major.—Captain (temporary Major) W. E. Marshall, M.C., R.A.M.C.  
D.S.O.—Major W. McConaghy, R.A.M.C.

The following awards have been made for services rendered in connexion with military operations in East Africa:

C.M.G.—Lieut.-Colonel P. W. O'Gorman, I.M.S.; Lieut.-Colonel R. Tilbury Brown, D.S.O., R.A.M.C. (The brevet promotion for Lieut.-Colonel R. T. Brown, published in the *London Gazette* of January 1st, 1918, is cancelled, and the above award is substituted.)  
D.S.O.—Major R. S. Kennedy, M.C., I.M.S.

#### OFFICERS MENTIONED.

The names of the following officers of the R.A.M.C. have been brought to the notice of the Secretary of State for War for valuable services rendered on the occasion of the sinking or damage by enemy action of hospital ships, transports, and store ships:

Lieut.-Colonel H. S. Anderson, C.M.G.  
Temporary Lieut.-Colonel A. G. P. Gipps.  
Major and Brevet Lieut.-Colonel J. C. Furness, (S.R.), (deceased).  
Temporary Captain (acting Lieut.-Colonel) W. Penberthy.  
Majors: W. S. Crosthwaite, J. H. E. Priestley, C.M.G., R. B. Purves.  
Temporary Majors W. D. Home and G. S. Samuelson.  
Captain C. E. W. Wilmot.  
Temporary Captains: P. L. T. Bennett, T. L. Butler, E. G. Fenton, J. H. Glover, P. Gully, H. W. Hodgson, H. E. Moore, J. L. Rentoul, J. Robertson, R. A. Shekleton, H. Slater, T. Tierney.  
Temporary Lieutenant: R. H. Thompson.  
Quartermaster and Honorary Captain: J. T. Starkie, M.C.



## England and Wales.

### NATIONAL INSURANCE IN LONDON.

FROM the accounts of the Panel Committee for the medical year 1917, set out in the *London Panel Committee Gazette*, it appears that the total receipts amounted to about £2,424, and after paying salaries and all expenses there remained a balance of about £110. A certificate from two panel practitioners is added giving their opinion that "the expenditure has been conducted with all due care and economy." There has been no expression of opinion to the contrary, and the Commissioners have extended the life of the Panel Committee for another year. The Committee announces that it can take no official action to obtain direct representation in Parliament of the London panel profession.

Dealing with the treatment of tuberculosis, the Committee urges panel practitioners to assume their proper responsibility for the domiciliary treatment of tuberculous insured persons, as grave disadvantages may accrue to the profession should there be any apparent shirking of this responsibility. The doctors should advise all cases of tuberculosis to apply for sanatorium benefit. At a conference between a subcommittee of the Panel Committee and the tuberculosis adviser of the London Insurance Committee it was stated that there are now about 230 cases waiting for sanatorium beds, as compared with about 500 a few months ago, and whereas a wait of four to six months had been the rule, this, owing to certain administrative changes, had been reduced to about two months. Practitioners are specially requested to classify cases as far as possible so as not to recommend unsuitable cases for treatment in a sanatorium, remembering that the sanatorium is not intended for advanced cases, but only for those that are curable. It is understood that discharged soldiers have a priority over civilians, but in practice both classes have about an equal chance of admission. As to the treatment after discharge from a sanatorium, the tuberculosis dispensaries should be defined as centres for consultation between the tuberculosis officers and the practitioners in charge of the cases. The medical adviser pointed out that the value of domiciliary treatment was diminished by the housing and social conditions of the insured, and practitioners were urged to interest themselves in these points, and to furnish any information they might obtain. It is hoped that in this and other ways panel practitioners will co-operate as far as possible with the medical adviser and the dispensaries. An interesting memorandum by the medical adviser on social conditions among the tuberculous insured will be found in the *National Insurance Gazette*.

Discussing the question of the provision of serums and vaccines for insured persons, it is announced that the Panel Committee and the Local Medical Committee have passed resolutions to the effect that while the preparation of autogenous vaccines does not fall within the scope of a general practitioner of ordinary competence and skill, the administration does so fall, and, further, that the cost of such vaccines ought not to be borne by the Drug Fund, but should form part of medical benefit.

Attention is called to the need for an exact observance of the rules of certification, especially as regards the avoidance of the antedating of certificates and the giving of final certificates after work has been resumed.

### CARE AND TRAINING OF DISABLED MEN IN BIRMINGHAM.

The Birmingham War Pensions Committee has established a very efficient organization for the care and training of disabled soldiers. From a recent article in the *Birmingham Post* we learn that since the war began down to June last 14,600 Birmingham men have been discharged as disabled or physically unfit. Of this number 5,543 have been treated either as in-patients or out-patients, by arrangement made between the Citizens' Committee (which is the local War Pensions Committee) and the civil hospitals, the V.A.D. hospitals, convalescent homes, and the Special Pensioners' Hospital. Of this number about 4,000 have been discharged in the best attainable condition. Speaking generally, a thousand men are always under treatment locally. Of the number who have passed through local institutions close upon a thousand have

received training to undertake work in various callings, and it is estimated that about 800 have thus been converted into useful and self-supporting citizens. Courses of training for various trades and callings are arranged, and for this Birmingham, with its variety of industries, affords excellent opportunities. Among the trades taught are art metal work, architectural drawing, badge and button making, basket-making, boot-making and repairing, brasswork, cabinet making, carpentry, cinematography, dental mechanics, diamond cutting, electrical engineering, leather work, piano tuning, and printing. Training is also given in accountancy and clerical work. When a man is discharged he is taken in hand by the Training Subcommittee, which includes members representative of almost every large trade in the district and of various trade unions. The Pensioners' Hospital in Lodge Road was opened about a month ago; it is established in the old City Hospital, which was placed at the disposal of the Ministry of Pensions by the Birmingham corporation. Patients are received not only from the city, but from the counties of Warwick, Worcester, Stafford, and Shropshire, on the recommendation of the various local Pensions Committees. Two blocks are at present in use containing 50 beds, and this accommodation will shortly be increased to 200. Of the 50 beds, 36 only are at present in use, but when the institution is better known, and the Pensions Committees in the adjoining counties exercise fully their powers of nomination the whole of the accommodation at the hospital will probably be utilized. The cases taken are both medical and surgical. In the surgical department there is need for a larger operating theatre. The resident medical officer is Dr. Russell Harper, Major Lucas, surgeon to the General Hospital, is consulting surgeon, and Dr. Walter Jordan consulting physician. The Inter-Allied Exhibition, showing methods adapted for the after-care of disabled men, was opened by the Minister of Pensions on September 9th, and a conference was held on the four succeeding days, at which discussions took place on the training and after-care of disabled men and their place in industrial life.

### PROPOSED UNIVERSITY OF THE EAST MIDLANDS.

An article in a recent issue of *Nature* conveys the impression that considerable progress has recently been made towards the establishment of a university of the East Midlands. The movement started some years ago in connexion with University College, Nottingham, and the proposed university would have its foundation in that institution. It is, however, anticipated that neighbouring cities and counties would enter into a federal relation through the development of existing educational institutions and the establishment of new. The Agricultural College maintained jointly by the councils of the East Midlands at Kingston, near Loughborough, is marked out for the agricultural faculty, and it is believed that the close proximity of Leicester and Derby will make it easy for the services of professors and lecturers to be shared. The corporation of the city of Nottingham, which founded the University College in 1881, is ready to hand over the present site and buildings, estimated to be worth £200,000, and to make a permanent annual grant of £15,000 when the university charter is granted. Nottinghamshire County Council has promised a grant of £5,000 a year under similar conditions. Neighbouring authorities are friendly to the scheme, and the mayor of Nottingham has undertaken to raise an endowment fund of £150,000. It is hoped that the new university will not only further the application of science to industry, but will embody the spirit of humanism by working in close touch with the artisan classes, and especially with the Workers' Educational Association.

## Scotland.

### INCORPORATED SANITARY ASSOCIATION OF SCOTLAND.

THE forty-fourth annual congress of the Incorporated Sanitary Association of Scotland was held last week at Stirling. On September 5th a discussion on the proposed Ministry of Health was opened by Dr. A. Campbell Munro, county medical officer, Renfrewshire. Scottish business in the past, he said, had been neglected or



retarded largely because the Secretary for Scotland was not a member of the Cabinet; by increasing the importance of the office the Secretary would be in a position to press, within the Government, the requirements of a Ministry of Health which should embrace all matters predominantly concerned with the prevention of disease. It was resolved to recommend that a Ministry of Health for Scotland should be established as part of its local government administration, distinct from that proposed for England, with the Secretary for Scotland nominated as Minister of Health, and assisted by a parliamentary secretary in subordinate charge. On September 6th a paper by Dr. Edward McConnell of Glasgow, on the State and prenatal care, was read by the secretary, and formed the opening contribution to a discussion on certain phases of maternity and child welfare. Dr. McConnell moved a resolution that, in view of the loss of infant life in the cities, towns, and populous districts in Scotland, the Government be requested to appoint a Royal Commission to inquire into the whole subject of prenatal conditions so far as they operate adversely upon infant life in Scotland, and to report thereon. The resolution, which we are glad to note was subsequently adopted by the Congress, was supported by Dr. J. W. Ballantyne (Edinburgh), whose remarks were read to the meeting. He emphasized the need for what he would call for the sake of brevity a Royal Commission on Antenatal Pathology and Hygiene, on which the medical profession should be strongly represented in all its departments. The inquiry should include investigation of the real causes of the deaths (before and after birth) which are at present ascribed to prematurity or to immaturity; the definition, notification, and treatment of stillbirths; the results and possibilities of mother welfare work; the special instruction and examination of medical students in antenatal pathology and hygiene; and the antenatal problems of syphilis and of racial poisons in general. Dr. Ballantyne maintained that the results to be expected from such a Commission would be of great value and wide extent.

#### THE LATE DR. MARGARET TODD.

Dr. Margaret Todd, who died recently in a London nursing home, was better known to the lay public as "Graham Travers," the author of *Mona Maclean* and other novels; but to the medical profession her most important literary work was the biography of Dr. Sophia Jex-Blake, which was published this year and reviewed in the *JOURNAL* of August 10th. She was the daughter of James Cameron Todd of Glasgow and Rangoon, and was born in 1859. After studying at the Edinburgh School of Medicine for Women and at Glasgow, she qualified in 1894, and in the same year obtained the M.D. (Brux.) degree. For a time Dr. Margaret Todd was assistant physician to the Edinburgh Hospital and Dispensary for Women and Children. Her first and most famous novel, *Mona Maclean*, was published twenty-six years ago, while she was still a student, and was largely based on her knowledge of the life of women medical students in the early nineties. The life of Miss Jex-Blake—an able and exhaustive piece of biography—made no reference to the author's own place in the affections and life work of her friend, and this omission is the more to be regretted now that death has closed the careers of both.

## Ireland.

#### POOR LAW MEDICAL OFFICERS' SALARIES.

THE Local Government Board for Ireland has written to the Balrothery guardians relative to a resolution passed by the guardians requesting sanction of an increase of £50 a year to each of the dispensary medical officers of the union. The Local Government Board adhered to the opinion expressed in a previous letter, that the staff of six medical officers was, in the present circumstances, too many for the Balrothery union. A reduction of the staff might be effected without inconvenience to the sick poor or interference with the vested rights by abolishing the now vacant medical officership of the Lusk dispensary district, and the Board urged this course in the interests also of the medical officers, so that their districts might be enlarged to normal size, and their opportunities

for private practice thereby improved. Meanwhile, the letter proceeded, the Local Government Board, in order to meet the exigencies of the case, has sanctioned the increase of £50 to each of the doctors. The Board also requested that the guardians should press the medical officers to act as substitutes for one another temporarily, when so required, at a fee of £4 4s. per week. The guardians decided to refer the last request made by the Board to the doctors concerned for their opinion.

Dr. Stephenson, Local Government Board inspector, has informed the Bawnboy board of guardians that unless steps are taken to remove the deadlock between themselves and their doctors, who have refused to discharge their usual duties, the Local Government Board would have to intervene and fix the salaries by applying for an order to the King's Bench.

Graded scales of salaries with a maximum of £250, applied retrospectively, have been approved by the Gorey, Wicklow, and Ennis board of guardians.

## Canada.

#### MEDICAL WEEK.

IT has already been mentioned that a number of medical and public health associations met during the same week in Hamilton, Lake Ontario. Among the meetings was a joint assembly of the Ontario Medical Association and the Canadian Medical Association. The address in medicine was given by Dr. Lewellys F. Barker, of Johns Hopkins University, who, in dealing with the significance of heart murmurs found on examination of candidates for military service, laid particular emphasis upon the condition of the heart muscle and its ability to bear strain as being the factor of prime importance in the examination of such candidates; heart murmurs might or might not be of significance, although a careful study of them should not be neglected. The address in surgery was delivered by Dr. Charles H. Mayo, of Rochester, N.Y., who spoke on cancer and its treatment. Dr. Mayo referred to the increasing prevalence of this disease in the United States, and declared that 200,000 cases existed in that country, 80,000 people dying from it each year. Dr. Joseph De Lee, of Chicago, in the address in obstetrics, dealt with the methods of reducing fetal mortality, with special reference to the newer methods of Caesarean section. Asthma in infancy and childhood was the subject of the address in pediatrics, which was given by Dr. Isaac Abt, of Chicago. A number of interesting papers were read and were followed by discussions. Treating of surgery of the colon, Dr. McGuire, of Buffalo, expressed himself as strongly in favour of resection. On June 1st a combined medical and surgical clinic was held at the new hospital recently erected on Mount Hamilton.

The conference was an unqualified success from every point of view and the executive of the Ontario Medical Association is to be congratulated. Contributions were of a high scientific order, and discussions were general and of great interest. Mention should also be made of the museum collection and clinical laboratory contributed by the universities of McGill, Toronto, Queen's, and Western, and the Canadian Army Medical Corps, which included specimens showing different types of war wounds, which form the nucleus of a Canadian war museum. Of interest also were a number of orthopaedic appliances for the treatment and training of returned soldiers, which were sent from Hart House, Toronto University. The moving pictures which were shown daily added to the attractiveness and interest of the meetings.

#### NATIONAL COMMITTEE FOR MENTAL HYGIENE.

The Canadian National Committee for Mental Hygiene has been formed to work for the conservation of mental health, and for improvement in the care and treatment of those suffering from nervous or mental deficiency, and for the prevention of these disorders; to conduct or to supervise surveys for the care of those suffering from mental diseases or mental deficiency; and to co-operate with other agencies which deal with any phases of these problems.

The Committee, while not affiliated with the American National Committee for Mental Hygiene, will be conducted



along the same lines, and 50,000 dollars have already been contributed. The establishment of this committee is in great part due to the efforts of Dr. Clarence M. Hincks, of the University of Toronto, who has succeeded in co-ordinating the various individual groups working along the same lines.

#### ADMISSION OF WOMEN STUDENTS OF MEDICINE.

The Corporation of McGill University has formally approved a recommendation made by the Faculty of Medicine, that women should be admitted to the study of medicine provided they have completed the first and second years in Arts at McGill University, have taken an Arts degree from a recognized university, or are prepared to take the double course of B.A. and M.D. or B.Sc. and M.D. at McGill. Women students are now admitted also to the medical faculties of Toronto, Queen's, and the Western Universities.

A department of social service and a school for physical training for masseuses has been inaugurated at McGill University. It is probable also that a school for the training of nurses will shortly be established, and the establishment of a course of instruction for nurses in anatomy, physiology, and materia medica is at present under consideration.

## Correspondence.

### RECRUITS WITH DOUBTFUL HEART CONDITIONS.

SIR,—In the second of the valuable reports upon this question by Dr. Russell Wells,<sup>1</sup> Dr. Wells kindly alludes to my views on chorea, and writes thus: "Some writers following Poynton," etc. I should not for a moment desire to claim any priority for the view expressed as to the rheumatic nature of chorea. I was taught it by Dr. Cheadle, Sir Dyce Duckworth, Sir Thomas Barlow, and others of senior standing to myself. In France also the view dates back many years. My only claim for consideration lies in the evidence Dr. Paine, Dr. Gordon Holmes, and I brought forward to explain the association. This was briefly: (1) Demonstration of the strepto-diplococcus in the meninges and connective tissue of the brain in the region of the blood capillaries. (2) The isolation of the micro-organism from the cerebral tissues and the production of other rheumatic lesions when it was intravenously injected. (3) The production of choreiform movements. (4) The demonstration of morbid changes in the cerebral nerve cells.

I suppose no greater experiment on the importance of fright as a primary factor has been attempted on man than the London air raids. Yet there is no evidence that chorea has notably increased. It is more than probable that other infections may rarely produce chorea—for example, congenital syphilis and tuberculosis. Can any other agent than an infection produce chorea is the problem which it is so difficult to decide and yet so important to settle. If shock can do so, then in the future one sees some hope of studying the chemistry of shock through a deeper knowledge of the exact nature of the rheumatic poisons.—I am, etc.,

London, W., Sept. 6th.

F. JOHN POYNTON.

### MEDICAL EDUCATION IN ENGLAND.

SIR,—Many years of teaching experience in a medical school make me endorse the conclusions of Sir George Newman's memorandum to the Board of Education in reference to the preliminary sciences—namely, (a) that these should form part of a post-school medical curriculum (p. 26), (b) that their syllabus cannot be materially reduced without detriment (p. 28). The right way to ease the student's "burden" is not to give him a preliminary canter in these sciences at school, but to so extend his mathematical and literary equipment there that he will know something of the language of these sciences when he begins their study. At present this preliminary equipment is in most cases so inadequate, or unsuitable, that the student is in the position of a reader who attacks a book in a foreign language which he has never learnt; it is the

use of the dictionary which he finds burdensome, and even with that the progress is slow. The statement that a property of an element is a periodic function of its atomic weight should illuminate his chemical path at once, but it often bewilders him because he has no idea what a function of a variable is. The logical deduction of such important conclusions as  $\frac{VP}{T}$  is constant, or  $\frac{P}{Ma}$  is constant,

from the experiments is only difficult because he has not learnt the proposition in variation which sanctions the deduction. The convenient notation of the differential calculus is rapidly becoming part of the alphabet of science; the student should learn at school to use this fluently and to differentiate and integrate simple functions with respect to one variable; his preliminary equipment should also include sufficient dynamics and hydrostatics to follow easily an account of the kinetic theory of gases, osmotic pressure, etc. It seems superfluous to say that his literary education should have made him quite conversant with the prefixes and suffixes of classical origin which abound in the vocabulary of science and medicine, yet many students have assured the writer that the lack of this education proved a real obstacle to their progress!

I have only space to indicate a few educational lacunae which the secondary schools could, and should, fill; by filling them they would do the student a real service. The preliminary canter in chemistry, etc., does not prove to be of great use: for some reason or other, students who have not had this canter often by the end of the first year reach a higher standard in the science than those who have had a school course. Moreover, in the study of science the initial point of view is so important that every teacher likes to begin *de novo*. The general principles of every science must be exhibited in illustrations and, when the science is part of a professional curriculum, the interest and progress of the student is most easily secured by illustrations which have some professional flavour or application. These, however, are only suitable when the audience is practically homogeneous: that can only be expected in a medical school. I incline to think, too, that school teaching, necessarily more dogmatic in type, is more suitable as a vehicle for the exact science of mathematics than as an instrument for the development of the open mind so essential to a medical man.—I am, etc.,

London, W.C., Aug. 30th.

HUGH C. H. CANDY.

### MEDICAL REPRESENTATION IN PARLIAMENT.

SIR,—The decision of the British Medical Association to further the candidature for Parliament of approved medical men, and the appointment of a Parliamentary Elections Committee, is gratifying to many of us who for years have taken special interest in public affairs, including those affecting the profession. The composition of the committee, however, as announced in last week's SUPPLEMENT to the JOURNAL, excellent as it is, calls for one comment. In addition to the woman member and the four *ex officio* members, fourteen men have been selected, most of whom live in London, several being consultants. There appear to be only three typical general practitioners from the provinces.

To ensure the success of the movement, and of the proposed financial appeal, it would seem advisable for the committee to meet without delay and promptly to co-opt four representative general practitioners of repute (outside London) who will command the confidence and esteem of their provincial colleagues.—I am, etc.,

Bilston, Sept. 10th.

T. RIDLEY BAILEY.

### THE TREATMENT OF SCARLET FEVER.

SIR,—The note in the JOURNAL of August 24th on a circular letter from the medical officer of health embodying a request made by the Metropolitan Asylums Board that mild cases of scarlet fever and "bacteriological diphtheria" should be treated at their own homes, thus leaving beds available for more serious cases, raises a number of questions. You state certain of these, perhaps the most urgent; but you ignore one which asks itself, week in, week out, year after year, to practitioners and parents and the public generally, one which threatens the foundations upon which our isolation hospitals are built, one which leaps from the request of the Asylums Board—How should cases of scarlet fever "be treated in their own homes"?

<sup>1</sup> BRITISH MEDICAL JOURNAL, September 7th, p. 248.



It appears to me that the present difficulty in regard to hospital accommodation offers the profession in the London area a splendid opportunity to prove that more things are wrought by drugs than the newest school of medicine dreams of. It is the fashion to scoff at physic, and in many hands (ready and skilful enough in other emergencies) the treatment of scarlet fever has declined into what their owners would reckon "a wise and masterly inactivity"—symptoms are treated as they arise—and six weeks of seclusion end in vague hopes that the hash of one colony of microbes has been effectually cooked, or in dogmatic assurances which too often prove unfounded. There are many ways to treat scarlet fever; most of them claim but little in the line of striking results, and a glorious uncertainty attends their issue: there is one method—only one that I know of—which frames big promises, and generally makes good. That is the Milne method. It is begun the moment the case is diagnosed—sooner if there be reasonable grounds for suspicion. The patient is rubbed with pure eucalyptus oil carefully all over the body, from the crown of the head to the soles of the feet, both morning and evening, for the first four days, then once daily until the tenth day; the throat is swabbed with carbolic oil, 10 per cent., every two hours for the first twenty-four hours. At first the diet is soda-water or hot water and milk in equal quantities; in a few days light diet is allowed; and by the tenth day ordinary meals. For three weeks care must be taken to avoid cold, and patients must be warmly clad. "When the patient is moved from one bed to another before the treatment is used, then the first bed and bedding should be disinfected. The same applies to clothes the patient may have been wearing before the treatment." Otherwise nothing need be done—"clothes, toys, books, etc., are harmless."

That in outline is the whole affair—simple to a fault; but it works, as many a man who tried it incredulously has been forced to confess. Years of experience of the method have only confirmed my faith in it. Sometimes I have tampered with the original prescription to the extent of substituting for the detested oil swabbing a throat spray of paroline and medical izal, and the results have proved unfailingly satisfactory—cases have run an easier course than seems possible by any other plan, and infection has ended with the inception of treatment. I cannot say that severe symptoms and complications are impossible, but they more rarely happen. From the purely selfish aspect, what a comfort for the medical man abides in this method's solution of the infection question! Visit your scarlet fever patient when you like, you carry no mischief into other houses; if but the simple necessities of this treatment be observed, a patient's home and its members cannot menace the community. At the period when, attending my own child in my own home for scarlet fever, I put this method to the sincerest test, I had to manage a difficult first labour. Explanation was made to the patient and the alternative of another practitioner offered, even urged, but she insisted. So I went. The case necessitated a long chloroform anaesthesia, instruments proved ineffectual, and finally podalic version had to be done. Mother and baby did well. Neither in that case nor in a couple of other cases attended during the same period was there any rise of temperature, and I practically lived in the fever room at the time.

If a general confidence in the method could be established and the treatment carried out efficiently on the largest scale, two notable results would follow—(1) the liberation of very many big hospitals for military or other purposes, and (2) the saving of much public and private expenditure at a time when such economy is a national duty.—I am, etc.,

Belfast, Sept. 3rd.

ROBERT WATSON.

#### THE LABOUR PARTY AND THE MEDICAL PROFESSION.

SIR,—I have pleasure in replying succinctly to Dr. Brackenbury's courteous but searching inquiries.

Speaking for myself, but believing that I express also the opinions of the Labour party, I am wholly in favour of all the work of the medical profession which is paid for or aided from public funds, or of which the State takes any cognizance, being placed under the Ministry of Health, for the counsel and criticism of which there should be a statutory advisory medical committee. I do not under-

stand how it can be suggested that all the medical staffs can be "amalgamated" into a single staff, whether whole or part time, paid by salary or otherwise. But it seems to me that all branches of medical service should be effectively open to—and should, in fact, be recruited from—all kinds of duly qualified medical practitioners. There has been in the past too much separation, too much segregation, and too much virtual exclusion. There should be in future the closest possible relation ("co-ordination" is not enough) between the various services, whether central or local; clinical or preventive; institutional or domiciliary; in connexion with maternity centres, schools, hospitals, and the manifold duties of local public health departments or with the treatment of the individual patient, under the Insurance Act or otherwise.

Similarly, I think that in each locality all such forms of "public" medical service should come under the supervision of a single local health authority, upon which the medical profession of the locality should be entitled to representation, and for the counsel and criticism of which there should be, in addition, a statutory advisory medical committee made up of the local practitioners of all kinds.

I do not see how it is possible to make the medical profession, thus organized in the public service, either wholly full-time salaried, or wholly part-time salaried, or wholly fee-paid; wholly paid from the taxes, or from the rates and grants in aid, or from an insurance fund, or by the individual patients. This is equally the case whether we consider the Ministry of Health or the local health authorities. Let me say specifically that a universal whole-time salaried service, where no medical practice would be carried on by independent practitioners freely serving their own patients in their own way, is as inconceivable by me under the local health authorities as under the Ministry of Health.

But it is plain that there will have to be some increase of the various whole-time salaried services (whether, in the improvement of medical education, of professors and lecturers in the medical schools, of medical officers of health and other administrators of county and municipal health services, of resident officers of institutions, of medical officers of various kinds in the Ministry of Health, or what not). It is equally plain that there will need to be in the new services (if only by the absorption of the 4,000 Poor Law district medical officers) a great many part-time salaried medical posts of various kinds. It is no less certain that the very early increase in scope of the work now performed under the Insurance Act, notably in the rural districts, will necessitate a great increase in that part of the medical work of the general practitioner for which he will not be dependent on the fees that he can collect from his patients; and no other arrangement for the public payment that will have to be made to him seems practicable, at least over the greater part of the kingdom, than either a part time stipend, or some form of fee per capita, or per act of service—not, I hope, so complicated and inequitable as the present panel practice payments.

What has to be worked out—and this, I think, should be done by the medical profession itself—is the plan of co-ordinating all these different forms of the medical service for which the central and local governments will be responsible. The one thing I see clearly is that no simple or universal phrase or formula will suffice.

I entirely agree that it should be an essential part of the work of Government to maintain a central department of medical research and statistics; and that this should be quite independent of the administrative services, and not form a part of the Ministry of Health, or of any other executive Ministry. At the same time, this must not preclude the Ministry of Health from itself carrying out medical researches in matters arising out of its administration—so to speak, of "topical" character—as the Local Government Board now so usefully does; and, of course, the medical experts of the Ministry of Health would have to be in the closest possible touch with the independent Department of Medical Research. It must be remembered, too, that this independent Department of Medical Research, of which we have already the beginning under Sir Walter Fletcher, must, according to the British Constitution, be answerable to some Minister, who can speak for it in Parliament. It has been suggested that there should be, in the reorganization of government now pending, a distinct



Minister of Research, unconnected with any administrative department, who would answer for all the various central Research Departments that will be maintained, whether in mechanics, physics, chemistry, biology, medicine, industrial technology, the technique of administration, economics, statistics, or history.—I am, etc.,

London, S.W., Sept. 10th.

SIDNEY WEBB.

### THE FUNCTION OF THE CARDIAC VAGUS.

SIR,—Few physiological problems seem so confused as that of inhibition. It occurred to me some time ago that this was due to the rash acceptance of the Weber brothers' theory of the function of the cardiac vagus. Professor Keith now tells me that H. O. Thomas, a worker at last coming into his own, had expressed the same opinion. It seems that we both inferred from different premisses that phenomena due to experimental stimulation of the vagus were the result of shock and could not be explained as inhibition. Sherrington in 1906 used the phrase "inhibition, whatever that may be," and it is certain no one knows.

To believe that any organism has evolved a mechanism by which the heart can be slowed and finally stopped is absurd. It is reasonable to suppose that the vagus and accelerator fibres are of advantage and act as a safeguard. This cannot be tested by operation and unnatural stimulation or by putting pressure on the vagus, disturbing the cerebral circulation, and producing abnormal phenomena. During complete healthy rest the heart is practically autonomous; we can therefore infer that the vagus and accelerators help it during stress. Such considerations go to prove that the vagus does not primarily tend to "slow" the heart. Physiological slowing is but the natural concomitant of better functioning, just as the big muscular efforts of a labourer are, and must be, slow if continued. Thus, under stress the vagus tends to produce the effects seen on the exhibition of digitalis, which can reasonably be inferred to slow the heart by enabling the myocardium to function better. If this is so, shock experiments are not relevant. It seems that physiological vagus action produces more powerful cardiac contractions, which increase coronary circulation and keep the central nervous system blood pressure normal. Probably the stimulus affecting the vagus depends on its increased irritability consequent on a lessened blood supply. This view puts its cardiac action into line with its positive effects on the intestine. It follows that the action of the accelerators is to keep the circulation normal when the heart is no longer able to respond to the vagus by longer, and stronger, and slower contractions, but is still capable of quick, hurried work. If these views are correct, "inhibition" exists only in the casualty ward or laboratory, where shock accounts for the phenomena. I find H. O. Thomas believed "that inhibition is the suspension of life not the action of special nerves." W. M. Bayliss says that both the vagus and accelerators can be stimulated reflexly. I humbly submit that this is their normal function. It follows that to declare, as pharmacologists do, that the action of the vagus tends to render tone less complete than digitalis is to misunderstand the problem. The features of the third stage of digitalis poisoning are merely those of cardiac failure, and the quickening of the pulse is due to the accelerators coming into reflex play to save the organism. If they fail, the efforts of the dying heart degenerate into the inco-ordinated twitches of the separate fibres which form the prelude to the running pulse and death.

Such a view squares with physiology and pharmacology, but when digitalis action has to fit in with the Weber's theory the difficulties are insurmountable. To speak of a heart which has obviously been helped to do its work more quietly and thoroughly as having been inhibited is to confuse the inquiry and misuse language. The Weber brothers discovered an interesting pathological fact which has no particular value, except so far as it throws light on the obscure complexes of shock. H. O. Thomas actually wrote in 1883:

In proof that mechanical irritation of this nerve (vagus) induces a condition of shock we have the accepted fact that atropine protects the nerve from the shock consequent on mechanical disturbance. I have not yet met with any evidence which proves the existence of any inhibitory nerve fibres in this or any other nerve.

It seems that the confusion in inhibition is due to the wrong belief that such nerves exist. The final explanation of the phenomena which now seem to depend on them will probably show that any nerve is only "inhibited" when another, acting in the same area, is more strongly stimulated. The inhibition of one reflex is the dominance of another, just as, according to Herbart, any mental presentation can be suppressed, or "inhibited," by another strong enough to displace it in causing motor reactions. H. O. Thomas seems to have derived his views largely from a study of drugs, and his work may throw light on the so-called reversal effects of strychnine in converting "inhibition" into excitation by the selective effect of such a drug on certain reflexes.—I am, etc.,

London, N.W., Sept. 5th.

MORLEY ROBERTS.

### INSTRUCTION IN THE TREATMENT OF VENEREAL DISEASES.

LIEUT.-COLONEL A. B. COTTELL, R.A.M.C.(ret.), informs us that he has addressed the following letter to the Registrar of the General Medical Council:

Dear Sir.—May I request you to place this letter before the General Medical Council as an urgent matter? The press, the pulpit, and even the public now begin to recognize the grave importance of combating venereal diseases, and yet, as I read in the Educational Number of the BRITISH MEDICAL JOURNAL of August 31st, the General Medical Council, in the syllabus of work, do not apparently consider venereal diseases as even worthy of special mention, though a separate heading, No. XII, is devoted to "Theory and practice of vaccination." Could a more absurd division of work be imagined? If No. XII is intended to include the very necessary study of all that is understood by the word "germs," it should certainly say so in plain English.

I write as one who knows the lamentable ignorance of many of the profession on the subject of venereal diseases, and consider the blame lies largely at the doors of the General Medical Council and the examining bodies.

I am, Sir, yours faithfully,

A. B. COTTELL, Lieut.-Colonel (ret.),  
National Council for Combating Venereal Diseases.

### Obituary.

DAMER HARRISSON, M.Ch. LIVERPOOL, F.R.C.S. (Edn.),  
Colonel A.M.S.T., Consulting Surgeon, Liverpool Northern  
Hospital.

WITH the death of Damer Harrisson I feel that another link with the past has been severed. We were colleagues at the Northern Hospital for ten years and close friends for over thirty years, so that I had every opportunity of appreciating the sterling merits of an Englishman of the best type. He was a man of great vivacity and indefatigable energy, who always enjoyed life, which he never took too seriously. He was ever young, and no matter how long he lived would never grow old; one who always enjoyed the society of youth and could ever enter into their joys and hopes. He was not a brilliant or showy surgeon, but he was careful, accurate, and thorough in his work, and a sound opinion; many helpless and hapless individuals owe to him their restoration to health and wonted vigour. He was one of the pioneers in modern brain surgery and nerve grafting, work which has been much to the fore in the present war.

As medical officer to the schools for defective children he took great interest in questions of heredity, and his striking paper on the eugenic aspect of the feeble-minded child, copiously illustrated by lantern slides, will be long remembered by those who heard it. A brilliant sally by the Rev. T. W. M. Lund that medical men were largely responsible for the existence of such degenerates found an echo in the minds of many present.

He was an enthusiastic yeoman and long held the position of Surgeon-Lieutenant-Colonel to the Lancashire Hussars I.Y. When the Territorial Force was organized he took a prominent part and became Assistant Director of Medical Services in the Western Command; while holding this position he was appointed honorary surgeon to the King. At the meeting of the British Medical Association in Liverpool in 1912 he was President of the Section of Military Surgery.

When war broke out he took up military work *con amore*. During the great recruiting rush in Liverpool he literally worked night and day. When some examiners were



doing eighteen or twenty cases a day and drawing the maximum pay, Harrison regularly examined more than 100 recruits, working from 10 a.m. to 10 p.m. He had associated with him four lay assistants or clerks, and the work, although expeditious, was well done; he knew exactly the type of recruit which the army required, and he could size up a man while another was examining a single organ. The fact that very few of his recruits were afterwards turned down was proof of his discriminating perspicacity. When the Conscription Act was passed he had a different type of individual to deal with, but his scrutinizing eye readily detected the malingerer, and he did not hesitate strongly to express his opinion of many of the medical certificates presented to him. He was himself incapable of any mean subterfuge; any certificates which were merely a colourable imitation of the truth drew forth his power of strong invective.

He was a genuine sportsman, and never happier than when riding a steeplechase, and not infrequently he was first at the winning post.

It was always a great pleasure to perceive the strong affection which united all the members of the Harrison family, and Damer was ever a central figure; those who had the privilege of joining in the family reunions had always most enjoyable evenings. There is only a sister left, but of the rising generation there are many worthy members, and General Harrison arrived from France in time to see his uncle alive.

Damer Harrison survived by twelve months his only child, Major Roland Damer Harrison, D.S.O., killed in action. This catastrophe had a very telling effect on the father; he lost his buoyancy, and work became to him more a labour than a pleasure. His end came fairly rapidly and free from suffering, and those who knew his temperament are pleased that he had no lingering illness. About seven weeks ago he was laid up with a sharp attack of influenza. This was followed by extensive cerebral thrombosis, motor and sensory aphasia, and right hemiplegia. He died on September 1st in his 67th year.

JAMES BARR.

JAMES LAMBERT, M.D. GLASG., M.R.C.S. ENG., L.S.A.,  
Birkenhead.

THIS veteran was, until a few years ago, a familiar figure in Birkenhead and Liverpool, and at the medical gatherings of the Liverpool Medical Institution and those of the Lancashire and Cheshire Branch of the Association, of which he was member of Council for many years. He was born in the neighbourhood of Northwich, and in early life was apprenticed to a doctor in Hartford, close by, who kept thoroughbred horses, on which Lambert frequently followed the hounds. He went to Glasgow for his further medical studies, taking his degree there and London diplomas in 1855. This was the time of the Crimean war, when he became surgeon to a transport, afterwards settling in Birkenhead, where he lived ever since. He was for many years a Poor Law medical officer, also surgeon to the Borough Hospital, and all his life took the greatest interest in surgical practice, in which he kept himself abreast by reading, and did some pioneer work there by tying the external iliac artery and performing Pirogoff's amputation of the foot. In all respects his professional judgement was good. Of late years his legs gradually ailed, though previously strong and active, and quite recently he became so infirm as to fall in the street and in his house, being unable to rise of himself. His mind and memory remained clear till not many days before the end. He was much respected in Birkenhead and was buried with his parents at Witton churchyard, Northwich, on September 10th. It is estimated that he lived to be 93 or thereabouts.

RUSHION PARKER.

SURGEON-GENERAL CHARLES PLANCK, Bengal Medical service (ret.), died at Lyden Croft, Edenbridge, Kent, on August 23rd, aged 87. He was the son of George Planck, secretary H.M. Customs Department, London, and educated at Guy's Hospital, taking the M.R.C.S. and L.S.A. in 1855; he took the F.R.C.S. Edin. in 1881 and the M.R.C.P. Lond. in 1888. He entered the Indian Medical service as assistant surgeon on August 4th, 1855, became surgeon on August 4th, 1867, surgeon-major on July 1st, 1875, and deputy surgeon-general on August 4th, 1881, retiring on August 4th, 1886. He served in the Indian

Mutiny, when he was field surgeon with Sir James Outram's force which relieved Lucknow, and also took part in the action at Cawnpore in which the Gwalior rebels were defeated, receiving the medal and clasp. Afterwards he held successively the posts of superintendent of Agra Central Prison, of inspector-general of prisons in Burmah, and of sanitary commissioner of the North-West Provinces, now the United Provinces of Agra and Oudh.

DR. JOHN SMITH, of Callander, who recently died at the age of 90, graduated M.D. Edin. in 1855. He had been in practice in the district for over sixty years and had been medical officer of the parish for about fifty years.

## Medical News.

DR. THOMAS W. HICKS, M.B.E. (East Finchley), has been made a Justice of the Peace for the County of Middlesex.

AT a meeting of the Dumfries Town Council, on September 5th, Dr. Joseph Hunter, who has been medical officer of health for the burgh during the past fifteen years, was presented by the members and officials of the council with a silver pedestal electric lamp as a wedding gift.

AN American Sanitary Commission, consisting of four doctors and six nurses, sent out by the Rockefeller Foundation, arrived at Guayaquil, Ecuador, on July 9th; it will co-operate in the prevention of yellow fever in that country.

THE widow of Count Della Somaglia, president of the Italian Red Cross, has given in memory of her deceased husband £4,000 to be applied towards the foundation of a hospital for tuberculous children in Rome.

A CASE of rabies in a dog at Plymouth has been confirmed by the Board of Agriculture and Fisheries. Several other suspicious cases have been reported and are now under investigation. In view of these circumstances and the fact that it is known that in more than one instance persons have been bitten by suspected dogs, the Board has made an Order prohibiting the movement of dogs out of the counties of Devon and Cornwall and requiring the control of dogs within a large area of those two counties. Any case in which symptoms suspicious of rabies are observed should at once be notified to the police.

THE National Baby Week Council, which has as its special object propaganda work in connexion with maternity and child welfare, decided at the last meeting of the Council to devote some of its official energies to propaganda work in connexion with the proposed Ministry of Health. A preliminary meeting is to be held at Bedford College, Regent's Park, on Wednesday, September 18th, at 5 p.m., to discuss some of the difficulties presented by the problem from various points of view. (Admission will be by ticket only, which may be obtained from the Secretary, National Baby Week Council, 27A, Cavendish Square, London, W.1.) It is hoped that this meeting will be followed by others in the provinces.

THE war service record of the School of Physic, Trinity College, Dublin, contains the names of over 1,100 past and present students. Of these, 79 have been killed or have died on service. The following honours have been gained: K.C.M.G., 1; C.B., 15; C.M.G., 14; D.S.O., 48; bar to D.S.O., 4; M.C., 78; bar to M.C., 7; Military Medal, 1. Upwards of 160 individuals have been mentioned in dispatches, several more than once, and 15 have received foreign decorations. The students of the other schools of the university have volunteered for service in an equally enthusiastic manner. The registrar of the school will be glad to receive information from those in a position to supply it in order to keep the record up to date.

THE Central Hospital, founded by private subscriptions with a subvention from the Chinese Government, has recently been opened in Peking. It is built from the design of an American architect, and has accommodation for 150 patients. The director is Dr. Wu Lien Te, a graduate of Cambridge and a distinguished bacteriologist, who was president of the International Conference on plague held at Moukden in 1911. The staff includes Chinese as well as foreign physicians and surgeons.

It is announced that the medical department of the United States army will shortly issue an appeal to American colleges and universities to alter their curriculum so that third and fourth-year students may receive special training which will qualify them as officers and workers in the department. The course proposed is intended chiefly for men who are specializing in biology,



zoology, plant pathology, and agricultural bacteriology. The plan has already been tried in two colleges with such success that the medical department wishes it to be applied in as many as possible.

In 1916 N. Barlow found that one of the most striking effects of intravenous injection of mercuric chloride in combination with the administration of quinine was the very rapid reduction of an enlarged spleen, justifying the hope that the combination may establish a complete cure more rapidly than quinine alone. Greig and Ritchie (E. D. W. Greig and W. D. Ritchie, *Ind. Journ. Med. Research*, Calcutta, 1917, v, 401-7) have tested this by taking 54 control cases on 30 grains of quinine in three oral doses daily, and 50 cases treated in the same way as regards quinine, but, in addition, by intravenous injection, on alternate days for eight injections, of 11 c.cm. of a solution of mercury perchloride 1 in 1,000 in saline. All the patients were chronic malarial subjects from East Africa and Mesopotamia, who had been under treatment for six months or more in India, and the spleen was three fingerbreadths or more below the costal arch, except in two, in which it was two fingerbreadths. The cases were more chronic than Barlow's. As complications of the injections salivation was noted in two cases, slight phlebitis in three or four, diarrhoea in five, and two cases had febrile relapses and temporary splenic enlargement while under treatment. Although not confirming Barlow's observations fully, the results show that the combined treatment has a greater effect in reducing splenomegaly than quinine alone has; thus, whereas under quinine alone the treatment failed in 16 cases, under the combined method failure occurred in 7 only. The reinforcement of quinine by mercurial injections may therefore be recommended.

## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Antology*, Westrand, London; telephone, 2651, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2650, Gerrard.
3. MEDICAL SECRETARY, *Medisecra*, Westrand, London; telephone, 2654, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### LETTERS, NOTES, ETC.

MEDICAL men who cycle may be glad to know of a device which is intended to replace the ordinary trouser clip. Walker's bicycle puttee consists of a clip which holds the trouser neatly and securely in place without straining the cloth. It is manufactured by Brown Brothers, Limited, 22-34, Great Eastern Street, London, E.C.2. The price is 2s. 7½d. a pair, post free.

#### NEGLECTED PHIMOSIS.

DR DUNCAN J. MACKENZIE (M.O.H. Glossop, etc.) writes: In these days of increased attention to maternity and child welfare it is well to take note of matters to which the attention of visitors in connexion with the early notification of births should specially be directed. Amongst these I should place phimosis. We see in practice the trouble caused in the adult by the neglect of circumcision in youth. In addition to local effects, the association of heart affections with neglected phimosis inclines one, after making all allowance for the probability that congenital phimosis may be accompanied by other congenital defects or vulnerabilities, to the view that the poison of rheumatism, whatever it is, may be introduced through the retained smegma. When so much of the midwifery in the country is in the hands of midwives, there is, I think, a danger that the slighter degrees of phimosis, or simple adhesion of the prepuce, may be overlooked. In such a case the services of the visitor should come in useful.

#### ASTHMA AND IDIOSYNCRASY TO HORSES.

At a meeting of the Medical Society of Christiania on February 6th, Dr. Arnt de Besche gave an account of his investigations into the relation of asthma to certain domestic animals. An asthmatic himself, he had some years earlier almost died from the effects of a prophylactic injection of horse serum. For about four months after this he could attend circuses, enter stables and drive horses with impunity, though he could do none of these things previously without precipitating an attack of asthma. He has investigated thirty-one cases of asthma with special reference to idiosyncrasy, and has found in eleven cases that the asthmatic attacks were definitely connected with the presence of horses or their products. When a finger was placed on a horse and then on the conjunctiva of such a patient, conjunctival flushing and oedema with abundant lachrymation ensued. In five of his cases idiosyncrasy to horses was also betrayed by a cutaneous reaction, a drop of horse serum applied to an ordinary vaccination scratch provoking a large wheal. In the case of an asthmatic whose attacks were precipitated by the presence of cats, the conjunctival and cutaneous reactions to cat serum were positive. Another asthmatic showed idiosyncrasy to a certain protein in his food, presumably derived from wheat. In eighteen cases no definite idiosyncrasy could be found to account for the attacks of asthma. Dr. de Besche concluded that the substance provoking asthma in the subjects of "horse asthma" is probably volatile, and laid stress on the importance of excluding idiosyncrasy to the horse (by his conjunctival and cutaneous reactions) before giving an asthmatic an injection of antitoxin obtained from the horse.

#### SOLDIER'S RISKS.

THE *New York Medical Record* of August 3rd quotes estimates based on statistics of the allied armies which show that a soldier now has twenty-nine chances of coming home to one chance of being killed. He has forty-nine chances of recovering from wounds to one of dying from them. He has one chance in five hundred of losing a limb. He will live five years longer because of the physical training he has received. He is freer from disease in the army than in civil life, and he has better medical care at the front than at home. In other wars from ten to fifteen men have died of disease to one who has died from bullets; in the present war one man dies of disease to every ten whose death is caused by bullets.

#### THE BELL FUND.

DR. S. A. KINNIER WILSON asks us to acknowledge donations to the Dr. J. H. Bell Fund from Dr. J. Dundas Grant (£2 2s.) and Mr. W. Gilchrist Burnie (£5 5s.). Subscriptions should be sent to Dr. Wilson, at 14, Harley Street, London, W.1.

#### THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

##### Subscriptions to the Second Appeal.

The following subscriptions have been received up to September 9th:

	£ s. d.		£ s. d.
Dr. C. A. Rayne	5 5 0	American Red Cross	
Dr. Robert J. Carlisle	2 0 0	Commission for Belgium	200 0 0
Sir Alfred Pearce Gould	5 5 0	Captain A. P. Thom	
(monthly)		R.A.M.C.	1 1 0
Dr. Dundas Grant	10 10 0	Mr. D. T. Jones, M.P.S.	1 1 0
Mr. W. J. Shepperd	0 10 6	Mr. E. Spencer Evans	
Mr. J. V. O. Denting	1 1 0	(monthly)	0 10 0
Dr. Edward Baid	1 1 0	Dr. J. B. Davey	1 1 0
The Sunderland Pharmaceutic Association	16 17 6	Dr. J. Anriol Armitage	5 5 0

\* Per Mr. Cuthbert Hodgson. † Second donation this year.

The munificent gift of £200 from the American Red Cross has been received through Mr. Ernest P. Bicknell, the Commissioner for Belgium, who writes: "This contribution is for the month of September, 1918, and is from the Commission for Belgium of the American Red Cross. A monthly contribution of the same amount will be made for the remaining months of the year."

Subscriptions to the Fund should be sent to the Treasurer, Dr. H. A. Des Vœux, at 14, Buckingham Gate, London, S.W.1, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited.

THE Chief Inspector of Factories announces that the post of certifying factory surgeon for Lincoln is vacant.

#### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Seven lines and under	0 6 0
Each additional line	0 0 9
Whole single column	4 0 0
Whole page	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.



## Observations

ON

## THE NATURE AND SYMPTOMS OF CARDIAC INFECTION IN CHILDHOOD.

BY

F. J. POYNTON, M.D., F.R.C.P. LOND.,

PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL, SENIOR CLINICAL ASSISTANT TO OUT-PATIENTS OF THE HOSPITAL FOR SKIN DISEASES, GREAT ORMOND STREET.

## IV.—MYOCARDITIS, OR NEURO-MUSCULAR CARDIAC AFFECTIONS.

This section undoubtedly contains the most difficult cardiac cases. Rheumatic heart disease, on the surface of the myocardium is more complex than that of the pericardium or endocardium and the physical signs that point to its nature are more difficult to appreciate.

A brief allusion to the pathological changes will be helpful in illustrating these points. In general terms we have to consider the muscular tissue of the heart wall and the various structures in which it is set, which contains blood vessels, lymphatics and nerves. An objection to the term "myocarditis" is that rheumatism may damage the muscle fibres without producing any degree of inflammation, for experiment shows that a violent infection may produce fatty change in the muscular fibres, but yet no evidence of inflammatory changes be forthcoming in the connective tissue framework. On the other hand there is no doubt that myocarditis may occur and be followed, as in other organs, by a fibrosis. The minute focal lesions in the interstitial tissues I described and showed at a meeting of the Royal Medical and Chirurgical Society in 1899, and, later, under the name of Aschoff's nodules, they received general attention. I am not prepared, however, to go to the length that some have gone who hold that it is essential to show the presence of these nodules in order to prove the rheumatic nature of a myocarditis. I look upon them as a particular phase of infection which is frequent in the rheumatic because the lesions do not, as a rule, cause suppuration, but it is possible, nevertheless, for a case to be rheumatic and these nodules not to be demonstrable. In the more chronic forms of myocarditis a perivascular fibrosis will be seen in the region of the small blood vessels. Should these local foci of change affect the regions of the auriculo-ventricular bundle it will be apparent that special disturbances will occur, and unduly irritable areas of cardiac tissue may be produced in their neighbourhood. Extensive fibrosis is, however, much more suggestive of cardiac syphilis than rheumatism.

The areas of fatty degeneration in the cardiac muscle in virulent rheumatism I pictured in the *Lancet* in 1900, and later, with Paine, demonstrated the experimental production. Thus both the two cardinal changes have been established, and are, I think, generally accepted as occurring in so-called rheumatic myocarditis; and, further, cardiac research also points to our attaching importance to both types of lesion. The changes are, then, complex, and the clinical symptoms are also complicated, and, as stated above, in this group we meet with some of the most difficult problems in heart disease. One fact stands out: we have to rely much upon symptoms because of the lack of such signs as pericardial friction and valvular bruits. Experience also shows that in this group we meet even in childhood with nervous disturbances which are apt to be embraced in the dangerous term of functional, and which are likely to cause confusion. It is in this group that we look in the future for great assistance from the modern methods of cardiac observation, but patience is very needful in an inquiry of such difficulty.

Numerous investigations have been made in the last ten years, and an analysis of these shows that transitory heart-block, auriculo-ventricular extrasystole, auricular fibrillation, auricular tachysystole, and paroxysmal tachycardia, have all been observed, and in some instances antipsies have been made which have proved the presence of myocarditis. Paul White, in 1916, described a case in an adolescent of 18 years in which heart-block was the first indication of a

rheumatic attack; but this must be, I believe, a remarkable event. The bearing of observations of these phenomena into the practical structure of clinical medicine must be a gradual process. One general impression that appears to me is that nervous disturbances are transitory in childhood, and have less practical significance than some other factors already well known. The interpretation I have ventured to put upon this impression is that the damage to the muscular fibres is of greater significance than that of the interstitial tissues in this early rheumatism. The interstitial lesions, if they occur in connexion with the auriculo-ventricular bundle, will undoubtedly cause various disturbances in rhythm, dependent upon their site, but the parenchymatous changes weakening the muscle must also give rise to symptoms which are of greater importance, unless the interstitial lesions are exceptionally severe. In other words, I believe that in childhood the muscle of the heart suffers more in proportion in rheumatic heart disease than do the fibrous tissues.

## A. Acute Fatal Dilatation.

These fulminating cases are very rare, but both theoretically and pathologically they are of particular interest because they show the possibility of death from myocardial disease alone, and are important evidence of the infective nature of the disease. In two cases I have seen, the damage to the myocardium of the right ventricle over a small area was so great that no tissue was left between the blood and the visceral pericardium, which had yielded from the strain into a small aneurysm; the rest of the ventricular wall was grossly diseased.

Fatal acute dilatation presents a clinical picture of death from cardiac disease. The pulse is rapid and running, the cardiac sounds are faint, short, and approximated; the cardiac dullness is much increased, and no definite impulse is visible. The face is ashen grey; there is intolerable restlessness, with vomiting, rapid breathing, and extreme muscular feebleness. The liver rapidly enlarges; there is pulmonary oedema, and some moderate oedema of the lower extremities. The temperature usually rises in the early part of the illness, but may become subnormal before death, which is eventually sudden. There is no reaction to remedies for combating the rheumatic toxæmia, or for supporting the heart.

## B. Subacute and Chronic Dilatation of the Heart.

This group, I venture to think, requires more attention than it has received in childhood, for I believe it to be an important cause of "weak hearts" in young adults, and to form one section of the group of cases which later is so difficult to deal with in connexion with military service.

The usual course of such a case is as follows: A child has a definite but not severe attack of acute rheumatism, and the heart is found to be dilated, and a mitral lesion is suspected. The heart remains enlarged, the murmur disappearing or becoming apparent on exertion. The child is pale and languid, short of breath on exertion, and easily fatigued. The pulse is rapid and easily influenced by movement and emotion. Fainting attacks may occur in a close atmosphere. There is nervousness, and there may be complaint of palpitation.

Such a condition is very stubborn and requires great patience in its management. If there is over-exertion the symptoms rapidly increase and any ground that has been gained will be lost and recovered with difficulty.

Should the dilatation be overlooked there is obviously great danger of missing the true meaning of this lesion. We must recognize the rapid feeble action of the heart, poor first sound and general circulatory feebleness, and ascertain the presence of the usual signs pointing to cardiac dilatation.

Subacute dilatation appears to me to be not at all uncommon in adolescents and adults who have had acute rheumatism in childhood, and produces the following results: When these individuals are able to go at their own pace and do a moderate amount of physical or mental work in the day they appear to be normal beings, but when they are put under pressure, and more particularly continuous pressure, their hearts become irritable and their nervous and digestive systems begin to fail. They behave precisely as children do when overstrained during convalescence from a subacute rheumatic dilatation.

Again, where this dilatation occurs in adolescence a very unsatisfactory condition may result, in which the nervous

\* Articles I, II, and III were published in the JOURNALS of March 2nd, April 15th, and July 6th.



symptoms become predominant, and extreme examples, more frequent in my experience in females, may result in invalidism of the most trying kind.

Exceedingly emotional and unbalanced, they are troubled by severe palpitation and syncopal attacks complicated with nerve storms. An unusual exertion or severe emotion will bring on attacks of great severity with pain, tachycardia, and nervous disturbances that alarm all around them. In bed, carefully nursed and dieted, they become quiet and happy, and the heart improves; but when they return to daily life and attempt any useful occupation a relapse is almost certain. No one will doubt that there is a very large functional element in such cases, but those who have studied them must be equally convinced that there is some organic neuro-muscular fault which dates from the attack of rheumatism and probably represents, if we only knew the truth, some specific effect of the disease upon patients of a peculiar constitution. I am convinced of this, that it is quite useless to treat such cases as entirely functional, for there is conclusive clinical evidence that physical over-fatigue will at once produce alarming symptoms of cardiac disturbance.

In some cases frequent attacks of cardiac pain occur which suggest angina pectoris, and during which the pulse may either be much increased in rate or hardly at all altered. These attacks are not peculiar to simple cases of dilatation, but also occur in patients suffering from mitral and aortic lesions, and one such case was of a particular interest because it illustrated the flux of opinion of the many observers who saw the girl.

At first, the patient having aortic disease, the attacks were looked upon as certainly anginal; later they were thought to be largely functional, and finally they were looked upon as entirely functional. Treatment adapted to the last hypothesis resulted in decided improvement, but eventually this patient died in an attack brought on by a fit of temper. The necropsy showed no obvious disease of the aorta itself and no condition of the heart unlike that which is met with in a fatal aortic disease in which no anginal symptoms have occurred. This patient had suffered from hundreds of these attacks in eighteen months.

It is difficult to escape from the view that a vasomotor disturbance was an important factor, particularly when we bear in mind the remarkable Raynaud conditions of the hands that may follow an acute attack of rheumatism, examples of which I published in the *Lancet* in 1914.

I have followed a considerable number of cases of chronic dilatation in childhood through several years and believe that they eventually recover, though I do not feel sure that this recovery means a true restoration of complete cardiac vigour.

This group concludes the cardinal lesions with which space permits me to deal. The final stages of rheumatic heart disease are the eventual results of one or more of these lesions, themselves the results of recurrent carditis, and though a knowledge of the terminal stages is of practical value no new principles are involved and their clinical study is frequent in our hospitals. Unusual events, such as multiple serositis and extreme pericardial adhesions, cannot claim consideration here, for my chief purpose has been to try to illustrate how valuable an introduction to cardiac disease is a careful study of infective heart affections in childhood, and to indicate how clearly such a study points to the prevention of their occurrence, or arrest of their advance in the early stages.

#### PROGNOSIS.

There can be no doubt, I think, that the study of rheumatic carditis as an infective disease helps us very considerably in prognosis, for not only do we learn much from a study of its life-history, but we are led to take the essential view in such questions—the outlook as it concerns the child's life and future rather than the narrower consideration of the child's heart.

So imperfect is our control of rheumatism that we are compelled to qualify our views on the prognosis in any particular case by the warning that another attack may entirely alter our present opinion—and the younger the child the greater is the possibility of such a change in our view. Virulent attacks of carditis, experience amply proves, do irreparable damage, and attacks of less severity continually exacerbating are very grave events in fragile children. The type of pericarditis is of far more importance than the actual physical signs. If the

associated myocardial symptoms are severe or the inflammation spreads far into the surrounding tissues the outlook is grave—in the first instance because of the damage to the cardiac muscle, and, in the second, because the after-result of external adhesions will be serious.

The sclerotic forms of endocarditis are incurable on account of the pathological processes that produce them, and the prognosis greatly depends upon whether or not we find evidence that the rheumatism is still showing periods of activity. Thus, for example, if a child with early mitral stenosis is suffering each year from attacks of chorea, it is very probable that the stealthy process in the mitral valve is also advancing, and if this is the case, symptoms of cardiac disability must develop.

If mitral incompetence is under consideration, it is not the murmur that will guide us but the evidence that tells us how much the cardiac muscle has been damaged by carditis. If a child after a first attack of rheumatism lives in an unsuitable house, however favourable the outlook may be when he first returns home, it will be entirely altered in a few years.

I think there is little doubt that there is still overmuch tendency to dwell upon the existence of a bruit rather than to take the broader view of the case, and regard the child as suffering from the results of a cardiac infection.

The malignant form of endocarditis must be of the gravest prognosis, for the pathology of the infective process shows us precisely what is happening, and we have no reliable method of treating the results, which are essentially due to a continual injection of the micrococcal infection into the general systemic circulation.

#### TREATMENT.

At the present time the treatment of rheumatic heart disease appears to me to be at a standstill, and to be in an unsatisfactory position.

This I attribute largely to the widespread teaching, so clearly reflected in examination answers, that we possess in the salicyl compounds a specific remedy. Medical literature abounds with examples of the hypnotic influence of words, due, perhaps, to the natural desire to find some firm areas in the morasses of its study. It is only natural that a student believing he has a specific drug will eventually use it confidently and persistently. I have seen these drugs used in small, large, enormous, and persistent doses, and no one is more desirous to see good results; yet, after years of observation, I am left cold, and if it were not so pitiful it would be laughable to apply the term "specific" to the results we obtain in rheumatic heart disease. No one could deny the value of these drugs in rheumatism, but a valuable remedy is far removed from a specific one, and if our profession would boldly face what I honestly believe to be the truth, they would, I feel sure, be much more inclined to seek another direction for attacking the problem of the treatment of rheumatic heart disease.

This direction is toward *prevention*, and in a brief outline I venture to indicate my own views upon this problem.

1. When time and circumstances permit this should be a national effort.
2. The topographical incidence of the disease in the country should be reconsidered from the standpoint of an infective process.
3. To live in well built houses should be a duty we owe to children.
4. Special convalescent homes in touch with the large hospitals should be established.
5. The education of the public, and in particular of those connected with educational institutions, in the broad outlines of the disease should be perseveringly undertaken.
6. The supervision of children during the school age has already been undertaken, and this supervision should be extended to the proper choice of employments for those with hearts damaged by the disease.
7. The scientific study of the disease should be conducted in an institution or institutions in order to ensure an *unbroken* record of research on the broadest lines. Individual effort would not be interfered with, but the unavoidable break in continuity associated with individual research must in my opinion be rendered impossible in the future by a permanent centre for investigation of rheumatic diseases.

The two great essentials appear to me to be these:

1. The establishment of organizations by which the rheumatic child can be assisted and guided through life, and thus a sound



knowledge of cardiac infection in its earliest days, be required by our practitioners.

2. The establishment of some permanent organization for the study of rheumatism upon the broadest lines.

The treatment of the individual child with rheumatic heart disease has been written upon repeatedly by able pens than mine. I shall only venture upon a few observations which are in no sense intended to be either new or startling discoveries, but which may be helpful to those who have had fewer opportunities of seeing these cases.

First, with regard to the tonsils. I believe that there are cases in which enucleation is of great value, though it must be confessed that those which are the most successful are scientifically inconclusive. A child, for example, has recurrent attacks of tonsillitis, with arthritic pains and other symptoms, which suggest—not more—the early invasion of the rheumatic infection. The tonsils are enucleated and health greatly improves. We cannot say that if the operation had not been done this child would have developed acute rheumatism, though we may feel convinced that we have warded off danger. More conclusive but less satisfactory are those cases in which a cardiac infection has already occurred, and which after operation remain free from further attacks and in good health. For such cases I can vouch. It is, however, certain that recurrences may take place, and I have conclusive records upon this point, but no statistical evidence to calculate the proportion. This investigation requires a very large number of cases, and should be a feasible undertaking of great practical value. Operations upon the tonsils in the active phase of inflammation may be promptly followed by an attack of acute rheumatism, upon which occurrence also I have conclusive notes.

There remains another group in which the tonsils are evidently unhealthy and giving trouble, but the child has a degree of heart disease which renders one anxious as to the operative risk. Each case is a matter for judgement, but in general these children take anaesthetics well. It is clear that we have no right to assure parents that enucleation of the tonsils will free a child from acute rheumatic attacks, but I am convinced that as a preventive measure it is of first importance.

It is very essential for the treatment of the individual that the public should have a clearer understanding of the disease, for a practical difficulty in obtaining success in convalescence lies in the fact that a child who is making a good recovery from a cardiac attack may appear to be "quite well," and unless the parents understand that the heart is softened by the disease they will be inclined to worry or even suspect the doctor. Again, if a boy is athletic the schoolmaster is sometimes an offender, for he knows the glory of school games and despises the fads of doctors. Nevertheless, what does it profit a boy if he wins the school hundred yards and dilates a convalescent rheumatic heart?

The question of diet in the rheumatism of childhood is somewhat mysterious. There is a widespread idea among the laity that meat is injurious, and I presume such an idea would not have arisen unless based originally upon medical opinion. In all acute febrile illness there is general unanimity that a light diet is the best, but when one turns for evidence that there is any particular danger to rheumatic children in a nitrogenous diet, that evidence is not forthcoming. I can see no more reason for this dread of meat for rheumatic children than for the tuberculous, and believe it to be a fallacy. The disease is very common in children of a class who are not in a position to obtain an excess of meat foods, and I have failed to obtain any history of an excessive love of them. When the acute illness is over, these children often remain pale and feeble for long periods of time, and if during this stage we curtail the diet I think we lose an opportunity. If any one can produce trustworthy observations showing that meat foods given during this stage with the discretion needed for the convalescence from any lowering illness are harmful, it would be a practical service. I cannot myself find any such evidence, and have not felt myself bound in any way by the vague statements which are in existence upon this point.

Turning to more detailed considerations, some of the points that have struck me are the following:

1. The salicyl compounds—preferably, I think, the salicylates—are of value in relieving rheumatic pains, but if

faith is pinned upon their specific value, we are logically driven in severe cases to large doses, and these are dangerous, particularly to fragile delicate children. No specific result will follow their use, though death may occur from drug poisoning.

2. Patience and dogged perseverance with excellent nursing are still the most valuable aids to recovery, and though rest will not prevent an acute attack (I have seen two attacks of pericarditis in a child kept in a Phelps box under a mistaken diagnosis), its value is attested to by all.

3. Pericarditis very rarely indeed will need operative interference.

4. Continued disturbance of a child with severe heart disease by external applications and drugs does more harm than good. We do not know how to cure the disease, and are therefore not justified in preventing Nature from having a share in the attempt.

5. Vomiting, digestive disturbances, and sleeplessness require prompt and early measures for their relief.

6. The leading principle during convalescence is not passive rest but cautious progress, and the ideal is to make the interval between absolute rest and a return to everyday life an inclined plane.

7. No forward movement is indicated while the area of cardiac dullness is still diminishing and the impulse improving in strength. A gain in weight and colour may be of even more value than slight changes in the physical signs. The aim is to obtain a steady level in the cardiac condition. This level must be dependent upon the condition of the heart before the particular attack, and, if the heart is already damaged, this must necessarily be but of relative efficiency. When we get a clear idea of this cardiac level then we can commence the cautious progress forward, testing each step as we go by the general condition of the child, the temperature, the pulse, and cardiac physical signs.

8. Small doses of digitalis are often, I think, helpful during the early forward steps in convalescence, but a rash or sudden over-exertion may delay recovery for weeks, and is the great danger in this stage.

9. The nervous element, so marked in aortic disease, and myocardial affections, requires cautious handling and sympathetic attention.

10. When care has been exercised we find that the great cause for a failure in the cardiac power in childhood is a recurrence of rheumatism.

## PRELIMINARY NOTE ON THE ASSOCIATION OF RICKETTSIA BODIES IN LICE WITH TRENCH FEVER.

BY  
J. A. ARKWRIGHT, M.D., A. BACOT,

AND  
F. MARTIN DUNCAN.  
(From the Lister Institute, Chelsea.)

In connexion with the War Office Committee on Trench Fever, under the chairmanship of Sir David Bruce, F.R.S., we have had access to the trench fever clinical material at the New End Hospital, Hampstead. We are very much indebted to Major Byam and all the medical staff at the hospital for their constant help, and especially to Lieutenant Lloyd, who has been in charge of the entomological work at the New End Hospital.

Small bodies resembling diplococci or bipolar bacilli have been described in the blood of patients and in the insect vector in Rocky Mountain spotted fever by Ricketts (1909),<sup>1</sup> in typhus fever by Ricketts and Wilder (1910),<sup>2</sup> and in trench fever by Töpfer (1916).<sup>3</sup> The morphology and behaviour of the forms found in these different diseases are very similar, according to those who have had the opportunity of working at more than one of these diseases. To the bodies occurring in connexion with typhus fever da Rocha-Lima (1916)<sup>4</sup> gave the name *Rickettsia prowazeki*, in memory of two prominent workers who died of this disease, contracted in the course of their researches. The form found in lice believed to be uninfected or from trench fever patients he called *R. pediculi*. Rickettsia bodies are of very small size—0.3 by 0.3 to 1.5 microns—are non-motile, and are best demonstrated by staining for sixteen



to twenty hours with weak Giemsa stain 1 drop per cent. Attempts to grow the parasite on artificial media have usually failed, but some successful cultures have been reported.

One of the most important characteristics of these bodies is the fact that, though very scanty and difficult to recognize in films of the blood of patients, they occur in great numbers in the intestinal canal of the louse, and sometimes elsewhere in the insect, which acts as an invertebrate host.

In the case of trench fever *Pediculus corporis* has been proved to be a very active agent in transmitting the disease by Davies and Weldon (1917),<sup>6</sup> Byam and others (1918),<sup>6</sup> and the joint British and American Medical Investigation Committee in France. A small quantity of the excreta of infected lice rubbed into scratches will almost invariably reproduce the disease in a healthy man. When infected lice are fed on a healthy man for a period lasting two or more weeks, infection follows in a certain proportion of cases, but in other instances infected lice may be fed twice daily on healthy men for four or more weeks without infection resulting, as was shown in experiments at Hampstead by Byam<sup>6</sup> in 1918.

Töpfer,<sup>8</sup> da Rocha-Lima,<sup>4</sup> and a few other workers have shown that lice caught on trench fever patients contain large numbers of rickettsia bodies, and that if lice believed to be free from infection are fed on a patient rickettsia bodies appear in their guts after about five to eight days from the first infecting feed, provided that the lice are kept at a temperature of 30° to 32° C. between the feeds.

The German work was incomplete because the observers seldom, if ever, were successful in transmitting the disease to man by lice—Werner and Benzler (1917),<sup>7</sup> Strisower (1918)<sup>8</sup>—and so were unable to correlate the appearances in the louse with the infectivity for man. Accounts of attempts to infect animals with trench fever have been contradictory and unsatisfactory. Moreover, most of the workers on the Continent have been handicapped by the prevalence of trench fever and typhus fever in the populations with which they have had to deal, and an uninfected stock of lice has been very difficult to procure.

For our work we have used a clean stock of lice bred in captivity and kept under observation for over three years. Our experiments have been made by feeding normal lice on trench fever patients both during and after febrile periods. Either the feeding on the infected person has been for one day only, followed by feeding on a healthy man, or after the first infecting meal the lice have been fed regularly on the same or another infected man, and between the feeds the lice have been kept in an incubator at a temperature of about 27° C., or in an inside pocket.

The lice have been examined microscopically daily by means of (1) films made from the excreta; (2) films from the gut contents, or (3) microscopic serial sections. The films have been treated with acid alcohol to fix and to remove haemoglobin debris, and have been stained with Giemsa stain.

The following observations have been made, confirming and extending those of previous workers:

1. If a box of lice is fed on a trench fever patient, and the excreta collected after a period of about ten days, large numbers of rickettsia bodies can almost invariably be found in films. Smears of the guts of lice from such a box contain large numbers of these bodies after about the same interval of time. Of 253 specimens from boxes of lice which had been fed on trench fever patients at least five days previously, 150 showed rickettsia bodies, 83 gave a negative result, and 20 a doubtful result.

2. The excreta from sixteen boxes of lice which were examined daily after an infecting meal showed rickettsia bodies for the first time twice on the fifth day, three times on the seventh, three times on the eighth, four times on the ninth, three times on the tenth, and once on the twelfth day from the first infecting meal. When first seen only small numbers were noted in the films, but three or four days later enormous numbers appeared. These experiments show that after an infecting feed there is a period during which these bodies are not recognizable on account of their small numbers, or of some difference in form. When a box has once become infected with rickettsia the excreta collected from it continue to show the bodies for two or three weeks, or till the lice which partook of the infecting feed are dead.

3. All lice from an infected box do not show rickettsia; only a small proportion do so in the first week; the proportion increases until after two and a half to three weeks the great majority show these forms. Experiments at Hampstead have also made it probable that after the same time a considerable proportion of lice are infective.

4. Trench fever patients can infect lice with rickettsia bodies during the fever, between the attacks, or even several weeks after an attack during a non-febrile period.

5. Normal lice, fed on persons who have not been exposed to trench fever infection, have remained free from rickettsia. Of 245 specimens from twenty-two boxes fed on seven healthy persons only one specimen of excreta was found to contain forms which closely resembled rickettsia microscopically. It is not surprising, considering the difficulty in recognizing such small bodies by their morphology, that occasional errors should occur. Four other specimens from two boxes showed these bodies, but they were being fed on a man who had been working with infected excreta in the laboratory for five weeks, and had also been feeding infected lice on himself for the same period. He developed trench fever three days after the first of the four positive specimens was found. It is most probable, therefore, that he had been infected for some days before the bodies were observed in the lice.

#### *The Similarity of the Properties Possessed by Trench Fever Virus and Rickettsia Bodies, and Coincidences in their Occurrence in Lice.*

1. Rickettsia bodies are very small, often about 0.3 by 0.3 micron in size, and approach the limits of filterability by a Berkefeld filter. There is also some difference of opinion as to whether trench fever virus and typhus virus can pass through a Berkefeld filter.

2. Rickettsia bodies can to a great extent be separated from larger bacteria in an emulsion of excreta in salt solution by differential centrifugalization. The Medical Investigation Committee in France states that blood plasma centrifuged free from cells still contains the virus of trench fever.

3. Lice do not, according to two series of inoculation experiments carried out by Major Byam,<sup>6</sup> become infective (as shown by inoculation of their excreta) after an infecting meal for five to ten or twelve days, and rickettsia bodies do not make their appearance till about the fifth to the twelfth day.

4. All the lice in an infected box are not infective, nor do all contain rickettsia during the second week after the first infecting feed. In one experiment carried out at Hampstead, two lice, one showing and the other not showing rickettsia, were selected from a box on the eleventh day from the infecting feed, and they were inoculated separately into two different men. The louse with rickettsia caused trench fever and the other did not.

5. In fifty-three experimental inoculations of volunteers at the New End Hospital the lice or excreta of lice, used as virus, were also examined microscopically. In every case the lice had previously been fed on a trench fever patient.

Twenty-seven specimens showed rickettsia bodies and caused trench fever.

Ten specimens did not show rickettsia bodies and did not cause trench fever.

One specimen showed rickettsia bodies, but did not cause trench fever.

Two specimens did not show rickettsia bodies, but caused trench fever.

Four specimens gave a doubtful result microscopically, or the inoculation was followed by fever of a doubtful nature.

Nine specimens showed rickettsia bodies but did not cause trench fever, because the virus had been heated or treated with disinfectant, or because the volunteer inoculated had recently passed through an attack of trench fever, and was probably immune.

The agreement between the demonstrable presence of the virus and of the rickettsia bodies is very close. If the thirteen cases which gave a doubtful result or in which agreement was not to be expected, on account of disinfection of the virus or immunity of the patient, are excluded, then forty cases remain, and the agreement between the two methods of examination in thirty-seven is complete—that is, in 92.5 per cent.

These facts indicate the striking interdependence of trench fever virus and rickettsia bodies, though the proof



of identity is still wanting, and the inability to obtain definite cultures of rickettsia bodies up to the present hinders further advance in this direction.

#### CONCLUSIONS.

1. The constant presence, after a suitable lapse of time, of rickettsia bodies in lice which have been fed on a trench fever patient has been confirmed.

2. The absence of rickettsia bodies from lice bred in captivity and fed only on healthy men has been shown by our work, in contradistinction to observations made on the Continent where the population is much more exposed to infection and a clean stock of lice is more difficult to procure than in this country.

3. A very close correlation has been shown to exist between the presence of rickettsia bodies in lice or the excreta of lice and the virulence of these materials when inoculated into men.

#### REFERENCES.

- <sup>1</sup> H. T. Ricketts, *Journ. Amer. Med. Assn.*, January 30th, 1909, 141, No. 5, p. 379. <sup>2</sup> H. T. Ricketts and R. M. Wilder, *Journ. Amer. Med. Assn.*, April 23rd, 1910, 1v, p. 1373. <sup>3</sup> H. T. Ricketts, *Deut. Med. Woch.*, 1910, No. 12, p. 523. <sup>4</sup> F. Munk and H. de Roon-Lima, *Muench. med. Woch.*, 1917, No. 44, p. 1422. <sup>5</sup> F. C. Davies and R. P. Weldon, *Lancet*, February 3rd, 1917, and *Journ. Roy. Army Med. Corps*, January, 1918, xxx, No. 1, p. 92. <sup>6</sup> W. Ryam and others, *Trans. Sec. of Trop. Med. and Hygiene*, May, 1918, xi, No. 7. <sup>7</sup> H. Werner and J. Benzler, *Muench. med. Woch.*, 1917, No. 21, p. 695. <sup>8</sup> R. Strisower, *Muench. med. Woch.*, 1918, No. 18, p. 476.

## THE WORK OF A DEPARTMENT FOR EMPLOYING EXPECTANT MOTHERS IN A MUNITION FACTORY.

(Preliminary Report.)

BY

RHODA H. B. ADAMSON, M.D., B.S.LOND.,

M.O. NATIONAL ORDNANCE FACTORIES, LEEDS; CLINICAL LECTURER  
IN OBSTETRICS, UNIVERSITY OF LEEDS; HONORARY MEDICAL  
OFFICER, LEEDS MATERNITY HOSPITAL;

AND

H. PALMER-JONES,

SUPERINTENDENT PRE-MATERNITY DEPARTMENT, NATIONAL  
ORDNANCE FACTORIES, LEEDS.

THE question of the employment of the working woman who becomes pregnant has always been a vexed one. Opinions have varied from that which considered a woman in this condition should not be employed at all to that which would afford no consideration whatever to a woman supporting the added strain of a pregnancy.

Since the outbreak of the present war the numbers of married women of child-bearing age who have entered into industrial employment have steadily increased. These women have in the large majority of cases entered factory employment in order to earn money for the adequate maintenance of themselves and their children, and as time goes on the need for their earnings has become more and more evident. They cannot without serious hardship to themselves and their children relinquish their earned weekly wages. A woman factory employee who becomes pregnant still more has need of her earnings to maintain her own nourishment and that of the developing fetus, and also to make adequate preparation for the inevitable expense entailed by the arrival of a new baby into the family.

Apart from the necessity for engaging in well-paid work experienced by these women, various industries have discovered that these married women are valuable servants, who are reliable workers in different processes and who cannot always be replaced by satisfactory substitutes if they leave work.

Up to a recent date there has been no fixed routine of procedure in dealing with women factory employees who have become pregnant. In some instances the condition has been ignored and the woman has been allowed to work at any process as long as she has wished to do so without any regard to the suitability of the work upon which she is engaged. In other cases the custom has been to dismiss an expectant mother directly her condition becomes apparent regardless of the question of her ability to work to a later date.

There has been in the past too little inclination to look on the question from the point of view that most factory workers when pregnant are still physically fit to undertake paid work and that they are in need of their earnings to maintain their fitness.

In carrying out the routine medical examination of women engaged on various engineering processes connected with shell, fuse, and gun manufacture, one of the writers became greatly impressed, first, with the number of women who were at work which was unsuitable while hiding their condition to avoid dismissal at the fourth month of pregnancy, and secondly, with the amount of illness of short duration among the workers which might be suspected to be due to miscarriage in the early weeks of pregnancy, although confirmation of this suspicion could in many cases not be obtained.

On going into the reasons, both these conditions appeared to result from one root cause—namely, the anxiety on the part of the women to retain their work and their earnings. If the pregnancy miscarried they were relieved of the necessity of ceasing work, and if it went on to term, then they did all in their power to conceal the true state of affairs, even though it entailed the performing of much unsuitable work.

One of the writers thereupon approached various employers to see whether suitable work could be given to expectant mothers, and was met with a flat refusal to undertake any such thing, on the grounds that their employment would lead to loss of money by the employer, and that it was unseemly for an obviously pregnant woman to be seen by other employees.

Thereupon the writer approached the Factory Inspection Department of the Home Office to ask whether it would establish a central workroom for the district for some needed war industry at which these women could be given employment. This department, while approving of the idea if started by private enterprise, refused to initiate such a scheme.

Finally, a copy of the letter sent to the Home Office was sent to Major C. P. J. Ovans, the superintendent of the National Ordnance Factories, Leeds, with a request that this group of factories should initiate a scheme to deal with cases of pregnancy occurring among its own workers. This request was seriously considered by the management and an experimental scheme was drawn up by the writers with the active co-operation of the superintendent, to deal with cases of pregnancy up to the birth of the child.

The regulations and terms of employment of these women were discussed with their trades union representative, and were also brought before a meeting of the workers' representatives. It was entirely approved by these women, who had an extremely broad-minded outlook on the whole question, and were able to give valuable opinions on various details of the scheme from the workers' point of view.

The prematernity scheme was opened for the transfer of women in April, 1918, and has worked without any administrative hitch since that date. The women themselves apply at each factory to their welfare supervisor to be enrolled for employment under the scheme. They fill in a form of application, and sign an agreement to accept the wages offered for this class of work. This form is forwarded to the lady superintendent in charge of the scheme, who notifies the factory medical officer of the applications. The factory medical officer examines all applicants as soon as possible, and sends in a report upon them as to date and number of pregnancy, date of expected labour, complications if any, and the grade or work for which they are then suitable, and the desirable dates for transfer to lighter work. From this tabulated list of applicants the lady superintendent of the scheme is able to transfer women to their special work as they become eligible provided there is a vacancy by the delivery of women further advanced in pregnancy working under the scheme.

As regards the choice of work, women on becoming pregnant are very adversely affected by night work apart from any degree of heaviness. Long before pregnancy is obvious to outsiders, and even to themselves, they begin to complain bitterly of the fatigue of night work. For this reason the aim of the scheme is to place expectant mothers on day work only as a routine at the end of the fourth month of pregnancy, and sooner than this date if there is a complaint of great discomfort due to night work.



As soon as these women notify their pregnancy, even though they have not reached the end of the fourth month, an attempt is made to give them light work within the factory while still working night and day shifts. They are removed from any process which involves heavy lifting or sudden strain. The operating of a capstan lathe involves the tightening and loosening of the chuck, which in many cases requires great physical effort to move it. For this reason pregnant women are taken off lathe work as soon as possible after notification. Some automatic machines, electric crane driving, and some labouring inspection processes involve no such straining and are quite suitable employments for women in the early months of pregnancy.

On reaching the end of the fourth month of gestation, or earlier if there is any medical reason, these women are transferred to light sedentary work at a factory engaged in the gauging and assembling of fuse parts. They work from 7.30 a.m. till 5.30 p.m., with the usual factory breaks for meals. They are given the less skilled operations in this factory, as it is not worth while devoting much time to teaching them any work at which they will be employed only a few months. They are paid at the ordinary standard rate for their work, and the only difference in their treatment from the other employees is that they remain constantly on day work instead of being on night shift on alternate weeks.

At the end of the seventh month, or earlier if there is any medical reason, these women are transferred from the fuse factory to a department which for convenience is described as the general clothing store and sewing dépôt. Here they work from 9 a.m. till 5 p.m., with breaks for meals as in the factory. They are engaged upon the making and mending of overalls, caps, trouser suits, gloves, etc., supplied by the factory management for the use of their workers. The last hour of the day is given up to the making of clothes for the baby under the help and guidance of the sewing dépôt forewoman. The sewing is carried out by hand or with the help of hand sewing machines and the pressing with a gas iron.

The sewing dépôt consists of a forewoman's office, a dining-room, cutting out room, storeroom, workroom, lavatory, cloakroom, and rest room. The women have now tables specially made for their work, comfortable chairs, and footstools for the workroom. They are encouraged to lie down in the rest room during part of their dinner hour, and at any other time if they are temporarily indisposed. They are paid while at this work at the rate of 7d. an hour, which equals 22s. 2d. a week, and, in addition, are supplied with half a pint of milk in the middle of the morning and a two-course dinner from the canteen every day as a free gift from the management.

The medical officer sees any woman scheduled under this scheme at any time if this is necessary for any special reason, and visits the sewing dépôt regularly once a week. At this weekly visit she takes a general survey of the health of the women, examines a specimen of urine from each for the presence of albumin, and gives advice to any special case that is in need of it.

The women make their own arrangements for attendance during confinement. They may remain at work until labour begins, if they wish to do so; one woman has been sent home half through the first stage of labour protesting that she would like to stay and have her dinner before leaving.

Since this scheme has been in actual working order one or two points have impressed themselves very much upon our notice. The early notification of pregnancy is entirely a new phenomenon since the workers have come to know that their condition will not lead to the loss of their employment, and the number of applicants for enrolment exceeds greatly the expected number as calculated from the numbers leaving the factory on account of pregnancy previous to the starting of this scheme. This second result is due to two causes: First, there is no object in concealment, as unmarried girls with their first pregnancy are equally cared for with the married women; and, secondly, there seems less anxiety on the part of the married workers to terminate a pregnancy in the early months before its existence can be suspected by any one but themselves. Before this scheme began its operations pregnancy was looked upon as a calamity to be avoided by all possible means, as it inevitably prevented the continuation at work when it became obvious to the factory authorities.

The women working under this scheme appear entirely contented with the conditions of their work and the pay they receive; the only anxiety they show is that they shall be able to find employment somewhere in the factory after their children are born.

At the present time it is too early to make any dogmatic statement about the condition of the children born of these mothers, but even now the general well-being of the mothers is very apparent. Though the period since its opening is so short, the accommodation for applicants has been found to be too small, and it has become necessary to consider the establishment of a much larger workroom. As this workroom is the only one of its kind in the country, the management has already been approached by other factories to admit expectant mothers from outside to its workroom, but naturally without large extension this is impossible.

It seems highly desirable that these mothers shall not be separated from their children when they return to work, so that it is hoped in the near future to establish a post-maternity department, with work for the mothers and a nursery for the children, where they may be breast-fed at suitable intervals.

This whole scheme, which is still in the experimental stage, has been worked out on the assumption that it is no charity, but rather sound business, for a large factory to care for its workers who are expectant mothers, and up to the present this assumption has proved true. The women fully earn their wages, and the factory has the benefit of their work. They themselves are healthy, and it is our confident expectation that in due course the children will show the results of the care bestowed upon their mothers before they were born.

## NOTES ON THREE FATAL CASES OF B. AERTRYCKE INFECTION.

A. J. JEX BLAKE, M.D., F.R.C.P.LOND.,

MAJOR R.A.M.C.(T.F.),

AND

W. JAMES WILSON, M.D., D.Sc., D.P.H.,

BRIEFET MAJOR R.A.M.C.(T.F.),

FROM A GENERAL HOSPITAL IN FRANCE.

MORE or less severe outbreaks of diarrhoea and of gastro-enteritis are common among soldiers in camps, but it is not often that the infecting agent can be found and identified. The three fatal cases of acute gastro-enteritis we are about to describe were admitted to hospital from a large convalescent dépôt near by, in which several hundred other (but milder) cases of the same disorder occurred. The very complete investigations of Captain Perry, R.A.M.C., and Captain Tidy, R.A.M.C.(T.), have proved that the infecting agent in these milder cases was, as in our three patients, *B. aertrycke*.

### CASE I.

Pte. D. H., aged 27. Admitted April 17th in a state of collapse; grey in colour with sunken eyes, cold extremities, no pulse at the wrist, weak heart sounds (rate 130), temperature 95° F. Stated that he had had continual diarrhoea and vomiting with much abdominal pain since April 13th. During the day the patient took nothing but cold water, vomiting without effort yellowish-green mucous fluid, and passing several greenish pea-soup-like stools containing no solid particles or blood. In the evening he became unconscious, with infrequent shallow respiration, but was much improved by the intravenous infusion of three pints of 6 per cent. gum acacia solution combined with 11 drachms of sodium bicarbonate.

April 18th. Temperature 96.4° F., pulse 150. Extremities cold; abdomen retracted, tender, rather rigid, spleen not palpable, borborygmi. Diarrhoea and vomiting continue uncontrolled by morphine given under the skin.

April 19th. Temperature 97.2° F. last night, 95.8° F. this morning; pulse 92. Patient has vomited ten times and had his bowels open thrice in the last twenty-four hours, thin yellow-green fluid in each instance. He prefers cold water to all other forms of fluid offered him; and complains much of abdominal pain, unrelieved by hot applications.

April 20th. Temperature 96.8° F. last night, 96.0° F. this morning. Patient is weaker, lies with his eyes half open. The diarrhoea and vomiting continue unrelieved by morphine hypodermically or Dover's powder by the mouth. Abdomen retracted, soft, tender. Fluids taken badly.



April 21st. Mucous rile in the throat much riler in the lungs; incontinence of urine and faeces passed at the wrists; heart beating 78 regular. Patient died shortly after the afternoon.

## CASE II.

Lieut.-col. J. A. M., aged 50. Admitted April 17th, collapsed, rather grey. Temperature 98° F., pulse 124. Stated that he had had diarrhoea and vomiting since April 13th, with much abdominal pain.

April 18th. Patient looks worse. Temperature 96° F., pulse 140, voice reduced to a whisper. Diarrhoea and vomiting continue uncontrolled by morphine gr.  $\frac{1}{2}$  hypodermically. Abdomen full, general tenderness and slight rigidity, borborygmi; spleen not felt.

April 19th. Temperature 97.6° F. last night, 96° F. this morning, pulse 88. The vomiting of thin yellow bilious fluid continues about hourly unchecked by morphine or Dover's powder. Patient is listless, unwilling to take anything but cold water. Abdomen a little retracted and rigid, has been very painful. Occasional attacks of hiccough last night and to-day.

April 20th. Temperature 96.4° F. last night and this morning. Patient is losing ground. There is weakness of left upper eyelid and tendency to upward and outward squint of left eye, both disappearing when his attention is fully roused; attributed to muscular weakness. Vomiting six times, diarrhoea twice in the night.

April 21st. Patient is weaker; the diarrhoea and vomiting have ceased; there is a small amount of mucus in the stool, but very badly. Abdomen soft, rather hollow; no rose spots, spleen not felt. Later the patient was pulseless, cold, with spasmodic respiration; the intravenous infusion of two pints of 6 per cent. gum acacia, with four ounces of champagne, produced a weak pulse and brief return of consciousness, but death occurred two hours later.

The symptoms presented by these two patients were those of acute gastro-enteritis, with grave toxæmia and great bodily weakness. The temperature was constantly subnormal. Both patients took water freely, and, in spite of the frequent vomiting and passage per anum of what appeared to be pure bile and water mixed with a little mucus, did not waste away very considerably during their nine days of illness.

The third patient had a milder attack of gastro-enteritis, complicated with bronchitis and pneumonia, for which he was admitted to hospital thirty hours before he died.

## CASE III.

Pte. J. McG., aged 32. Admitted for acute on chronic bronchitis, having had diarrhoea and vomiting for a few days (period uncertain). Patient was a stout man, cyanosed and orthopneic on admission, too ill for a thorough examination. Temperature 103° F., pulse 106, respirations 32. The pulse was very weak, moist râles were heard over the chest, and twenty-eight pea-soup-like stools were passed during the last twenty-four hours of life. There was no vomiting.

The patient died of heart failure with increasing cyanosis and dyspnoea the day after his admission, much exhausted by the diarrhoea.

## Post-mortem Examinations.

CASE I.—Pte. D. H. Examined twenty hours after death. Thin body, sunken eyes, rigor mortis present, much post-mortem staining of the dependent parts of the body. The lungs showed adhesions in front on both sides; on section the lung tissue was congested and friable, and a little mucus could be expressed from the tubes. The heart showed a few ecchymoses on the surface of the right ventricle; there was much clot in the left ventricle; a little in the right and in the auricles. The liver was pale and firm on section; the edge showed cloudy swelling. The gall bladder was full of thick yellow mucous fluid, tense and congested, with a few adhesions to the omentum. On section a few ecchymoses were seen at the fundus; the mucous membrane was not swollen. The spleen was small, with wrinkled capsule, tough on section. The pancreas, suprarenals, kidneys, and bladder showed nothing abnormal.

Alimentary Tract.—Oesophagus normal. The stomach showed congestion and ecchymoses on the greater curvature. Duodenum congested, with many ecchymoses. Jejunum slightly congested throughout, especially on the valvulae conniventes. The ileum contained reddish fluid; it was slightly congested throughout, lymphoid follicles not prominent. Caecum intensely congested; appendix normal; ascending colon intensely congested, transverse and descending colon not abnormal. The rectum was normal. No ulceration found in any part of the alimentary tract.

Peritoneum normal, mesenteric glands a little enlarged. Brain normal, cerebro-spinal fluid opalescent.

Pure cultures of *B. aertrycke* were made from the bile and spleen; the urine was negative.

CASE II.—Lieut.-Col. J. A. M. Examined thirteen hours after death. Well nourished body, sunken eyes, rigor mortis present; slight post-mortem staining of dependent parts.

Trachea and vocal cords normal; lower lobes of the lungs congested and friable. The heart showed a few petechial

haemorrhages on the ventricles; the left ventricle contained much clot. The liver was natural; gall bladder congested. Spleen and on section showed a few petechial haemorrhages. The spleen was a little enlarged; firm on section. Pancreas, suprarenals, kidneys, and bladder not abnormal.

Alimentary Tract.—Oesophagus normal; stomach somewhat congested at the pyloric end. Duodenum normal; jejunum and ileum for the most part intensely congested, with two or three segments a couple of feet long free from congestion. Lymphoid follicles prominent throughout as small white raised spots; Peyer's patches not conspicuous. Caecum intensely congested, marked with many sago-grain lymphoid follicles; appendix normal. The ascending and transverse colon intensely congested, with conspicuous sago-grain follicles. The splenic flexure also intensely congested, with sudden transition to the descending colon and sigmoid showing slight congestion and prominent lymphoid follicles; the rectum was normal; no ulceration was found in any part of the alimentary tract.

The peritoneum was normal; many of the mesenteric glands enlarged to the size of beans or peas, hard and white on section. The brain was normal. *B. aertrycke* was cultivated from the spleen, bile, and urine.

CASE III.—Pte. J. McG. Examination seventeen hours after death. The right upper lobe was in a state of red hepatization, the middle and lower lobes congested and partly hepatized. The left lung was oedematous, and showed emphysema at its margins. The heart, pancreas, suprarenals, and kidneys were not abnormal.

Alimentary Tract.—The cardiac end of the stomach showed ecchymoses and congestion, the duodenum congestion. The upper end of the jejunum was normal, the lower part showed patches of congestion. The ileum was congested in patches, and exhibited a few petechial haemorrhages, but no obvious lymphoid follicles. The caecum was congested; the ascending colon was slightly congested, the transverse normal. The splenic flexure and descending colon were deeply congested; plaques of greyish-white mucus adhered to the deeply congested mucosa of the sigmoid, while the rectum was normal.

*B. aertrycke* was grown from the sigmoid mucosa, but was not obtained from the spleen, gall bladder, or urine.

## Bacteriological Examination.

On April 18th the stools and vomit of D. H. were planted out on MacConkey bile-salt-lactose-agar plates. An exceedingly large number of non-lactose fermenting colonies developed—in fact, the faecal specimen yielded as many of these colonies as of *B. coli*. Subcultures gave the usual characters of the *B. paratyphosus* B group, and our R.A.M.C. paratyphoid B serum agglutinated the bacilli in a 1 in 5,000 dilution. This result indicated that the organism was either *B. paratyphosus* B or *B. aertrycke*, as it was unlikely that *B. enteritidis* (Gaertner) would be agglutinated in this manner. It was soon found that *B. enteritidis* serum of a 1 in 12,000 titre had no effect on the bacillus of D. H. in a 1 in 50 and higher dilutions.

To determine whether the micro-organism should be classed as *B. paratyphosus* B or *B. aertrycke*, absorption experiments were carried out in conjunction with Captain Perry, R.A.M.C., to whom we were indebted for a supply of *B. aertrycke* serum. The absorption tests demonstrated that the bacillus was of the *B. aertrycke* type and not a true *paratyphosus* B, although very closely related to the latter. These findings were in complete agreement with the clinical condition, which suggested a diagnosis of food poisoning rather than of paratyphoid fever. In our work the Dreyer technique was employed throughout.

On April 20th blood was taken from D. H. and J. A. M. for culture and agglutination tests.

Culture Results.—Enterococci were present in the blood of D. H.; that of J. A. M. was sterile.

Agglutination with Oesophageal Strains of *B. aertrycke*.

	1 in 25.	1 in 50.	1 in 125.	1 in 250.
<i>D. H.'s serum:</i>				
Typhoid ...	+++	+++	++	—
Paratyphoid A ...	+++	+++	—	—
Paratyphoid B ...	+++	+++	++	—
<i>J. A. M.'s serum:</i>				
Typhoid ...	+++	+++	—	—
Paratyphoid A ...	++	++	—	—
Paratyphoid B ...	+++	+++	++	—



H. culture from spleen was then employed in a fresh stock culture. From this agar slope yielded with the serums the following results:

*H.'s Bacillus with Serums.*

	1 in 25.	1 in 50.	1 in 125.
D. H.'s serum ... ..	+++	-	-
J. A. M.'s serum ... ..	++	-	-

The bacilli being recently isolated were much less readily agglutinated than the Oxford emulsion.

For twenty-four hours before his death J. A. M. ceased to have diarrhoea and to vomit, so no material was obtained until the autopsy. On April 22nd *post mortem* examinations were made; an account of the findings has already been given.

On April 23rd the agglutination of cultures from the spleens of D. H. and J. A. M. was tested with a *paratyphoid* B serum which was supposed to be effective up to a dilution of 1 in 8,000 (R.A.M. College serum).

*Paratyphoid B Serum.*

	1 in 500.	1 in 1,000.	1 in 2,500.	1 in 5,000.
D. H.'s bacillus from spleen ...	+++	+++	+++	+++
J. A. M.'s bacillus from spleen ...	+++	+++	+++	+++

*Absorption Experiments.*

The results of a few out of many tests were as follows:

The *paratyphoid* B serum which agglutinated D. H.'s bacillus up to 1 in 5,000 and the Oxford *B. paratyphoid* B emulsion up to 12,500, was stated on the bottle to agglutinate *B. paratyphoid* B up to 1 in 8,000. It was a year old, and was diluted 1 in 20 in the bottle.

*Experiment 1.*—Dilutions of 1 in 100 of this serum were made, and were saturated with (1) growth from stock *paratyphoid* B agar culture, and (2) a similar culture of D. H.'s bacillus, and kept for two hours at 37° C.

	1 in 200.	1 in 500.	1 in 1,000.	1 in 2,000.
1) Serum saturated with <i>paratyphoid</i> B bacillus:				
D. H.'s bacillus ... ..	-	-	-	-
<i>Paratyphoid</i> B ... ..	-	-	-	-
2) Serum saturated with D. H.'s bacillus:				
D. H.'s bacillus ... ..	-	-	-	-
<i>Paratyphoid</i> B ... ..	+++	+++	+++	-

It would seem that D. H.'s bacillus in two hours can remove four-fifths of the *paratyphoid* B agglutinins, whilst *B. paratyphoid* B under the same conditions removes all the agglutinins.

*Experiment 2.*—A serum which agglutinated the Oxford emulsion *paratyphoid* B up to 1 in 12,500 and D. H.'s bacillus up to 1 in 5,000 was saturated with (1) *B. coli* and (2) D. H.'s bacillus, exposed to two hours' incubator temperature, and then left in the laboratory overnight at room temperature.

	1 in 250.	1 in 500.	1 in 1,250.	1 in 2,500.	1 in 5,000.	1 in 12,500.
1) Serum saturated with <i>B. coli</i> .*						
<i>Paratyphoid</i> B Oxford emulsion	+++	+++	+++	+++	+++	+
D. H.'s bacillus ... ..	+++	+++	+++	+++	+	-
2) Serum saturated with D. H.'s bacillus:						
<i>Paratyphoid</i> B Oxford emulsion	+++	+++	+++	+		
D. H.'s bacillus ... ..	-	-	-	-		

\* Neither *paratyphoid* B Oxford emulsion nor D. H.'s bacillus agglutinated at 1 in 25,000.

The conclusion is that D. H.'s bacillus can absorb at least four-fifths of *paratyphoid* B agglutinins from a *paratyphoid* B serum, whilst *B. coli* has no such effect.

*Experiment 3.*—The same serum as in Experiment 2 was saturated with J. A. M.'s bacillus (spleen), with *paratyphoid* B.

and with another strain of *B. coli*. Instead of the Oxford emulsion, an emulsion of laboratory strain of *B. paratyphoid* B was employed.

*End point for B. paratyphoid B:*

Before saturation ... ..	1 in 1,000
After saturation with <i>B. paratyphoid</i> B ...	1 in 1,000
After saturation with J. A. M.'s bacillus ...	1 in 1,000
After saturation with <i>B. coli</i> ... ..	1 in 5,000

*End point for J. A. M.'s bacillus:*

Before saturation ... ..	1 in 5,000
After saturation with <i>B. coli</i> ... ..	1 in 5,000
After saturation with J. A. M.'s bacillus ...	1 in 500
After saturation with <i>B. paratyphoid</i> B ...	1 in 500

*Experiment 4.* This experiment proved that D. H.'s bacillus was of the *B. aertrycke* group.

A sample of *Healtgood* serum was obtained from Captain Perry and was found to cause standard agglutination of D. H.'s bacillus, and of the Oxford *B. paratyphoid* B emulsion in 1 in 2,500 dilution, and of the laboratory *paratyphoid* B culture in 1 in 12,500 dilution.

When the serum was diluted to 1 in 200 and equal volumes of it saturated with the growth from three agar slopes of D. H.'s bacillus and three agar slopes of *B. paratyphoid* B, the agglutination results after two hours at 37° C. and twenty hours at 22° C. were as follows:

	1 in 500.	1 in 1,000.	1 in 1,250.	1 in 2,500.	1 in 5,000.	1 in 6,250.
1) Serum saturated with D. H.'s bacillus						
D. H.'s bacillus ... ..	trace	-	-	-	-	-
<i>B. paratyphoid</i> B emulsion ...	-	-	-	-	-	-
Oxford emulsion of <i>B. paratyphoid</i> B	-	-	-	-	-	-
2) Serum saturated with <i>B. paratyphoid</i> B:						
<i>B. paratyphoid</i> B ... ..	trace	-	-	-	-	-
Oxford emulsion of <i>B. paratyphoid</i> B	trace	-	-	-	-	-
D. H.'s bacillus ... ..	+++	+++	+++	+++	+++	+++

There was standard agglutination of D. H.'s bacillus with a 1 in 12,500 dilution of the serum saturated with *B. paratyphoid* B.

The conclusion to be drawn from this experiment is that from a specific *B. aertrycke* serum (type B, Lister Institute) D. H.'s bacillus can remove all the agglutinins, whilst *B. paratyphoid* B leaves unabsorbed those for D. H.'s bacillus, and that in consequence D. H.'s bacillus is not identical with *B. paratyphoid* B but is of the *B. aertrycke* group.

## VENTRAL HERNIA:

### A DEVICE TO STRENGTHEN THE ABDOMINAL WALL.

BY

H. H. GREENWOOD, M.B., B.S. LOND., M.R.C.S.,

CAPTAIN R.A.M.C.(T.),  
LEEDS.

REPAIR of the majority of cases of large ventral hernia can be adequately effected by one of the established methods or by a judicious combination of several, but occasionally one is encountered so extreme in degree, so crippling in its results, that life becomes a burden to its unfortunate owner, and the surgeon views with dismay the huge tract of thinned abdominal wall, beneath which movements of intestine are disconcertingly evident.

These extreme cases are usually the sequel of sepsis. In Stanton's report<sup>1</sup> on 500 laparotomies, of which 24 developed ventral hernias, it is stated that 21 out of the 24 were due to sepsis. Such was the sequence of events in the case to be described. Hysterectomy for impacted fibroid tumour of the uterus was performed in February, 1913, by the abdominal route. This was followed by sepsis of the wound and the discharge of urine through a fistulous opening, which finally closed; the weak scar allowed the formation later of a huge ventral hernia in the middle line, reaching from above the umbilicus to the pubes.

Locomotion grew more and more restricted, so that finally the patient could only walk some fifty yards without assistance. Various types of abdominal belt were tried without avail; operation was discouraged for a long time, but she still urged that an attempt should be made.



A device was employed at the operation which may well serve as an adjunct to the ingenious and effective technique of Haines.<sup>2</sup> I cannot find in the literature a reference to this method, and as any plan which will strengthen the abdominal wall in these extreme cases may prove helpful, it seems worth while recording it.

The patient, Mrs. W., was a multipara, aged 58 years. Operation was preceded by three weeks' rest in bed, restricted diet, purging, and abdominal kneading. The abdomen showed the usual deep hollowing of the upper half, and the recti were obviously displaced to the extreme outer edges of the hernia.

On July 26th, 1918, a transverse incision, curving downwards, was made, midway between the umbilicus and pubes, from the outer border of one rectus to that of its widely separated fellow. A crescentic piece of skin was excised and the flaps carefully dissected up and down. Here a feature that is usual in cases following sepsis was recognized—that is, considerable thickening of the rectus sheath, so that the muscle was "hide-bound," as it were.

In the Trendelenburg position the intestines, covered by the translucent transversalis fascia and peritoneum, still bulged forward, and the recti remained immovable.



FIG. 1.—1, Skin. 2, Subcutaneous tissue. 3, Rectus in sheath. 4, Transversalis fascia. 5, Peritoneum.



FIG. 2.



FIG. 3.



FIG. 4.



FIG. 5.

A longitudinal incision through the anterior layer of each rectus was made close to and parallel with the outer border (A A', Fig. 2), the flaps dissected off the muscle and turned inwards (B B', Fig. 3). The muscles were freed also on their posterior aspect nearly up to their outer margin, and by pulling firmly on the flaps these could now be made to overlap, and the recti could be drawn inwards almost to the middle line.

Protrusion of the bowel proving rebellious to pressure, the peritoneum was opened, the intestines pushed upwards and kept back by a flat swab; by pulling on the stout fascial flaps the peritoneal edges were reunited with fine catgut. In more favourable cases this step may prove unnecessary. This detail does not affect the principle involved in the operation.

On one side (at c) it was necessary to peel outwards the diaphanous layer of combined transversalis fascia and peritoneum from the posterior layer of the rectus sheath, and in the angle the free edge of the flap B' was fixed by a series of interrupted stitches of No. 2 catgut. The opposite flap was similarly treated, the two forming a firm bed, on which a McGavin filigree was placed, for it was found that the edges of the recti could not be brought into contact without tension. It is possible that implantation of the filigree was superfluous, but it was felt to be the more prudent course. The rest of the operation was completed on familiar lines.

An important rule, sometimes disregarded and not sufficiently emphasized in the textbooks, is the preservation of the anatomical integrity of the parts adjoining the

linea semilunaris. If the rectus be completely dislocated and displaced inwards, a gap of merely fibrous tissue is left between its outer edge and the strong line of junction of the transversalis with the oblique muscles. By using the method advocated in this paper, the muscle planes in their normal relations are drawn as near to the middle line as is practicable, and any gap that remains is in the middle line, where it can be the more easily bridged by a filigree or controlled by a belt.

Advantages gained by this simple device are:

1. The hide-bound muscles are freed from the strangling effect of contracting scar tissue.
2. The denuded anterior aspect of the rectus comes to lie covered by subcutaneous fat, which tends to prevent reformation of excessive scar tissue.
3. Release of the muscles from dense scar tissue allows of improved blood supply and development.
4. The stout flaps raised from the anterior surface of the muscles give purchase whereby the recti can be drawn inwards.
5. There is no interference with the nerve supply entering the outer border of the muscles.
6. The overlapped flaps form a firm bed on which a filigree may be planted if deemed necessary.

The patient made an uneventful recovery, and now walks well.

The drawings, based on the excellent figures given by Haines, are diagrammatic; sutures are omitted for the sake of simplicity.

#### REFERENCES.

- <sup>1</sup> *New York State Med. Journal*, 1916, xvi, p. 511. <sup>2</sup> *New York Med. Journal*, January 10th, 1917.

## BOOT HEELS AS A CAUSE OF FLAT-FOOT, SOLDIER'S HEART, MYALGIA, Etc.

BY

SYLVESTER D. FAIRWEATHER, M.B., CH.B. ABERD.,  
CAPTAIN R. A. M.C.

In a normal barefooted man the balance of the body is so perfect that practically no effort is required to keep erect. The weight rests on the heels and outer sides of the feet, not on the arch or inner sides of the feet.

If the heels are raised from the ground by boot heels even a quarter of an inch thicker than the soles the outer side of the foot is removed from the ground and the weight falls on the arch. The centre of gravity is also thrown forwards, and in a man of 5 ft. 7 in. the head is thrown nine inches off the vertical by a heel three-quarters of an inch high. To remedy this, and to prevent falling forwards, the back muscles and the extensors of thigh and foot come into action. The peroneus longus and brevis, while extending the foot, also evert it, and the tibialis anticus which supports the arch and inverts the foot gets elongated and ceases to act. Thus, when an ordinary boot is used, even with a low heel, three influences tend to flatten the arch, namely:

1. The weight of the body, resting on the arch, instead of on the heel and the outer side of the foot.
2. The peroneus longus and brevis pulling the arch down.
3. The tibialis anticus is out of action, and no longer supports the arch.

A strongly formed foot is able to resist these influences, so that when the boot is removed the arch appears perfect, but if skiagraphed with the boot on, and off, flattening and lowering of the arch are evident. Unfortunately, when a foot is examined by a medical man he does not see what goes on inside the boot, and when weight is put on a bare foot the arch is not flattened as with the boot on. Even when a foot is able to preserve its arch, the elasticity of the arch is lost while the boot is worn, as the peroneus longus and brevis anchor the foot in the everted position, and the tibialis anticus is idle. The muscles concerned in preserving the erect position are in continuous contraction, and get spastic, or "muscle bound," and the calf and back muscles are consequently most affected in "myalgia." With average heels (three-quarters of an inch thicker than the soles) the calf muscles contract three-quarters of an inch, even when standing, leaving



only a very limited amount of further contraction possible. Hence the fact that so many men cannot jump the trivial height of 3 ft. In some cases the strain on the peroneal muscles gives rise to painful spasm. When the boot heels are discarded the spasm is relaxed and operative treatment of the peroneal tendons is rendered unnecessary. In a flat-footed person, with ordinary boots, the peroneal muscles pull on the flattened arch, tending to produce a downward convexity, and causing pain by pulling the flattened arch against the sole of the boot. With heelless boots the peronei are no longer in continual contraction, and as the weight is no longer on the arch, the strain is removed from the plantar muscles and ligaments, and the arch gets a chance to recover. With heels the spastic condition of the calf muscles makes the front of the foot point downwards, and in walking the knee has to be lifted to let one foot clear the ground and pass the other. An American Indian is not handicapped in this way; he slightly dorsiflexes his foot and glides it past the other, swinging the leg from the hip-joint and not requiring to raise the knees. His foot scarcely leaves the ground, so that there is no jar when his heel again touches the ground, and consequently no need for rubber heels. He uses the pendulum movement recommended in "Infantry Training," a movement which is rendered impossible by boot heels. Hence the reputed "superior stamina" of the Indian. With heeled boots he would have no more stamina than a white man. His flat feet (caused by his method of carrying weights) do not handicap him, as his moccasins are heelless. A soldier of 5 ft. 7 in., weighing 154 lb., and wearing a heel three-quarters of an inch thicker than the sole, has to exert strength enough to be constantly lifting 56 lb. from the ground in trying to retain his balance.\* In a man loaded with 60 lb. equipment this means that he has to support 116 lb., nearly doubling the weight he is supposed to carry. This is doubtless one factor in the etiology of soldier's heart, as every heart, even if healthy, is not equal to this strain.

A woman of 5 ft. 6 in., with an arch six inches wide, and wearing a heel two inches high, is thrown two feet off the perpendicular. Muscular effort cannot bring her back to the normal vertical line, and accordingly she keeps the tarsal and metatarsal bones in line with the tibia, and uses the metatarso-phalangeal joints as a heel, the boot heel being chiefly used to assist balance and not to support weight. This involves much strain, and to preserve the lumbar curve without overtaxing her back muscles she is obliged to use corsets. The use of waist belts by men is similarly explained. The waste of neuro-muscular energy in retaining an erect posture when wearing heels is very great, and must play a large part in producing hysteria, neurasthenia, and possibly refraction troubles. Heels are also partly responsible for hammer toes, the long flexors of the toes being supplied by the same nerve as the calf muscles, and getting spastic with them.

Sprained ankles, the stoop of old age, asthma, varicose veins, weak back, and spinal curvature may also be partly due to the effect of heels. Cycling and tiptoe exercises tend to produce flat-foot, as they develop the calf muscles and peronei, and neglect the tibialis anticus which is the most important muscle concerned in preserving the arch.

A rational boot should have the soles and heels of the same thickness. Under the arch of the foot the sole should be curved with a convexity upwards, but not so convex as to cause pressure on the sole. The leather could be reinforced by spring steel from the heel to the ball of the foot. The inner edge of the boot should be straight, so as to allow the big toe to be in line with the inner side of the arch, as in American boots. The front part of the sole should not be curved up, but flat; with "pendulum" gait the toe of the boot does not hit the ground. A boot as suggested, with an arched sole and heel of the same thickness, is in appearance almost indistinguishable from an ordinary boot. The arching of the sole is not necessary to cure flat-foot, but it looks better, and allows the boot to be laced firmly, thus compensating for the loss of muscular sense that occurs in a foot when any sort of footwear is used. In hopeless cases of flat-foot a boot with no heel will at least be more comfortable than the present day boot. The spastic calf muscles will not

relax immediately the boot heels are discarded, and consequently at first some awkwardness will be felt in walking. Very soon, however, the tibialis anticus develops, the ankles get stronger, the legs straighter at the knees, the foot gets shorter as the arch recovers, and any tendency to eversion disappears. The figure gets more erect, the chest capacity increases, and walking becomes a pleasure, and as the neuro-muscular energy wasted in neutralizing the forward tilt caused by boot heels becomes conserved, the health, strength, and stamina improve.

#### SUMMARY.

1. The sole of flat-foot the heel and sole should be of the same thickness.
2. Arch supports and thickening inner side of sole and heel fail to cure because the os calcis is raised from the ground with the aforementioned results.
3. Boot heels rob the arch of its elasticity instead of supporting it.
4. Exercises should aim at developing the tibialis anticus, and not the calf muscles as hitherto taught.
5. A heel even a quarter of an inch thick is harmful.
6. Flat-foot is no disability if heelless boots are worn, except in hopeless cases.
7. Boot heels help to produce soldier's heart, myalgia, and numerous other ailments.
8. With heelless boots women would not require corsets.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### A SIMPLE SPLINT FOR FACIAL PARALYSIS.

In the case of injury to a motor nerve—for example, the radial (musculo-spiral)—the muscles supplied by it are paralysed and the contraction of opposing sound muscles, aided in the above case by gravity, when splinting is not resorted to, overstretches the flaccid paralysed muscles.

It is universally recognized that where recovery is going to take place it will be delayed and rendered imperfect if this overstretching is permitted to take place. In the limbs this overstretching is easily corrected by appropriate splints. In injury to the facial nerve of one side, with resulting facial paralysis, overstretching of the paralysed muscles will be caused by the contraction of the muscles of the opposite side, especially when the latter muscles are put into use, as in smiling, laughing, talking, and during mastication. Moreover, the sound muscles will be placed at a disadvantage, as their points of attachment are drawn nearer to the point of origin. Not only is one side paralysed, but the sound side is hampered in its range and power of action. Consequently, the patient experiences a double difficulty in talking and masticating.

To avoid this, the following simple yet effective appliance has been invented and brought to my notice by Miss Jennings, who is assistant in the electrical and massage departments at No. 1 Australian Auxiliary Hospital at Harefield. It was used by her before the war, and has been in use at Harefield for over two years. It consists of a piece of malleable German silver wire, bent so as to hook into the corner of the mouth and over the ear of the affected side, like the curl side of a spectacle. It is easily adjusted by bending the ear piece till the tension is correct and comfortable. Its advantages are: (1) Simplicity and lightness; (2) prevention of overstretching of the paralysed muscles, and so rendering recovery more rapid; (3) it gives the sound muscles a fixed point to work against and by preventing shortening renders them more effective in action; (4) it is greatly appreciated by the patients, who state that they feel more comfortable and can masticate much better. If properly adjusted there does not appear to be any tendency to make

\* This can be proved roughly by using a log of this weight, tilting it by a block of wood three-quarters of an inch thick to represent the boot heel, and attaching a rope to the centre of the log, and leading it over a pulley and attaching weights.



## THE CAUSE AND CURE OF CONSTIPATION.

THE habit of swallowing aperients is the direct cause of habitual constipation. Liquid faeces pass along the large bowel too easily, thus causing it to lose peristaltic tone, as it has not the normal work to do. In the sigmoid flexure and rectum normal faeces form a compact solid mass which is expelled by a strong muscular effort. If an aperient is taken this compact mass is largely broken up, and expulsion thereby made easier. Easy expulsion means less muscular effort; less muscular effort is followed directly by deterioration of the quality and tone of the muscles concerned.

The cure of constipation calls for patience and perseverance. A convenient hour must be chosen, and at this time every day a serious attempt must be made to defaecate; the endeavour, if unsuccessful, should be continued for from fifteen to thirty minutes. The endeavour trains and develops the muscles. If still unsuccessful, a suppository of soap or glycerine may be inserted twice a week. The most obstinate case of constipation can be cured in this way in from one to six months. As soon as a regular habit of defaecation is established there will be no further trouble; change of environment and diet may cause some slight embarrassment, but the abdomen and its contents being well developed the difficulty is overcome in a few days. During illness there may be constipation, but on recovery the habit of defaecation is soon re-established. If lacerations, however slight, of the perineum were invariably stitched, the muscular effort necessary to empty the rectum would not cause displacement of the uterus.

### Conclusions.

1. The child should be encouraged from infancy to form a regular habit of defaecation.
2. The giving of drugs to children, except under medical supervision, should be prohibited.
3. The bowel ought to be stimulated by a suppository in preference to taking aperient medicine, because the suppository stimulates but does not lessen muscular effort. The aperient softens the faeces and so causes less muscular effort to be made during defaecation.
4. The advertisement and display of aperients ought to be attacked. The local medical society ought to publish propaganda leaflets setting out that aperients are not only quite unnecessary to good health, but harmful, and that constipation can be cured by self-effort.

Derby.

A. C. ADAMS.

## RESTORATION OF FUNCTION AFTER PENETRATING WOUNDS OF JOINTS.

MAJOR EVERIDGE appears to have been working on the knee-joint on the same lines as I have on the elbow-joint since 1913. In our conclusions we are agreed. It is essential in all cases of injury or sepsis of these joints to establish at a very early stage, usually at the end of a week, gradual progressive movements. I have been working with a loose-jointed Thomas type of arm splint, the variation of position being attained by a pair of webbing straps attached above to the ring and below to the bars of the splint near the wrist. By varying daily the tension of the straps, so that in the course of a week the joint is acutely flexed, and then relaxing them daily until the joint is extended, I have got most gratifying results in very severe fractures of the elbow-joint and in cases of septic compound fractures of the humerus.

Major Everidge's apparatus is ideal, but a little complicated. I venture to suggest that an attempt be made to simplify it by using the ordinary beam suspension available in all hospitals; and to get the daily or more frequent minute degree of variation of position by webbing straps from the back of the ring to the irons of frame near the ankle-joint. Too much emphasis cannot be put on the necessity of early and gradual movements of all joints we have to deal with in this war. Unless constantly supervised the patient will get his limb comfortable and still, instead of varying the joint position frequently and so preventing the formation of adhesions. In examining

numerous radiographs of the majority of compound fractures often not involving the joint, the most striking point is that the joint appears hazy, like a bad radiograph. Comparing the sound joint radiographed on the same plate, it is seen at once that the fault is in the joint of the injured limb, not the radiograph. I believe this hazy condition indicates a degree of septic arthritis, and certainly these joints, if kept still for a very short time, form firm adhesions. Forcible movement makes them worse, but a frequent minute variation of the angle of flexion or extension of the joint gives a good result. Major Everidge's paper will do great good by drawing attention to the importance of early movement in all cases of joint injury, even when septic.

Reading.

W. J. FOSTER, F.R.C.S.

## "CHRONIC" DIPHThERIA.

A FEW days ago a boy, aged 7, was brought to me with a twelve months' history of nasal discharge, attended by repeated attacks of sore throat, earache, cervical adenitis, general malaise, and drowsiness. I noted a muco-purulent nasal discharge, excoriation of the nares and upper lip, slight enlargement of the right tonsil and of the cervical glands on that side, and a temperature of 99.6°. A throat swab sent to the public health laboratory proved to be positive for diphtheria.

This looks like a case of a carrier in whom, for over a year, there have been repeated mild attacks of diphtheria of such frequency as almost to constitute a chronic condition of the disease.

Sheerness.

W. A. NORMAN-ROBINSON, M.D., Ch.B.

## Reviews.

### HIRST'S "OBSTETRICS."

PROFESSOR HIRST's well-known *Textbook of Obstetrics*,<sup>1</sup> which appeared first in 1898, has already had a long career of usefulness and popularity, and the recently published eighth edition is likely to maintain its already high reputation.

The author states in his preface that he has aimed at a condensation of the text and the omission of all unessential matter. In this particular instance the aim was peculiarly laudable, for our recollection of the last edition was that the book was being allowed to run to seed by the introduction of unessential, and in some instances almost irrelevant, matter. The stern application of the pruning knife (or shall we say the blue pencil?) was needed. The author would indeed do well to pursue his aim with the next edition also, as there are still pages of matter which might advantageously be omitted, or transferred to his companion volume on gynaecology. The publishers might also note that sixteen pages of advertisements are fifteen, if not sixteen, pages too many in an already heavy book.

Professor Hirst is an operating gynaecologist as well as an obstetrician, and is a prominent opponent of any efforts to divorce the two subjects. In many respects his volume is eloquent evidence of the advantages of the unification which he has advocated, although, as indicated above, we think he has introduced an unnecessary amount of gynaecology into the book. It is more in the general outlook of the author, in his thorough practicalness, and in the lucidity of his teaching, that one realizes that he has been accustomed to deal with both subjects—with his hands as well as his head—and therefore takes a wide and comprehensive view. His knowledge of obstetric literature and history is encyclopaedic, but in his teaching the art of midwifery is ever given its proper share of attention.

Professor Hirst's opinions are always frankly and unequivocally expressed and his reasons therefor explained. It is positively refreshing to meet an author who has the courage to describe Abderhalden's serum reaction as already discredited. We shall be surprised if before long there is not a chorus of assent from other observers. With regard to scopolamine-morphine treatment in labour

<sup>1</sup> *A Textbook of Obstetrics*. By Barton Cook Hirst, A.B., M.D., LL.D., F.A.C.S., Professor of Obstetrics in the University of Pennsylvania, etc. Eighth edition, revised and reset. Philadelphia and London: W. B. Saunders Company, 1918. (Med. 8vo, pp. 863; 715 figures, 33 in colour. 21s. net.)



the author's attitude is for once Laodicean, but surely the method deserves description, unless, indeed, it has been described *ad nauseam* in the American lay press. We also looked in vain for any ordered discussion of the use of pituitary extract and its place in the obstetric armamentarium.

### JOHN RADCLIFFE, HIS FELLOWS AND FOUNDATIONS.

Books dealing with new work of urgent importance may excusably be brought out with all dispatch, but others gain by deliberate composition and repeated critical revision. This is particularly true of historical books, and of this category *Dr. John Radcliffe: A Sketch of his Life, with an Account of his Fellows and Foundations*,<sup>1</sup> is an admirable example; it is, indeed, perhaps doubtful whether Dr. J. B. Nias, who for years has quietly enjoyed his hobby of collecting biographical data about his predecessors as Radcliffe Travelling Fellows, would have brought his scholarly and fastidious articles before the public eye had it not been for the insistence of the President of the Royal College of Physicians and of the Regius Professor of Medicine at Oxford. The account Dr. Nias gives of Radcliffe contains new matter, and produces a more favourable impression of the man than that conveyed in Pittis's *Life* and by Macmichael in the *Lives of British Physicians* and in the well-known *Gold-headed Cane*.

After carefully looking into the question Dr. Nias comes to the opinion that the Radcliffe Travelling Fellowships were originally intended to benefit the university directly by improving the raw material for appointments to the Regius and other chairs of medicine, and not, as they have since become, for the advantage of the profession at large. The Oxford chairs were almost of necessity filled from the narrow circle of resident medical graduates, whose professional training mainly consisted in an armchair study of Hippocrates and Galen; to correct this state of affairs nothing could be better than an arrangement which ensured a practical acquaintance with the great medical centres of Europe. Radcliffe and Rhodes, the two great benefactors connected with the older university, may, indeed, be compared in their points of view and personalities. The tenure of the original foundation was ten years with a yearly stipend of £300, and on this basis 31 Fellows were elected between 1715, the year after the founder's death, and 1850, when the elections were arranged to take place triennially. Of the 58 Fellows under the new foundation, 48 are living, and their biographies are less detailed; in fact, the author's interest and researches were mainly directed to the older foundation. In the attractive account of the first Radcliffe Travelling Fellow, Noel Broxholm, it appears that up till about 1740 it had been the custom to send to Oxford or Cambridge, as to London, for consultants, but that when county hospitals or infirmaries with attendant physicians sprang up all over England, Oxford ceased to be the centre for consultants in the Midlands; as a result the Radcliffe Travelling Fellows were lured away from their *alma mater*, and the pious founder's project began to be nullified. The account of the Radcliffe Library is contributed by Dr. W. Hatchett Jackson, that of the Radcliffe Observatory by Dr. A. A. Rambaut, and the short account of Radcliffe and University College by the Master, who was instrumental in establishing in 1907 the Radcliffe prize of £50, awarded every other year, for medical research.

Beautifully illustrated and brought out, this work will appeal to all lovers of medical history and will personally attract the medical graduates of the Oxford school, and especially those fortunate enough to have been Radcliffe Fellows or prizemen.

### BAYLISS'S "GENERAL PHYSIOLOGY."

The general appreciation of Professor W. M. BAYLISS's remarkable work, the *Principles of General Physiology*,<sup>2</sup> fully reviewed in our issue of February 19th, 1916, is shown by the need for a second edition, which was apparently completed last year. The amount of fresh

material that has appeared in the interval between these two editions, and demands notice in a work on physiology even with the wide outlook on contemporary knowledge that forms such a striking feature of Professor Bayliss's treatise, is comparatively small, but the volume has been carefully revised, and some passages have been rewritten. This is a book for the advanced and not for the examination-haunted student. It is very different from an ordinary textbook, and being the basis of the lectures of a professor anxious to bring before his audience physiology as a science in relation to other sciences is particularly attractive and interesting; it should be in the hands of every demonstrator and teacher of physiology. Its bibliography is select and educational in indicating the steps in the ladder of our physiological knowledge; and an unusual feature is the series of portraits of the leaders in physiological researches, most of which are extremely successful.

### NOTES ON BOOKS.

THE science of dietetics is still in the making, but has an extensive literature. An excellent review of it is furnished by three American authors in a volume entitled *Nutrition and Clinical Dietetics*.<sup>3</sup> The book is divided into four parts. The first gives a general account of foods and normal nutrition, the needs of the body so far as each chemical class of ingredient being considered separately; it is argued that in the case of protein from 100 to 150 grams a day should be regarded as the normal or desirable quantity, rather than the smaller amounts recommended by Chittenden, and, more recently, Hindbode. The second part gives an account of the chief foods (and drinks) in common use. The third deals with feeding in infancy and childhood, and the last, more than half the whole volume, with feeding in disease. The chemistry of alimentation is kept in view throughout, and the reader is everywhere encouraged to remember the energy requirements of patients; the authors are particularly emphatic in their advocacy of a liberal diet in enteric fever, with a heat value of four or five thousand calories a day. The book is well written, and may be recommended as a textbook of dietetics.

A third and revised edition of Dr. EDMUND SPRIGGS's valuable pamphlet on *Food and How to Save it*<sup>4</sup> has now appeared. Since the publication of the second edition in January last, the extension of compulsory rationing to include meat, fats, and some other foods, as well as sugar, has made it necessary to recast the diets and to make other alterations. But with a food situation which changes from month to month the figures given in the chapters on rations can only apply to the allowances in force at the date of publication. A useful chapter has been added on meatless dinners. The author records his special indebtedness for the aid given in preparing this edition by Professor Starling, Director of Education of the Ministry of Food. We are asked by the Ministry of Food to state that a limited number of copies are available (gratis) for public speakers, and others interested, on application to the Ministry of Food (Room 605), Palace Chambers, Westminster, S.W.1.

Sir JOHN BLAND-SUTTON has the knack of doing interesting things and the power of so describing them to others that they appreciate the atmosphere. His latest experience has been a voyage with a convoy. He gave an account of his experiences in the *Morning Post*, and has now reprinted it in a pamphlet for private circulation. He describes the mustering of the convoy and their shepherding by flag signals in the day and by lights at night, and also the wireless by which the cruiser—and the cruiser only—gets into communication with the destroyer escort, and picks up the time from the Eiffel Tower and news of the war. On the cover he has put a very excellent woodcut of the strange fish chimera, because as the destroyer approached the cruiser with the sharp line of her bows and the bilateral hawse-pipes she "made her look like a Chimera progressing through the water, stern and dignified, like a sea-god."

<sup>1</sup> *Nutrition and Clinical Dietetics*. By Herbert S. Carter, M.A., M.D., Associate in Clinical Medicine, Columbia University, etc.; Paul E. Howe, M.A., Ph.D., Assistant Professor of Biological Chemistry, Columbia University; and Howard H. Mason, A.B., M.D., Instructor in Diseases of Children, Columbia University. Philadelphia and New York. Lea and Feb. ger. 1918. (Med. 8vo, pp. 646, 5/50 doles.)

<sup>2</sup> *Food and How to Save it*. Third edition, including Compulsory Rations. To be purchased through any bookseller or directly from H.M. Stationery Office. (3d.)

<sup>3</sup> *Dr. John Radcliffe: A Sketch of his Life, with an Account of his Fellows and Foundations*. By J. B. Nias, M.D., M.R.C.P., Radcliffe Travelling Fellow, 1882-5. Oxford: At the Clarendon Press. 1918. (Crown 8vo, pp. 147; 15 illustrations. 12s. 6d. net.)

<sup>4</sup> *Principles of General Physiology*. By William Maudslayi Bayliss, M.A., D.Sc., F.R.S. Second edition, revised. London: Longmans, Green, and Co. 1918. (Roy. 8vo, pp. xxiv + 858; 261 figures. 24s. net.)



We have received for review Spanish translations of two English medical works—namely, SARGENT and RUSSELL'S *Essays on General Practice* and WOODWARD'S *Manual of Medicine*.<sup>7</sup> Both are published by the Oxford University Press, and they ought to be valuable to Spanish and South American students, for whose benefit they have been translated.

Sir William Ramsay's life and work as briefly summarized by Professor CHAUDHURI<sup>8</sup> will give Indian students a fair idea of the man and his position as a chemical discoverer. This little book grew out of a memorial essay written for a college magazine, and, though it is difficult to avoid doing so, it is hardly fair to compare it with the true life of Sir William Ramsay written by Sir William Tilden after a friendship of twenty-five years. There are a few misprints, and in places the method of expression and construction are somewhat unusual. Thus, the second chapter, on Sir William Ramsay's researches in pure organic and physico-organic chemistry, begins, "The researches of Professor Ramsay which will pass down to posterity and are destined not to blush unseen," etc., and the book closes with the well meant sentence: "Long might he have lived to further enrich the science which he loved so well." But these are minor criticisms, and no doubt this cordial appreciation will fulfil its purpose.

We have received from Captain R. C. T. EVANS, R.A.M.C., a pamphlet entitled *Apprenticeship v. Conscription*, first issued ten years ago, in which he puts forward a scheme for combining general technical education of youths between the ages of 14 and 17 with a sound military training. For this combined training residence in special technical institutes is suggested. Copies of the pamphlet can be obtained free from the publishers, Messrs. Stanbrook and Sons, Herne Bay, Kent.

<sup>6</sup> *Leçons pratiques de la Pratique de la Médecine* par G. J. B. J. B. C. Cantab., F.R.C.S., and J. A. L. W. W. M.D., F.R.C.S., London: H. Frowde, and Hooper and Stoughton, 1917. (Dent's Sq., pp. xi + 496; 93 figures. 17s. 6d. net.)

<sup>7</sup> *Manual of Medicine*, by A. S. Woodward, M.D., F.R.C.S., London: H. Kegan, and Hooper and Stoughton, 1917. (Gr. Sq., pp. xi + 412. 12s. 6d. net.)

<sup>8</sup> *Sir William Ramsay as a Scientist and Man*, by Tarni Chaudhuri, M.A., Professor of Chemistry, University College, Patana. With an introduction by Panditram N. Ch. M.A., Ph.D., Professor of Chemistry, Government College, Rajshahi. Calcutta: Butterworth and Co., Ltd. (4p. 6d. illustration. Rs. 18 net.)

## MEDICAL AND SURGICAL APPLIANCES.

### Drop-foot Appliance.

WE have received from Mr. C. H. Hough, medical officer in charge of the Ethel Hedley Auxiliary Orthopaedic Hospital, Windermere, a description of an apparatus which has been found efficacious and comfortable in the treatment of drop-foot. It is the invention of Mr. J. M. Sladen of Windermere. The appliance consists of a leather anklet 5 in. wide, in front of which is fixed a leather-covered gun-metal case, C, and a spring, S,  $\frac{1}{2}$  in. wide, slides into the case, C, the top end of the spring, SS,

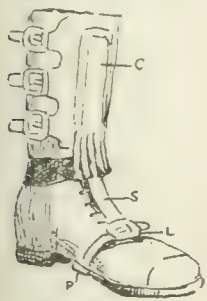


FIG. 1.



FIG. 2.

being thickened to take the wear. A strap,  $\frac{3}{4}$  in. wide, passes through the loop at L, the buckle being central, as shown. The strap, which passes through the metal protector plate, P, to prevent wear, buckles round the instep. The spring is stated to be of sufficient tension to return the foot  $1\frac{1}{2}$  in. Among the points claimed for the apparatus, which weighs 7 oz., are comfort, no special boot required, simplicity, neatness, lightness, adaptability, with power to vary the spring to suit the patient. The anklet will suit either foot, but the patient can adjust the buckles more easily if they are placed on the inside; as shown in the illustration.

## THE LABORATORY DIAGNOSIS OF VENEREAL DISEASES.

IN April, 1917, as we have already noted in these columns, the Medical Research Committee invited a special committee "to consider how far it may be practicable and desirable to obtain the standardization of routine pathological methods," and to report to them. The committee consists of Colonel J. G. Adami, F.R.S., Major F. W. Andrewes, F.R.S., and Professor William Bulloch, F.R.S. They have now presented two important reports, which are published together by the Medical Research Committee, on the laboratory diagnosis of gonococcal infections, and on the methods for the detection of spirochaetes.<sup>1</sup> Colonel L. W. Harrison, D.S.O., was invited to co-operate in the consideration of these subjects, and joined the committee for this purpose.

### Gonococcal Infections.

In the introduction to the first report the committee calls attention to the special difficulties associated with the diagnosis of gonococcal infections and the need for employing methods whereby the chances of error may be reduced to a minimum. Just as a wrong positive diagnosis may inflict grave injury on the individual, so a wrong negative diagnosis may injure the family of the individual and the community to an even greater extent. A diagnosis cannot at present be made with certainty in all cases by bacteriological methods alone, for there are latent cases of gonorrhoea in both sexes which fail to react to any test hitherto devised; nor can bacteriological evidence always replace clinical evidence, but it is an adjunct whose value is greatly increased when it is entrusted to a thoroughly trained bacteriologist employing the best methods.

With regard to the various methods and their limitations the committee deals first with the recognition of gonococci in films; they hold that a positive diagnosis may be justified from microscopical examination of films alone (1) when the clinical history and appearances are those of an acute gonorrhoea; (2) when the proper technique has been employed; and (3) when the observer is so thoroughly familiar with the appearances of the gonococcus in stained films as to be beyond the danger of confusing other micrococci with it. Recognizing that the danger of this confusion is very real, a plate is appended to the report showing accurate coloured reproductions of gonococci as seen in films, and of other micro-organisms which are apt to be present in discharges from the genito-urinary passages. Where, in the acute discharge, microscopical examination is negative, where the clinical history and appearances are doubtful, and where chronic gonorrhoea is indicated or suspected, the diagnosis cannot rest on microscopical examination alone, and its results must be confirmed by cultural and other methods. Further, the gonococci, when apparently eliminated from the primary focus, may still lurk for months or years in the tissues. Here neither microscopical nor cultural investigations of the external passages give positive results, and an indirect method is needed, such as complement fixation.

After enumerating the localities to be examined for the gonococcus in each sex, the committee discusses the methods for its identification in film preparations. The diagnosis, they say, cannot be based simply on the presence or absence of intracellular diplococci, even if of characteristic shape. The common practice of diagnosis by single stain methods alone is therefore not permissible. For official purposes microscopical examination of the gonococcus must be by Gram's method. The many possibilities of error in the original method are enumerated. Of the various modifications which have been proposed in order to obviate these fallacies the committee regards the technique described by Jensen of Copenhagen as the best, and recommends that it be employed to the exclusion of the original method. As to the limitations of Gram's method in the diagnosis of gonorrhoea, the committee considers that these do not seriously affect the diagnosis of the one class of cases in which, in their view, microscopical diagnosis alone gives consistent results—namely, the active acute cases.

<sup>1</sup> Medical Research Committee: Special Report Series, No. 19. It may be purchased through any bookseller or directly from H.M. Stationery Office, 1918. Price 1s. net.



Turning to the cultivation of the gonococcus the committee notes that the number and diversity of the culture media employed appear to be an index of the difficulty of cultivating the organism and the dissatisfaction which the factors have felt with the media used by others. A series of comparative tests was carried out by Captain David Thomson at the Rochester Row Military Hospital, the three most satisfactory media being Thomson's human plasma-glucose agar, Cole's tryptic blood agar, and Gordon and Hines' tyrosinated pea extract agar, of which the methods of preparation are given in an appendix. With regard to the production of a focal gonococcal reaction, caution is recommended in the adoption of this procedure, owing to the danger, for instance, of lighting up a latent iritis or salpingitis.

Since the conscientious examination of a case of suspected chronic gonorrhoea may develop into a lengthy process, needing repeated attendance of the patient and examination by trained specialists, some test is needed which will more simply indicate the presence of the gonococcus in chronic disease. The complement fixation test, like the Wassermann test, has a delicate and precise technique, and satisfactory results are only obtained by those with adequate training in serological methods. It has been extensively employed in the United States, but not as yet in this country. The American literature shows, on the whole, a striking uniformity in the results obtained. The advantages and disadvantages of this indirect method of diagnosis are contrasted by the committee, and the conclusion is drawn that while it cannot replace other methods of diagnosis it may, in certain cases, be the only laboratory means by which a gonococcal infection may be diagnosed. It is most likely to be of value in cases of metastatic infection, where the gonococcus is hard to demonstrate directly. As in the case of the Wassermann reaction, the committee cannot at present recommend any one standard technique for complement fixation, but the methods of four careful observers are appended, and workers in this country are invited to report their results and suggest improvements. It is recommended that steps should be taken to secure the provision of an official standard polyvalent antigen; that in tests made for official returns the method employed should be clearly stated; and that the laboratories in which such tests are performed for the public services should be few rather than many, those selected for Wassermann tests being utilized for this purpose, and reports being accepted only from pathologists thoroughly trained in the technique.

#### *The Detection of Spirochaetes.*

In the second report the committee brings together its conclusions as to the most satisfactory methods for the microscopic detection of *Spirochaeta pallidum*—that being the name recommended for the organism of syphilis in a note on nomenclature by Mr. Clifford Dobell, F.R.S., printed in the appendix. The committee lays the greatest emphasis upon the importance of the detection of the *spirochæma* as affording the earliest means of diagnosis at a period when clinically a definite decision cannot otherwise be formed. "Treatment undertaken in the early primary stage is relatively simple and assured, and is a matter of weeks; after the infection has become generalized, with development of a positive Wassermann reaction or secondary lesions, it is prolonged, uncertain, and a matter of months. It is bad practice to defer diagnosis and treatment until the typical chancre has developed." Every localized lesion, however small and atypical, must therefore be suspected, for a simple papule tending to ulcerate may appear within a few days after infection. The rule should be: Examine every such eruption for spirochaetes, and if these are not found at first—try, try again.

Practical directions are given for the collection of material for diagnosis and for the demonstration of the spirochaetes, and an authoritative description by Mr. J. Edwin Barnard, president of the Royal Microscopical Society, of the detailed technique of dark ground illumination is embodied in the report. A list of Fellows of the Royal Microscopical Society is being prepared, to whom reference may be made for assistance in this matter, or for help in setting up and adjusting microscopic apparatus. Inquiries should be addressed to the Secretary of the Society, 20, Hammer Square, W., or to the Medical Research Committee.

Concerning the technique as a whole, the committee makes the following positive statement: "The most reliable methods of detection are so simple and expeditious that there is no excuse for neglect to utilize them."

Lastly, the committee finds no sufficient evidence that what is clinically known as "soft chancre" or "soft sore" is a specific disease induced by a single species of micro-organisms. It is recommended, therefore, that a diagnosis of soft chancre be founded on clinical evidence, and this only after syphilis has been excluded by observation extending over a period of twelve weeks. A similar recommendation is made with reference to conditions of balanitis.

## THE FUTURE OF THE MEDICAL PROFESSION.

BY

SIR JAMES BARR, M.D., LL.D., F.R.C.P., F.R.S.E.,

LIEUT.-COLONEL R.A.M.C. TD.

FORMERLY PRESIDENT OF THE BRITISH MEDICAL ASSOCIATION.

SACRED among the prophets was not, perhaps, a more conspicuous figure than Major-General Sir Bertrand Dawson among medical reformers. Much longer than I remember, and my memory is not short, medical men have been trying to reform themselves or the public, with more or less indifferent results. I am indebted to Sir Bertrand Dawson for the somewhat inappropriate heading of this article, which, however, will serve. It seems to me a very inopportune time for reforming anything when the best brains of the country are busily engaged in the prosecution of the war. However, I suppose the fifth and sixth-rate politicians find this a favourable opportunity to assert themselves, and busily occupy their mediocre intellects with educational and medical reforms. We are told that these reforms will not wait, which means that politicians will not allow them to wait, but it is to be hoped that the comrades of the great war will soon relegate these reformers who have, in the absence of better men, acquired place and power, to that obscurity from which they should never have emerged.

In all these medical reforms the general practitioners are the pawns in the game, and they will only have themselves to thank if they again allow themselves to fall into the wily fowler's snare. So far as I am personally concerned, I must at once candidly confess that I am more interested in the future of the British race than I am in that of the medical profession, and it is because I foresee that the proposed reforms will lead to the deterioration or weakening of the mental, moral, and physical fibre of the nation that I am opposed to them. The medical profession exists for the benefit of the public—an axiom which medical men are sometimes apt to forget—and no doubt the law of supply and demand will always provide such medical men as the public deserve. A highly intelligent race would demand and secure an intellectual and well-educated profession, but I am afraid that, as Karl Pearson says, we are not breeding intelligence nowadays as we did one hundred or more years ago. I sometimes wonder whether this old country will be in the hands of a race of degenerates long before the coal supply gives out. Our reformers would readily promise us a new heaven and a new earth by the time the war is over, but I am afraid the millennium is not yet, and it would be very rash to assume that it is.

At the annual meeting of the Institute of Public Health in 1907 I gave the address on preventive medicine, which at the time attracted much public attention. In 1911, at the annual meeting of the Canadian Medical Association, I gave the address on medicine ("On preventive medicine, the medicine of the future"), and I followed up the same line of thoughts in my presidential address to the British Medical Association in 1912, so I can claim that my present views are not of recent development.

My antipathy to the so-called National Health Insurance Act, which has no more to do with health than the man in the moon, was based on my belief, stronger now than ever, that it was and is a retrograde step fraught with danger to the public. Those medical men who took my advice and stood from under the Act are those who have maintained their own self-respect and retained that of the public. I do not know one who has regretted his action, but I know scores who have not a good word to say for the Act which they are helping to administer.



I would like now to warn general practitioners to be careful before they allow themselves to be ensnared by this proposed Ministry of Health, which at present looks more like a Ministry of Disease. I have no intention of following the winding paths of Sir Bertrand Dawson's very interesting address, but would refer to some of his team work. I have no objection to teams; in fact, I strongly approve of such work when there is a good driver. I have never myself worked in a team, though I have made free use of the work of others, always with due acknowledgement. I know a distinguished Fellow of the Royal Society who says that he has never collaborated because he can do his own lying, but I know no Fellow of that august body who has been more actively engaged in the pursuit of truth, and no one who has attained more practical results. There is not a trace of pragmatism in his composition.

For the diagnosis of phthisis Sir Bertrand Dawson turns on the clinician, the bacteriologist, and radiographer. I am inclined to think that there must be some bungling and valuable time lost when the diagnosis has to be clinched by the radiologist. I do not in the least undervalue his work; the *x* rays afford a valuable exposition of existing facts, and in chest diseases have their negative as well as positive value. A distinguished radiologist recently told me about a physician at the front who had diagnosed a large number of cases of pneumothorax, but the *x* rays showed up the physician as well as the absence of air in the pleural cavity.

But what has all this got to do with prevention of tuberculosis or the health of the nation? Prevention is better than cure, and it is a poor way of improving the health by simply diagnosing and curing disease. For the last seventy years, and up to seven or eight years ago, there was a steady fall in the incidence and death-rate from phthisis, and a corresponding rise in the insane rate. Since 1911 there has been a gradual rise in the incidence of tuberculosis. I do not attribute this to team work, but it is certainly associated with the erroneous doctrine that heredity plays no part in tuberculosis. Very many years ago I met a highly intelligent man who was on a visit to an asylum to see his young daughter who was suffering from dementia precox. He could not understand it, as he said there was not a trace of insanity on either side of his house. I pointed out that the closely allied condition of tuberculosis was prominent, and that he himself had spent the early years of his adult life abroad on account of phthisis.

Dr. D. W. Hunter, whose name I deeply regretted to see in a recent casualty list, said:

The death-rate among idiots is about ten times that of the normal population at the same age. Further, of deaths of idiots about 80 per cent. are due to tuberculosis. Now an idiot has not even the resisting power necessary to die of phthisis; he dies of acute tuberculosis, death taking place in from three to six weeks from the onset of the illness. Surely here there is some inherited lowering of the soil. There are some 150,000 (estimated) of these defectives in England and Wales, and for every defective there are from six to a dozen of his relatives only a shade better than himself. Practically the same holds for insanity, yet we are asked to believe that a man cannot inherit a soil which will remain during his lifetime permanently below the average in resisting power.

Until we have some restriction in the marriage of undesirable the elimination of the tubercle bacillus is not worth aiming at. It forms a rough, but on the whole very serviceable check, on the survival and propagation of the unfit. This world is not a hothouse; a race which owed its survival to the fact that the tubercle bacillus had ceased to exist would, on the whole, be a race hardly worth surviving. Personally, I am of opinion—and I think such opinion will be shared by most medical men who have been behind the scenes and have not allowed their sentiments to blind them—that if to-morrow the tubercle bacillus were non-existent, it would be nothing short of a national calamity. We are not yet ready for its disappearance.

When the Mental Deficiency Act was passed I prophesied that it would not reduce the output of mental defectives by 5 per cent., and my prophecy has come true, in fact more than true, as the physically and mentally fit are carrying on the war, while the derelicts are carrying on the race. The lowest fourth of the population are producing more than half of the next generation, and this they are encouraged to do by sentimental cranks. The honest hard-working men have not only to support their own families, but also those of knaves, fools, paupers, and wastrels of every description. We hear the constant cry:

Preserve the babies, good, bad, and indifferent—the innocent little things, if brought up in a proper environment, will be, we are told, the flower of the nation. There is no equality in nature among children nor among adults, and if there is to be a much-needed improvement in the race we must breed from the physically, morally, and intellectually fit. The higher the intellectual evolution the greater the number of geniuses that are likely to be produced. There must be inherited innate qualities capable of development; a favourable environment will contribute to such development, but it can never create a genius. You cannot gather grapes from thorns, nor figs from thistles.

In 1912 and previously I stated that intelligence, physique, health, and longevity are innate and heritable qualities, but that morality is largely, if not entirely, an acquired and traditional characteristic. Dr. Mercier says, and says truly in the strict acceptance of the term cause, that heredity is not a cause of anything, but it is the favouring condition which led to the evolution of his brilliant intellect, and no other condition counts so highly for good and evil in the evolution of the race.

This war has shown that there is still in this country—and now largely in France—plenty of vigour and intelligence capable of producing a very high civilization, and it is to be hoped that when the war is over our comrades will clear away the forces of disintegration which are at present insidiously at work.

Recently there was an acrimonious discussion in the pages of the BRITISH MEDICAL JOURNAL concerning a supposed new patent that heredity and adaptation depend on the endocrine glands. The disputants seemed to fail to recognize that this is merely a modification of the doctrine that function precedes differentiation of structure, which, though not as old as the hills, certainly preceded Darwin and all ideas of evolution. I know a large number of intellectual Jews who present all the outward and visible signs of defective pituitary action; therefore I am inclined to think that the pituitary, unlike the thyroid gland, is not concerned with intelligence. The optimum action of any gland, of course, depends on what function it has to perform. As society is very composite, it is well that every one should not be cast in the same mould, and that there should be as great a variety as possible—for example, you could not make a good stalwart policeman out of one with defective action of his pituitary, and one with over-action of his thyroid makes a poor, neurotic, palpitating soldier, and does not require to be doped with "heart pills" when he is to appear before a medical board.

Post-nasal adenoids, with consequent narrow nostrils, highly arched palate, small pharynx, narrow contracted chest, and rounded shoulders, is one of those diseases which has been under numerous teams of inspectors, clinicians, and surgeons; what have they done except wait till the disease is well established? Then the surgeon's practised hand comes in to scoop out the adenoids, usually after irreparable mischief has been done. This disease is due to an imperfect natural attempt to compensate for defective thyroid action. Its prevention depends on intelligent and early recognition of the condition of the thyroid gland, the use of small doses of thyroid to compensate for its defective function, and a mixture of calcium iodide and tincture of iodine to stimulate its action. It does not require a team of medical men to carry this out; all that is required is an intelligent nurse with medical supervision.

One of the greatest curses of the medical profession is turning a lot of teams into blind alleys: it lowers their ambition and contracts their outlook, so that they are never able to get out of the rut.

Look at the enormous amount of money which has been spent on special lighting of schools, shape of the desks, etc., in order to prevent or cure myopia, as if any such devices would alter the length of the eyeball. Many years ago I advised, and I do not doubt others did the same, that two myopic individuals should not mate; they should try as far as possible to eliminate and not to transmit their defects to their offspring. One poetic critic devoted a few verses to me, and finally excused himself—that eye is blind.

We have a powerful heart team working at the so-called effort syndrome, which seems to consist of a conglomeration of symptoms which exist in various combinations in different cases, and have no necessary connexion with one



another. Causation is a matter for future consideration, and Newton's dictum is not even dreamt of. The work of this team is backed by a committee of eminent men in whom the critical faculty is not highly evolved. It has been interesting and amusing to see this team bowled out on the so-called "buffer salts" by Benjamin Moore's team, and this in turn capsize by the individual, Professor Rayless. Dr. Moore has now returned to the arena, but without his team.

I have no wish to minimize in the least the valuable work which this heart team is carrying on, but still I think a little healthy criticism on a few points will do them no harm; it may help to show that they do not hold a monopoly of wisdom, and it might be well to pay a little attention to the work of others which, so far, they seem pleased to ignore. We are told that this *effort syndrome* is to be found in early heart disease, in early phthisis, and in exophthalmic goitre, but in those cases of irritable heart in soldiers with which they are dealing, the action of the thyroid is discounted.

The question of hyperthyroidism is capable of a direct test—namely, the tolerance or intolerance of these patients to thyroid administration. A large number of observations have been conducted from this point of view; others are in progress. So far as they have been taken they are opposed to the view that there is an unusual intolerance to extract of thyroid.

There is not one word about the dose or the quality of the thyroid, or its iodine content. Yet this bold statement is made in the face of the history of doping with "heart pills," and in face of the fact that their "effort syndrome" exists in cases of exophthalmic goitre; and the conglomeration of symptoms can be brought on in perfectly healthy individuals by large and repeated doses of physiologically active thyroid. An eminent man told me recently that he could not take more than one and a half grains without making his hand tremble. In 1904 I recorded two cases of exophthalmic goitre produced by the too free and prolonged use of tincture of iodine. These cases were rapidly cured by the removal of the cause, and the administration of lime salts.

The misleading term "capillary leucocytosis" might induce one to infer that there was an increase of the leucocytes in the blood circulating in the capillaries, but it is highly probable that the increase was in a mixture of blood and lymph, as there is no evidence that any means were adopted to get rid of the lymph in the capillary area from which the blood was withdrawn. This view is strengthened by the fact that the increase was chiefly in the lymphocytes. In the so-called digestion leucocytosis, which is undoubtedly a mixture of blood and lymph, the increase is also in the lymphocytes; moreover, with the increase in the leucocytes there is a corresponding decrease in the erythrocytes, but in these observations we have no such relative counts to guide us. The epoch-making work of the late George Oliver on "Tissue lymph circulation" was carried out by himself—if it had been left to a modern team it would not have been done yet, and not one of this team seems to know anything about his work. The study of at least modern medical history is worth cultivating. Karl Pearson says:

It is a very uphill battle to contest one after another the various dogmatic statements made by a small section of the younger medical men on the basis of statistics which are hopelessly inadequate, if they are not misread or perverted.

This conglomeration of symptoms, "effort syndrome," is associated with or induced by effort and cured by effort, *similia similibus curantur*, without any trouble about infinitesimal doses. No one could wish for anything more conveniently simple; Newton's dictum on causation and the laws of gravitation are not in it with this simple equation. Pawlow says: "It is only when the full etiology of disease is known that the medicine of our day can become the medicine of the future—that is to say, Hygiene in its widest sense." Why did Pawlow trouble his brain about causation, when teams of medical men are independent of such trifles?

I feel I must sincerely congratulate this team for having not only imposed their work on an eminent, even if hypo-critical, committee, but also for having super-imposed it on the War Office, so that already some lieutenant-colonels are set apart to see that this treatment is carried out. "Set apart" is, I think, an apt terminological exactitude for the position of men who are not supposed to have a soul of their own, or who are so imbued with the value of this treatment as to have no misgivings

in its employment. I am not now in any way detracting from the value of the drill sergeant, in fact I have always been a strong advocate of physical training. The existence of many apparently hopeless cases of heart and lung diseases has been often much prolonged by the Oertel treatment, but Oertel devoted his attention to drink and food as well as exercise. Men with a vital capacity of only 80 cubic inches accomplished much greater feats than any described in this report on the "effort syndrome."

On the question of venereal diseases, Sir Bertrand Dawson closely approaches the truth when he says: "Prevention would be more closely allied with cure but for the fact that our pastors and masters are not endowed with grace, wisdom, and understanding." He does not grasp the nettle with sufficient vigour. My patience is sorely tried when I see a lot of married men who have never practised self-abnegation stumping the country and preaching a man-made standard of sexual morality to virile soldiers. The unctious guid compound for sins they are inclined to by damning those they have no mind to. The soldiers are told not to have sexual connexion and they will not get venereal disease; but if, notwithstanding, they fall, then they are directed to come round the corner, where they will be treated and made whole men again. The lecturers do not even give the good advice of the sergeant-major, who told his men, "If you can't be good be careful." It is to me very deplorable that in the present day the only men who are trying to prevent venereal diseases are chemists who are selling a more or less perfect or imperfect antivenereal outfit. My method of preventing the spread of venereal diseases—and this is more applicable to peace than war times—is to encourage early matrimony among the healthy, not necessarily large families. Give the picked services of the country—the navy, the army, and the air forces, officers and men—sufficient pay to maintain themselves, their wives and families in comfort. In this way you would encourage the evolution of a healthy, vigorous, and intellectual breed. Do not waste all your money on degenerates; they are prolific enough without any encouragement.

With heart affections, again, the usual method is to start at the wrong end, to wait till the disease is established, and then begin to prevent or cure it by "an ordered régime in the open air with graduated exercises and amusements, which serve to tone up the body, of which the heart is part, to remove the heart from the realm of the patient's consciousness and restore confidence in his mental outlook." A functionally disturbed or diseased heart cannot be removed from the realm of consciousness by telling the patient that there is nothing the matter with it. A good many sudden deaths occur from such advice. In my experience patients are not intimidated by getting an honest statement as to what is the matter with them. Chronic diseases of the heart practically always arise from causes acting on the periphery, and are usually more easily prevented than cured. There are a few exceptions such as pericardial adhesions, but even here pericarditis arises in the periphery of the coronary circulation, and the general periphery should not be neglected in treatment.

Again, we are told of gastro-intestinal maladies that "such may need the clinical physician, the radiographer, the bacteriologist, the chemist, and the surgeon." Not a doubt about it, but what a rich harvest the surgeons have reaped from the ignorance of physicians and practitioners. Is this to be the millennium? It was said of an Edinburgh surgeon that his idea of heaven was a place where the blessed were continually cutting the damned for stone.

I frequently see cases of colitis with spasm where the practitioner is anxious to have the appendix removed. All that is required, as a rule, is to stop the milk diet and all those milk products such as sanātogen, and prescribe a decalcifying agent.

When the Insurance Act was brought out it was claimed that it would improve the health of the nation, Germanize it, and lessen the poor rate. Now a similar claim is trotted out for this Ministry of Health, or what I call a Ministry of Disease. Did ever an Act of Parliament reduce the expenses of any other department? The poor do not get a tithe of the poor rate.

Reforms are crowding thick and fast upon us. The Board of Education has issued a very instructive pamphlet on medical education by Sir George Newman. I have read it with much interest and appreciation from beginning



to end. He deals with the past, the present, and the future. He has evolved an excellent scheme—no better has ever been propounded—for the preservation of the unfit, and if carried out will provide work—I will not say adequate emoluments—for generations yet unborn of medical men, who will require to multiply in geometrical progression. This is to be the millennium, and yet I cannot recommend medical men to tumble into such a heaven. What will happen to the country when a moiety of the adult population will be Government officials supported with their wives and families by the other half, who will also have to bear the expenses of the war?

If this nation is to progress we must raise up a race of stalwarts, the highest and best forms of individualism must be encouraged in every walk of life. The vaunted rise in the expectancy of life is more largely due to the much decried fall in the birth-rate than to Sir George Newman and his satellites. A man's life should be measured by his work and efficiency rather than by years. Under Sir George Newman's scheme it is possible that there might still be a small rise in the expectancy of life, but the probabilities are strongly the other way. With an increase in a degenerate population, which is being encouraged, the death-rate is certain to rise, just as is happening in the present day in cases of tuberculosis. So much for the boasted conquest of consumption. Nature is not going to be entirely thwarted by an inept and expensive art. Many of our most valuable citizens owe their continued existence and efficiency more to their parents than to the medical profession.

When I heard Mr. Justice Bathurst sympathizing about an old criminal who had spent over fifty years of his existence in prison, I told him that a life of crime was not necessarily a short one, and if this man had been honest and hard working he would probably have been dead long ago. Every one might be reasonably expected to furnish some evidence in support of his continued existence. Under such a system a large number of Government officials would succumb. When will it be possible to instil a little common sense into our Legislature? We want a large infusion of the colonial spirit much more than the university spirit. We want a real manhood, leaders of men and not decrepit teachers, either in universities or elsewhere, who cannot take a broad and healthy outlook in life.

Sir George Newman's proposals may amount to a health-giving scheme if health simply consists in curing disease and in the prevention of grave mischief among the degenerate. A truly healthy race would not require his placebos. We have to a large extent abolished a selective death-rate—Nature's method of improving the race—but we seem as far off as ever from establishing a selective birth-rate, and there is no encouragement from Sir George Newman to do so. It is true that he mentions the word eugenics in two or three places, but apparently merely to show that nothing has been omitted in his comprehensive scheme. Personally, I cannot see that any betterment to the British race is ever likely to accrue from a scheme which neglects the very fundamentals of health, and is soaked in Lamarckian doctrines from beginning to end.

He is very conciliatory, especially to general practitioners, without whom his scheme will not work. He has many soft platitudes, and is often even laudatory in his remarks, but it is to be hoped that in vain is the net spread in the sight of any bird. Soft words butter no parsnips, and the medical profession will be very stupid if caught in such a trap, alluring though it be.

Many times during the last twelve years I have said that there is not a medical school in the kingdom where preventive medicine is taught as it should be taught, so I am quite ready to agree with Sir George Newman that there is room for improvement, though we may differ materially as to how the improvement should be effected. At the same time I am not blind to the great evolution which has taken and is taking place. I believe in evolution, not in revolution, and I am inclined to think that the medical schools will work out their own salvation if left alone. He is very strong on what he calls the university standard of work, yet I daresay he would allow that all the work of the ancient philosophers, some of whom he mentions, was up to the university standard. The staff of a university is not necessarily a homogeneous body; it is rarely endowed with worldly wisdom, and only acts simultaneously when emoluments are in danger. The

attractions are not sufficiently powerful to make an intellectual giant remain on the permanent teaching staff unless he be relieved of the drudgery of teaching; no doubt some do so remain from the love of a life of comparative ease and pressure, and others from the lack of means or power of adaptation to a more useful, even if more strenuous, mode of existence.

He is also very strong on research work, which is no doubt an excellent mode of training the student, but there is not one student in a hundred capable of independent research. The public should not be troubled with records of research work unless their accuracy and value are vouched for by the professor. No great work has been accomplished by any man whose time has been largely occupied in teaching students. Kelvin did not waste much time over his class; he was sorting and dreaming above them. I am strongly in favour of research work of all kinds when the students are taught and know their limitations. The advice of Prior, "Let him be kept from paper, pen, and ink so that he may cease to write and learn to think," is applicable to a great deal of the education in the present day. I can warmly recommend to teachers of all kinds the admirable work of J. G. Legge, Director of Education in the city of Liverpool, on *The Thinking Hand*.

I would ask any intelligent being to study Sir George Newman's pamphlet carefully, see what is required of the medical student, recognize the fact, acknowledged by Sir George Newman, that when the student is newly fledged with his degree he is, to a large extent, only in a position to begin to learn his life work, and then take a dispassionate survey of his prospects under the National Insurance Act, and other proposed extensions in the same direction, and finally answer the question, Could you honestly recommend any intellectual young man to enter the medical profession? As I said before, the public will just get the kind of medical men which they merit, no better and no worse.

Twenty years or more ago I tried to induce a prominent member of the House of Commons to take up the question of physical training in elementary schools, but I was met at once by a *non possumus*. It cannot be done, we want another generation of teachers; and he advised me, if I doubted his opinion, to attend the next conference of school teachers. So with medical education; while Sir George Newman is training his new team let us get on with the war, and, when that is finished, if we are not content with evolution by all means let us have a revolution, and a deadly war against all effete government departments—their name is legion. I now say to general practitioners: Perfect your own education, you have the means at hand; teach your patients the laws of health, which is the most valuable asset of the nation. In my presidential address in 1912 I said:

In my opinion the future of medicine will rest with enlightened and highly educated general practitioners—men who will look after the health of the common man, who will see the mechanism of a human body is a good one, and who will see that the machinery of the individual is properly lubricated, and not subjected to any unnecessary friction or strain. The enlightened public will look to their medical attendants as guides, philosophers, and friends both in health and disease.

The Insurance Act was not then in operation.

Medical men should become health specialists, the field is not at present overrun. I do not place medical officers of health in this category; their work consists largely in the preservation of the unfit. I am well aware that the public generally only pay for the treatment of disease, and not for the preservation of health, but still I think the more intelligent could be easily tuned up to concert pitch. You would have to let the public know that the work cannot be done on the tariff of the National Insurance Act. I had a visit the other day from a gentleman who travelled fifty miles, and spent the night in Liverpool, to tell me that he did not think there was much the matter with him, but he wished my opinion. I agreed with him, but, like myself, I thought he was taking too much out of the machinery. He asked me how he could help it, when his firm, of which he is the senior partner, are extending their factory to the tune of three-quarters of a million for work of very great national importance, otherwise they would not be allowed to spend the money. Under normal conditions he might be inclined to cut the painter, but it is difficult to be sure, as circumstances alter cases, and the love of work is a powerful factor in man's destiny.



# British Medical Journal.

SATURDAY, SEPTEMBER 21st, 1913.

## EARLY TREATMENT OF MENTAL DISORDER.

In the report of which we give some account elsewhere Dr. Easterbrook makes a strong plea for the extension of the system of voluntary boarders in asylums, and sets out certain statistics which he holds demonstrate the therapeutic advantages of this mode of admission. He ascribes the favourable results he records to the fact that the system permits of early treatment. All are agreed on the necessity for the treatment of mental disorders in their very earliest stages, but before we accept Dr. Easterbrook's evidence as conclusive it is necessary to consider one or two points. In the first place, it must be realized that the mode of admission by the voluntary choice of the patient may in itself exercise a selective action on the nature of the cases, so that the comparison may not be between two strictly similar groups; it is possible that the greater recovery rate in the voluntary groups is in part at least due to such difference. Further, it is only right to bear in mind that this observation is not confirmed by experience in some other institutions. It has been said, for example, by some that the voluntary boarder is often in a state of anxiety lest after all certification should become necessary, or he may be troubled with doubt as to whether he should take advantage of his right to leave; neither of these conditions, it is held, are conducive to peace of mind and early recovery, whereas the patient who was certified on admission is free from these unsettled and unsettling questions. As all voluntary boarders are taken from the private patient class it would be interesting to know whether that class as a whole shows a greater recovery rate than the rate-aided class as a whole. If this should prove to be the case, the objection taken above would not apply. Though no doubt other factors come in which would render it difficult to draw any positive conclusion, the comparison might be expected to show the effect, if any, of the greater opportunity given to the private class over the rate-aided class for early treatment by reason of the option for admission as a voluntary boarder possessed by the one class but denied to the other.

In addition to the voluntary method of admission Dr. Easterbrook advocates as a means to ensuring early treatment in mental affections, for the purpose of conserving the fitness of the individual as an efficient unit in the social scheme, the hospitalization of our asylums on the lines of general hospitals and convalescent homes. Whether such modifications could be expected to produce such a change in the attitude of the public towards the asylum as to bring a really large proportion of the quite early cases of mental disorder to seek help under the voluntary system, even when extended to all classes, appears to be doubtful. The bulk of the asylum population must belong to the more chronic types of insanity, and altogether apart from the objection to certification, the ideas consequently associated with the asylum will deter people from going to it readily for treatment in the very early stages of their ailment. Something

more than the hospitalization of asylums and the extension of the system of voluntary boarders would seem to be necessary if the patients are to be brought under treatment soon enough to afford hope of preventing a real breakdown.

To meet this need opinion is steadily crystallizing into a demand for some separate place for both in- and out-patient treatment, free from the harshness of certification and the unfairness of invoking the Poor Law machinery, and corresponding as far as may be with the hospitals for physical diseases. Such hospitals or clinics would be differentiated in principle and also in regard to the type of case received if they were kept free from any formal powers of detention, the cases for whose care powers of detention proved to be necessary being transferred for treatment from it to the asylum. If this principle were followed out there would be no need, at all events as far as public clinics were concerned, for the supervision of the lunacy authorities or of any notification to them. In practice no great difficulty arises in the ordinary hospitals at present in dealing with delirious cases and cases temporarily excitable or lacking in self-control, and within the limits of convenience no difficulty need occur here.

The equipment of the clinics should be such as to provide the most varied and modern appliances for treatment. If some form of inspection were thought necessary, this could be made one of the duties of the promised Ministry of Health, and need not be controlled by the department dealing with the question of detention. If the public is to be brought to see the value of the earliest possible treatment and to avail itself of it, it must be by making this easy and attractive.

It might be possible with advantage to extend the system of voluntary submission to treatment to the proposed clinics, but it is important to avoid taking any step which would alter the character of the clinic so that it came to cover the same ground and perform the same function as the asylum. It is sought to set up a new type of institution in a distinct building, because it is held that while there is a class of cases for whom the asylum with the systems of voluntary and certificated patients is best, there is another large class, many of whom are at present not treated at all and require different and separate arrangements. So far as the well-to-do classes are concerned, they already insist on some such separation of function, often at the risk of offending against the law, and it seems only fair that provision adapted to their requirements should be possible within the law. As the question of private profit comes in, some further safeguards are necessary beyond those required in clinics maintained by a public body. Yet it is just as important to avoid certification in these cases also if efficient treatment is to be taken in hand early.

Section 315 of the Lunacy Act, 1890, imposes a penalty on persons receiving for profit patients of unsound mind except under a judicial order and medical certificates. It appears probable that the need indicated could be met most readily and satisfactorily by giving legal powers to the Board of Control to withdraw from the operation of that section such homes for the reception of more than one patient as it may specially recognize as suitable and suitably conducted, and such single patients as it may consider ought to be so placed without certificates. For this purpose it would only be necessary that the fact of the reception of a patient under such conditions should be intimated to the Board, when it would be at liberty to satisfy itself as to the propriety of the case being so received. It is believed that



such a procedure would be welcomed by the Board and would have a salutary effect in the administration of the Act; at the same time, if these proposals were given a serious and intelligent consideration by the Board there would be no objection to a relaxation of the provisions of the law. A precedent for such a relaxation of the requirements for certification is to be found in the Mental Deficiency Act, 1913, which allows patients to be received in approved homes without certification, and consequently without powers of detention.

## THE ANTI-ANAPHYLACTIC TREATMENT OF INFECTIONS.

IN a series of articles, some of which have been collected into book form,<sup>1</sup> Dr. J. Danysz of the Pasteur Institute applies the conception of anaphylaxis to the phenomena of disease on much broader lines than has generally been adopted, and from these views deduces directions for logical treatment. The complicated physico-chemical problems of immunity and anaphylaxis are presented in an attractive light, and from the practical standpoint the subject is simplified by the conclusion that, whatever the original theories, the real explanation of the successes obtained by the various methods of treatment known as vaccine, proteose, lympho-sero and protein shock therapy, and by tachyphylaxis, is that a process of anti-anaphylaxis is being instituted, a method employed by Professor Besredka to obviate anaphylaxis from therapeutic injection of serum in patients previously thus rendered hypersensitive.

On the basis of the results of the reactions between antigens (exotoxins or the products of bacteriolysis) and antibodies, Danysz divides the infective diseases into two groups. The first is a small one, containing diphtheria, tetanus, botulism and a few more, in which the exotoxins act rapidly and directly on the tissues and thus cause characteristic symptoms, and in which the exotoxins are later neutralized by antibodies in excess, with the formation of soluble antitoxin and without any resulting anaphylaxis. These diseases are rightly treated by injections of antitoxic serums. The second and larger group contains nearly all the septicaemias, tuberculosis, influenza, enteric, trypanosomiasis, malaria, syphilis and others, in which the antigen combines with the normal antibody during the relatively long incubation period. Subsequently, when antibody is present in excess and an insoluble compound is formed with the antigen, a state of anaphylaxis results. This may be latent until a suitable excitant, which may be the original antigen, calls out active anaphylactic symptoms. The excitant, however, need not be specific; thus an animal or man with an excess of antituberculin is hypersensitive to such various agents as changes of temperature, fatigue, mallein, and the toxin of the pneumobacillus as well as to tuberculin.

Danysz describes the mechanism in enteric fever as follows: During the period of incubation the antigen, provided by the products of bacteriolysis, unites with the normal antibody; but later, when the antibody is present in excess and combined with the antigen, symptoms appear as the manifestations of a series of successive anaphylactic crises. It may here be mentioned that in a rather different connexion Friedberger and Zinsser have pointed out the similarity of the clinical manifestations of several diseases in which the causal bacteria are biologically different; for

example, in pneumonia due to the pneumococcus and the pneumobacillus, and in the various forms of acute and subacute septicaemia in which a definite bacteriological diagnosis can rarely be made except by a blood culture. In diseases with an excess of antibody and chronic anaphylaxis the injection of serum containing more of the specific antibody cannot be expected to exert any curative effect, and Danysz mentions tuberculosis, plague, enteric, and streptococcic septicaemias as conditions in which antiserums have not at present given any appreciable result. Jousset,<sup>2</sup> it may be interpolated, has recently written an article on "treatment by large doses of serum and the myth of anaphylaxis," based on ten years' experience in the use of antituberculous serum, and this will show how much difference of opinion there is likely to be on these new and rather bewildering views. Danysz explains the success of specific serums in some septicaemic states, such as pneumonia, cerebro-spinal fever, and anthrax, either on the ground that a poison secreted by the bacteria is neutralized or that the proteins in the serum exert a non-specific effect; the latter explanation does not appear valid in the case of pneumococcic infection, since an antipneumococcic serum against pneumococcus type I is only effective against infections with type I, and antipneumococcic serums against types II, III, and IV have as yet proved useless, as was pointed out in an article on the serum treatment of pneumonia in the *JOURNAL* of January 12th, 1918 (p. 58).

The anti-anaphylactic treatment advocated by Danysz includes chemotherapy, or the injection of salvarsan and his luargol, and the use of vaccines, which are best given intravenously and can only be administered orally with any hope of success when the alimentary canal is incapacitated from transforming the microbic proteins into amino acids which would have no anti-anaphylactic action. In a recent paper on the anti-anaphylactic treatment of gastro-intestinal, cutaneous, asthmatic, and other disorders,<sup>3</sup> he concludes that in the great majority of the cases the condition of latent hypersensitiveness is due to antigens formed in or derived from the alimentary canal, and because of some lesion of the intestinal mucous membrane able to pass unaltered into the circulation and to the tissues. The intestinal flora will therefore often prove to be the agents requisite for the anti-anaphylactic treatment of these disorders. In support of this, he instances a number of cures of asthma, psoriasis and other cutaneous diseases, as well as intestinal disorders, effected by subcutaneous injections of vaccines derived from the bacteria of the patient's faeces. It will be interesting to see how far the conception of anti-anaphylactic treatment, attractive from its ingenuity and comparative simplicity, stands the test of further research in the problems of immunity.

## MEDICAL MAN-POWER IN THE UNITED STATES.

It is interesting to watch the way in which the problem of medical man power is gradually getting into the foreground of American medical politics. We learn from the *Journal of the American Medical Association* that more than 25,000 medical men have now accepted commissions in the Medical Department of the United States Army, and at least 2,000 more are in process of being commissioned. Adding to this number the surgeons in the U.S. Navy, it is estimated that more than 29,000 medical men have volunteered, and are now either on active service or subject to immediate orders. The 5,000 volunteers whom the

<sup>1</sup> *Principes de l'évolution des maladies infectieuses*. J. B. Baillière et Fils, Paris, 1918.

<sup>2</sup> *Presse med.*, Paris, 1918, 30L.

<sup>3</sup> *Ibid.*, Paris, 1918, 357.



Surgeon-General asked for last May<sup>1</sup> have been obtained; 5,000 more are now to be called for; and it is probable that yet another 5,000 will be needed before very long. According to current belief the present plan is to raise an army of five million men as soon as possible, and these would require between 35,000 and 40,000 medical officers. Our contemporary does not doubt that the medical profession of the United States, with its proverbial patriotism and unselfishness, would supply the number needed, but holds that the voluntary method of furnishing the army with medical officers is unfair and unsatisfactory: "the democratic method—the correct method—to raise an army is compulsory selective service." While a compulsory draft of medical men alone would be against the spirit of the constitution of the United States, "a compulsory selective service of all men, which would include physicians, is ideal." The proposal now before Congress to raise the draft age to 45, would affect some 75,000 medical men. It might be possible to frame regulations agreeable to the Surgeon-General of the U.S. Army and the Provost-Marshal General which would in effect place all medical men under 45 at the disposal of the Surgeon-General; and the *Journal of the American Medical Association* records its opinion that this plan would make easy the solution of the problem of securing the required number of medical officers for the forces without seriously interfering with the needs of the civilian population. We observe further that, in accordance with a plan announced on August 13th by Dr. Franklin Martin, Chairman of the General Medical Board of Council of National Defence, the medical men and women of the United States are to be mobilized by the Volunteer Medical Service Corps. The plan provides for the enrolment of every qualified doctor, man or woman, without regard to age or physical disability, not already in the service of the Government. In a letter to Dr. Martin approving the reorganization of the corps, President Wilson says that its usefulness will be increased thereby: "The important work of the Provost-Marshal General's office and the Red Cross will be aided and the problems of the health of the civilian communities of the United States assured consideration." The President goes on to say that he is happy to have the opportunity of expressing to the medical profession his "deep appreciation of the splendid service which the whole profession has rendered to the nation with great enthusiasm from the beginning of the present emergency. The health of the army and the navy, the health of the country at large, is due to the co-operation which the public authorities have had from the medical profession; the spirit of sacrifice and service has been everywhere present, and the record of the mobilization of the many forces of this great republic will contain no case of readier response or better service than that which the physicians have rendered." This is an official recognition of which our American brethren have every reason to be proud.

#### SOCIAL STUDY AND TRAINING AT THE UNIVERSITIES.

THE multiplication of agencies for social improvement is of necessity attended by a great deal of confusion and overlapping. In times past the annual meetings of the Social Science Congress afforded the only means of discussion of the many problems involved, and the practical outcome of such discussions did but little to co-ordinate them. In July, 1917, the Home Office called a conference to consider the training of welfare supervisors, and this in its turn led to the formation of a Joint University Council for Social Studies, a body representative of the universities of England, Scotland, and Wales, by whom an interesting report has recently been issued, setting forth the considered opinions of experts as to the need for social study

and training, and indicating the lines upon which such study should be conducted. Briefly, the scheme embraces systematic instruction by means of lectures, and practical demonstrations of the working of social organizations by visitation and personal experience. With the expressed aim of "educating the citizen's understanding of the social life of which he is a part, and furnishing him with a background of fact and ideal which shall throw light on all his practice as an administrator," the course of study must needs be comprehensive. Although one year's training is suggested, it is probable that a much longer course of instruction would be found necessary. It is not suggested that the training should be limited to members of universities, but that the facilities for teaching, the status of the teachers and the educative influence of university life, render them especially convenient as centres for social training. The need for such education is only too well known. For lack of it a very great amount of well-meant endeavour is thrown away. The enthusiastic curates, the so-called social workers, the health visitors and the amateur managers of philanthropic institutions are all handicapped in their efforts by the want of knowledge of the principles of social science and of the results of their misapplication. A very large proportion of the persons who at the present time are engaged in social work have not received any sort of training to qualify them as advisers. Their services are accepted without any guarantee as to their relative value. In their report the Council foreshadow the possibility of graduation in social subjects in the future, and the time is certainly approaching when some form of classification will become necessary. The wide scope of the scheme, the difficulties that stand in the way of immediate advance, and the results that may possibly be achieved are well set forth in the *Report*.<sup>1</sup> They may be commended to the special notice of municipalities, voluntary associations, and all citizens interested in social well-being.

#### VISITS TO FOREIGN HEALTH RESORTS.

THE autumn season, which is upon us, is a reminder of the near approach of winter, and makes it expedient to repeat information with regard to visits to foreign health resorts published six months ago. The Military Permit Office was instructed some time ago to reduce all cross-channel traffic to the lowest limits consistent with the national interest and the avoidance of unnecessary hardship to individuals. The force of the reasons for this instruction has rather increased than diminished in the interval, and permits are strictly limited to cases in which the absolute necessity of the journey can be satisfactorily established. Before any application which is made on the ground of ill health is considered the applicant is required to produce a doctor's certificate stating that the journey is an absolute necessity, specifying the place to which the journey is to be made, and the length of stay there, and certifying that there is no health resort in Great Britain which would meet the case; when the application includes a request for a companion the medical man must include in his certificate the statement that a companion is essential, and the name of the companion. These regulations do not apply to persons seeking permission to visit a wounded relative but to persons who consider that it would be to the advantage of their health to visit some place on the Continent, most usually the Riviera. We have been asked again to bring the regulations of the Military Permit Office to the notice of members of the medical profession and to invite them to exercise the utmost discrimination in giving certificates. The essential points seem to be that the doctor must certify that the journey is an absolute necessity, and that there is no health resort in Great Britain which would meet the case.

<sup>1</sup> BRITISH MEDICAL JOURNAL, May 13th, 1913, p. 569; and June 1st, p. 625.

<sup>1</sup> To be obtained of P. S. King and Son, Ltd., Orchard House, Westminster. Price 6d., postage 3d.



## PUBLIC HEALTH SERVICES IN ENGLAND.

Dr. ARTHUR SHADWELL, in a letter to the *Times* of September 18th, under the heading, English Public Health: A Comparison with other Countries, enters a protest against the Prime Minister's recent snub to the Public Health Service of this country. Speaking at Manchester on September 12th, Mr. Lloyd George is reported to have said: "There ought to be a more intelligent organization of the forces which have special charge of the health of the nation—national, municipal, and medical. In this respect I doubt if there is a first-rate country in the world where less has been done." In reply to this imputation, though without questioning the need and the possibility of improvement, Dr. Shadwell asserts in the most positive terms that there is no country in the world where so much has been done as in England. As the result of personal investigations into outbreaks of epidemics or into industrial and social conditions in practically all the large towns of the United Kingdom, and many small ones, in colliery villages and in rural districts, and of first-hand study of comparable areas in the United States, Canada, France, Germany, and Belgium, and of single towns in various other countries, he declares that, taking the general level of attainment all round, and comparing like with like, the English standard is still measurably above that of other countries, and very far above that of most of them. "England is the great pioneer in public health and sanitation; all the cardinal discoveries and measures originated here, and for a long time England stood alone in their application. Other countries have been coming up with all the advantages of maturer knowledge and a virgin field, and have here and there surpassed us; but to-day the public health system and service in England are still the most complete and efficient in the world." Dr. Shadwell concludes by begging the Prime Minister not to be misled by ill-informed and over-ardent advisers. "He has been led before by similar counsellors and his own sanguine temperament into exaggerated expectations and impossible promises in regard to national health, and I see signs of a recurrence." There is probably need for some such public appreciation of English preventive medicine, and for some such warning; but the writer, as a medical man, should perhaps have made a little allowance for the fact that Mr. Lloyd George's latest speech was delivered under the disadvantage occasioned by the onset of an acute febrile attack.

## A GERMAN PROFESSOR ON MILITARISM.

THE *Cologne Gazette* complained not long ago that the rest of the world now looked upon Germans as a nation of blackguards. They have certainly done, and are still doing, their utmost to deserve this character, and the most damning proof of their shame is found in the fact that it is admitted by some of the best among themselves. One of the severest indictments of Kultur is brought by Dr. Georg Friedrich Nicolai, till lately professor of physiology in the University of Berlin, and a specialist in heart disease who has been consulted by the Kaiserin. In a book entitled "The Biology of War: Reflections of a German Naturalist," published in Switzerland about a year ago, he denounces Prussian militarism and all its works and pomps. An account of the book was given by Mr. William Archer in the *Westminster Gazette* of December 17th, 1917, but it is still little known in England though it has received considerable notice in the American press. So crushing was this exposure of German ambitions and the methods of securing their fulfilment felt by the German Government to be, that even before the book was in print the author was imprisoned and deprived of his office and income. This summer he escaped from Germany by aeroplane, and on June 22nd, 1918, it was announced that he had landed in Denmark. His adventure was made the subject of inquiry by the Copenhagen police, and it is significant that he

has not in the ordinary way been interned till the end of the war. His book, which has been described by George Brandes as a most important document on the nature and justification of war, is fully analysed by Sir Theodore Cook, who has seen the only copy of the original which was in England this spring, in an article, entitled "A Voice in the Wilderness," which appeared in the *Nineteenth Century and After* (August). Nicolai's conscience compelled him to liberate his soul, though he clearly realized what the consequences would be, and he has paid the penalty in loss of money, friends, prestige, and position. The leading principle in his teaching is contained in the following sentence: "If there is anything certain in this world, it is the fact that to-day a nation can be victorious only if it concentrates all its strength on the peaceful rivalries of life, and with that object endeavours to give peace to the world." He says the idea of issuing his protest against what he felt to be the degradation of his country came to him when the disgraceful manifesto of the ninety-three intellectuals, issued in 1914, revealed to a horrified world to what a degree the fury of war had drowned the voice of reason and justice in Germany. A counter-manifesto which he tried to send forth, calling on the representatives of science and art to uphold amid the clash of arms the sacred traditions of European civilization, fell on deaf ears, and scarcely any signatures were forthcoming. He therefore announced for the summer semester of 1915 a course of lectures on war as a biological factor in the development of humanity. But, as his opinions were known, the Government took steps to close his mouth. He was called up for military service and appointed to the garrison fortress of Gaudenz. Determined not to be silenced, he embodied the substance of his views in the book to which we here call attention. Messrs. Dent hope to issue an English translation this autumn.

## PURE AND APPLIED MEDICAL SCIENCE.

THE late Sir Lauder Brunton afforded an example of the combination of the laboratory worker and the practising physician, two complementary spheres of activity now rendered increasingly difficult by the growing specialization of both. In Dr. Garrison's words, "he practised medicine as a science, interpreting symptoms as altered physiology rather than as consequences of the end results of altered structure," and in his early days he thus acted on a conception which, though no doubt realized, was not so much a guiding principle as it is now. His articles were often in advance of their time. Thus a paper published in 1884, and republished in the posthumous volume<sup>1</sup> noticed in the *JOURNAL* at the time of its appearance (December 2nd, 1916), dealt with the alterations in the action of digitalis produced by febrile temperature. It referred especially to pneumonia, and is still of interest, as shown by Cohn and Jamieson's recent investigation of the subject by the electrocardiograph; their conclusion is that digitalis acts on the heart in pneumonia in the same way as it does on the normal heart. This application of physiology to bedside work is especially shown by the long list of papers on the arterial blood pressure, a subject he first investigated by laboratory methods in 1867 when its application to ordinary practice must have seemed remote indeed. This illustrates the bearing of pure on applied medical science, and proves the value of successful research, even though at the time the practical man sees no use in it, not imagining that what is of theoretical interest to-day may to-morrow be the basis of accurate diagnosis and treatment. Together with Sir Clifford Allbutt and Dr. C. J. Martin, Sir Lauder Brunton may be regarded as largely responsible for the introduction of the estimation of blood pressure into ordinary practice. His position

<sup>1</sup> *Collected Papers on Circulation and Respiration*. Second series, clinical and experimental. By Sir T. Lauder Brunton, M.D., D.Sc., LL.D., F.R.C.P., F.R.S. London: Medical and Co. 1916. (Pp. 719, figs. 256, 5s. net.)



as a physiologist on the one hand, and a consulting physician on the other, together with his imaginative and practical mind, enabled him to put the lessons of the laboratory to the test in medicine; in this way he had much success in the treatment of disordered function. His famous "temper powder" of twenty grains of potassium bicarbonate and ten or twenty grains of potassium bromide, is described in a paper on the relief of the irritable temper of cardiac disease and gout, in which attention is also drawn to the beneficial action of sodium salicylate and potassium bromide in headache, and also in the irritability of heart disease.

#### THE TRUDEAU SANATORIUM AND RESEARCH LABORATORY.

THE best memorial that can be raised to commemorate the life work of a pioneer should have for its object the steady pursuit of his original aim. The name of Dr. E. L. Trudeau is probably known only to a comparatively small circle in this country, but in America his work as an original investigator of the problems of tuberculosis and his persistent efforts to spread knowledge of the disease and its treatment have had far-reaching effects. The sanatorium in the Adirondacks, which he founded more than thirty years ago, has been supplemented by a foundation, also bearing his name, for research and teaching in tuberculosis, and the results of the research work carried on under its auspices are steadily accumulating. The thirty-third annual report from the sanatorium itself contains an analytical record of all cases treated during the year ending in October, 1917, by which it appears that a slow but steady improvement is taking place in the percentage of ultimate success in treatment. Many interesting points have been specially reported upon, such as the effect of typhoid fever and vaccination upon pulmonary tuberculosis, the value of pulmonary rest, and the use of calcium lactate. Tuberculin does not appear to have been employed in many cases. Appended to the report are four papers dealing with serological studies, prognosis in relation to haemoptysis and the presence of bacilli in sputum, the reaction of the pleura to inoculation, and with experimental tuberculosis of the liver. All these have already been published in the *American Journal of Tuberculosis*. They are mainly of scientific interest and cannot be said to give much assistance from the practical point of view, but they serve to confirm opinions already formed on less precise data. The intimate association of the research laboratory with the sanatorium is a most desirable incitement to future study. The problems of tuberculosis are very far from being solved, and it is only by the close association of clinical observation with laboratory experiment that real advance of knowledge can be looked for.

#### AN EIGHTEENTH CENTURY QUACK

WILLIAM HICKEY, whose memoirs, published in 1913, read like a Spanish picaresque novel, was the son of the legal adviser of Joshua Reynolds and Edmund Burke, and a member of the group who figure in Goldsmith's *Retaliation*. The father is described as "a most blunt pleasant creature"; the son was an irredeemable scamp, but his book gives an animated picture of eighteenth century life. Among the various characters who flit across his stage is a notable quack of whom he tells the following edifying story. Admiral Forrest, the hero of many sea fights, was a martyr to gout. In 1770 he suffered so grievously that in despair he sought relief from Sir James Jay, who is described as a quack doctor in great practice as a curer of gout. One of his conditions was "No cure, no pay." If successful he demanded a fee of five hundred pounds, and this sum the Admiral, who believed himself to have been delivered from his enemy by the knight's treatment, thankfully paid. Soon afterwards he sailed for the West Indies. About the same time another patient whom Jay

pronounced to be cured declined to pay on the ground that he was still subject to acute attacks. Sir James, like Lord Foppington's bootmaker, who would not accept his client's judgement as to the fit of his boots, refused to admit his patient's evidence as proof of his failure, and carried the case into the Court of King's Bench. At the trial the plaintiff subpoenaed a number of persons of high social standing, who testified to the fact that they had been cured by his treatment, and had paid the fee. Among these witnesses was Mrs. Forrest. She deposed that her husband, who, before putting himself under the care of Jay, had every twelve months had two violent attacks of gout which confined him to his room for several weeks, had had no return of the disorder for eight months after undergoing the treatment. Mainly on her evidence Jay secured a verdict in his favour. It turned out that at the very time Mrs. Forrest gave this evidence her husband lay dead in Jamaica from an attack of gout in the stomach! This is a striking illustration of the worthlessness of inexperienced testimony.

#### PREVENTION OF SIMPLE GOITRE.

HAVING in a previous paper given a review of the experimental work on which the statement is based that simple goitre is probably the easiest of all known diseases to prevent, Kimball and Marine<sup>1</sup> now record the results of treatment of school girls at Akron (Ohio) by sodium iodide in doses of 2 to 4 grains daily until 30 or 60 grains, according to the age, have been taken, twice a year, in May and November. In April, 1917, 3,872 girls were examined and the condition of the thyroid tabulated. In the following November examination showed that not a single pupil in whom the thyroid was previously normal and who had taken the iodide, showed any enlargement, whereas among controls who had not chosen to take the remedy 26 per cent. had definite enlargement of the thyroid, some being moderately large goitres. Further, a curative influence was shown, for one-third of the small goitres disappeared and a diminution of 2 cm. or more was noted in those with moderate goitres. Among more than a thousand girls who took the treatment five only had a rash, which was slight and gave no trouble, and in no instance was there any sign of exophthalmic goitre.

#### THE DETERMINATION OF SEX.

AT a maternity hospital in Freiburg, Dr. Siegel has taken advantage of war conditions to investigate the relation of menstruation to sex. He obtained from his patients the dates on which their husbands arrived on furlough, the dates on which they departed again, and the relation of these dates to the menstrual cycle. His successive publications have been analysed by Dr. Ada Nilsson<sup>2</sup> in a paper read before the Swedish Medical Society. It appears that Siegel allots the first nine days of the twenty-eight to male conceptions. That is to say, coitus from the first day of menstruation and for the following eight days will yield 86 per cent. of males and only 14 per cent. of females. From the ninth to the fifteenth day coitus will result in 35 per cent. of males, and 65 per cent. of females. From the fifteenth to the twenty-second day the result will be 85 per cent. of females and only 15 per cent. of males, and from the twenty-second to the twenty-eighth day the woman is practically sterile. In his first paper Siegel maintained that these last six days of the menstrual cycle were absolutely sterile, but he has subsequently admitted that conception, chiefly male, is feasible in the premenstrual period. The optimum period for conception is, he finds, the seventh and eighth days after the beginning of menstruation. The fall in fertility is gradual from the eighth to the fifteenth day, but from the fifteenth to the twenty-second day it is more abrupt. It appears that two other investigators, Pryhl and Jaeger, working independently, have confirmed Siegel's observations.

<sup>1</sup> O. P. Kimball and D. Marine, *Arch. Int. Med.*, Chicago, 1918, xxi, 41-44.

<sup>2</sup> *Swenskt Läkaresällskapets Förhandlingar*, December 31st, 1917.



# THE WAR.

## CASUALTIES IN THE MEDICAL SERVICES.

### ROYAL NAVY.

#### *Died of Wound.*

**SURGEON A. R. MACMULLEN, D.S.C., R.N.**

Surgeon Alfred Robinson MacMullen, D.S.C., R.N., attached Royal Naval Division, died of wounds on September 7th. He was the third son of the late W. F. MacMullen of Rockcliffe, Cork, and was educated at Cambridge and at the London Hospital, taking the M.R.C.S. and L.R.C.P.Lond. in 1913. He joined the navy as a temporary surgeon on August 5th, 1914, the day after war was declared, and received the Distinguished Service Cross on February 24th, 1916.

#### *Wounded.*

Staff Surgeon W. J. McCracken, D.S.O., M.C., R.N.

Surgeon J. V. Dobson, R.N. (temporary).

Surgeon R. K. Shaw, R.N. (temporary).

### ARMY.

#### *Killed in Action.*

**LIEUT.-COLONEL H. H. MOSHIER, C.A.M.C.**

Lieut.-Colonel Heber Havelock Moshier, C.A.M.C., who was killed in action on August 29th, aged 29, was the son of Mr. D. D. and Mrs. Moshier of Toronto. After graduating with distinction in medicine at the University of Toronto, at the age of 20, he undertook research in pathology at the Rockefeller Institute, New York, and, later, crossing to England, worked with Professor Halliburton in the physiological laboratories at King's College, London. Returning to Canada he had scarcely established himself at Calgary as a consultant pathologist, when he was called to the University of Alberta at Edmonton to the recently established chair of physiology. He threw himself into the work of the university with characteristic thoroughness and energy, and in three years had shown himself a source of great strength to the faculty. While at first it seemed to him that his duty lay with a young university, as the war progressed he realized that his country had the greater call upon him, and when, early in 1916, a field ambulance was raised in Alberta, he joined it. So good a name had he made for himself as a leader, that, despite his youth, he was given his majority and placed second in command. That August he crossed to France with the unit, and went through the actions of Courcellette, Vimy Ridge, and Passchendaele. When, in September, 1917, his senior officer was called to England to take over work there, he was given command of the unit, and later promoted lieutenant-colonel. In this position he rapidly gained the respect and affection of all under him. In May last he was mentioned in dispatches, and he met his death during the recent operations while proceeding forward to locate an advanced dressing station. He had already accomplished much, and with him Canada loses a man of singular promise. He leaves a widow, now in England.

**CAPTAIN W. M. LANSDALE, R.A.M.C.(S.R.).**

Captain William Morris Lansdale, R.A.M.C.(S.R.), attached Berkshire Regiment, was reported as killed in action, in the casualty list published on September 11th. He was educated at Guy's Hospital, took the L.M.S.S.A. in 1914, and the M.B. and B.S.Lond. in the same year; he took a commission as lieutenant in the Special Reserve of the R.A.M.C. on December 16th, 1914, and was promoted to captain on June 16th, 1915.

**CAPTAIN A. MORTON, R.A.M.C.**

Captain Alick Morton, R.A.M.C., was killed in action in France on August 27th, aged 24. He was the elder son of Dr. R. A. Morton of Ayr, and was educated at Ayr Academy and at Glasgow University, where he graduated as M.B. and B.Ch. in 1916. During his final year he acted as one of the resident assistants at Springburn Red Cross Hospital, Glasgow. After qualifying, he took a temporary commission in the R.A.M.C., and had served for about a year in Burma, and another year in Palestine, before he was transferred last spring to France, where he was attached to the Highland Light Infantry. He was killed by a shell while dressing wounded in a shell hole.

### *Died of Wound.*

Captain R. B. Taylor, M.C., R.A.M.C., was reported as having died of wounds, in the casualty list published on September 7th. He received the Military Cross on July 26th, 1918.

Captain Graham Robertson Cowie, South African Medical Corps, died of wounds in a casualty clearing station on September 3rd, aged 27. He was the elder son of John Cowie, late of Johannesburg, and was educated at Oxford, where he graduated M.B. and Ch.B. in 1917.

Lieutenant W. M. Heald, R.A.M.C.(S.R.), died of wounds in hospital abroad on September 8th. He was the only son of the Rev. C. W. Heald, of Chale Rectory, Isle of Wight, and was educated at Marlborough, at St. John's College, Cambridge, and at St. Bartholomew's Hospital, where he acted as junior house-physician before joining the Special Reserve of the R.A.M.C. early this year. He was attached to the Lancashire Fusiliers.

### *Wounded.*

Major G. H. R. Gibson, D.S.O., Canadian A.M.C.

Major W. Murdoch, M.C., R.A.M.C.(S.R.).

Major J. McL. Pinkerton, M.C., R.A.M.C. (temporary).

Captain E. V. Beaumont, R.A.M.C. (temporary).

Captain H. Black, Canadian A.M.C.

Captain L. L. H. Boys, R.A.M.C. (temporary).

Captain J. P. S. Cathcart, Canadian A.M.C.

Captain A. K. Forbes, R.A.M.C. (temporary).

Captain R. K. Gillespie, R.A.M.C. (temporary).

Captain S. E. Holmes, Canadian A.M.C.

Captain A. W. Holthusen, R.A.M.C. (temporary).

Captain A. J. Ireland, R.A.M.C. (temporary).

Captain J. R. John, R.A.M.C. (temporary).

Captain D. F. Riddell, R.A.M.C. (temporary).

Captain H. J. Shone, R.A.M.C. (temporary). Jersey Militia.

Captain E. C. A. Smith, R.A.M.C. (temporary).

Captain T. V. Somerville, M.C., R.A.M.C. (temporary).

Captain W. C. Walsh, Canadian A.M.C.

Lieutenant T. Davies, R.A.M.C. (temporary).

Lieutenant W. P. Nelson, R.A.M.C. (temporary).

Lieutenant M. S. Ullah, I.M.S. (temporary).

### *Prisoners of War.*

Captain C. C. Jones, R.A.M.C.

Captain F. H. McCaughey, R.A.M.C. (temporary).

Captain W. A. Rees, R.A.M.C. (temporary).

Dr. Demetrius Pachantoni, medical officer to the internment hospital for allied prisoners of war at Fribourg, Switzerland, died on August 4th, of pneumonia, following influenza contracted in his attendance on the prisoners.

### DEATHS OF SONS OF MEDICAL MEN.

Bryson, W. M., Second Lieutenant West Yorkshire Regiment, third son of Dr. M. Bryson of York, killed September 1st. He was educated at Ellesmere College, Shropshire, and entered the service of the Yorkshire Insurance Company. He had served for five years in the East Riding Yeomanry, got a commission in 1917, and was recently transferred to the West Yorkshire Regiment. His elder brother, Mungo James Bryson, Middlesex Regiment, was killed in action about two years ago. His younger brother, David Buchanan Bryson, died in India of pneumonia on August 6th last, aged 23. He was educated at St. Martin's School, York, and served his apprenticeship in Messrs. T. Cooke and Sons' Buckingham Works. After working as an engineer at Coventry for four years he went to India, where he held the post of overseer on the Matelli Tea Estate, Jalpaiguri, until he joined the army.

Buck, Geoffrey Sebastian, M.C., D.F.C., Captain Royal Air Force, eldest son of Dr. Percy C. Buck, of Harrow-on-the-Hill, killed September 3rd, aged 21. He was educated at Winchester, where he played against Eton in the eleven of 1914. On November 10th, 1914, he got a commission in the 1st City of London (Territorial) Battalion of the City of London Regiment, the Royal Fusiliers, with whom he served in France till July, 1916, when he joined the Royal Flying Corps.

Cassidy, Michael Bernard, Second Lieutenant Irish Guards, youngest son of Joseph L. Cassidy, M.D., late of Harley Street, reported missing April 15th, and now presumed killed on that date, aged 24.

Jones, John Ynys Palfrey, Second Lieutenant Welsh Regiment, only son of Dr. John Jones of Clydach, Swansea Valley, killed August 30th, aged 20. He was educated at the Cathedral School, Llandaff, where he gained a scholarship, and at Blundell's School, Tiverton, where he was a prefect and a member of the eleven. On leaving school in 1916 he tried to join the Royal Flying Corps, but was rejected for deficient sight, and went to Caius College, Cambridge, intending to enter the medical profession. He joined a cadet battalion at Cambridge in January, 1917, got his commission the following April, and went to the front in July, remaining there till invalided last December. He returned to the front on July 27th.



Maggs, Eric William Bristowe, Second Lieutenant King's Royal Rifle Corps, the only son of Mr. and Mrs. W. A. Maggs of Upper Wimpole Street, W., was killed on August 20th, aged 25. He was educated at Charterhouse, and on joining the army in January, 1915, was a student of medicine at University College, Oxford. He served in the R.A.C. for two years, and was twice wounded. Later he passed through a cadet school, and, obtaining a commission in the K.R.R.C., went again to the front early this year.

Morris, Eric John, Second Lieutenant Royal Guernsey Light Infantry, younger son of Dr. H. E. Morris of Kinnocley, Oswestry, reported missing April 11th, now presumed killed on that date, aged 19. He was educated at Elizabeth College, Guernsey, where he was captain of cricket and football, got his commission at 18, and went to the front last November.

Mossop, William Nicholson, M.C., Captain and Adjutant West Yorkshire Regiment, third son of the late Dr. Isaac Mossop of Bradford, died of wounds as a prisoner in the German military hospital at Ghent on May 8th. He got his commission on September 10th, 1914.

O'Sullivan, J. G., Lieutenant Royal Engineers, son of the late Dr. T. G. O'Sullivan and brother of Dr. W. J. O'Sullivan, Limerick, killed by enemy aircraft.

Sanders, Reginald Horace, Lieutenant Royal Engineers and Royal Air Force, eldest son of Dr. Horace Sanders, of Hampden Park, Sussex, late of Hampstead, killed recently in a flying accident at Eastbourne, aged 24. He had served abroad for nearly four years in Egypt, Gallipoli, and Palestine, where he was present at the capture of Jerusalem. He returned home and joined the R.A.F. last July.

Torney, T. F. H., Lieutenant Welsh Regiment, only child of Captain Hastings Torney, R.A.M.C., of Cowbridge, Glamorgan, killed September 3rd, aged 20. He got his commission on January 20th, 1915.

Wilson, Thomas, Second Lieutenant Loyal North Lancashire Regiment, only son of the late Dr. Wilson, of Seedley, Salford, killed August 29th, aged 21.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]

## HONOURS.

THE *London Gazette* of September 13th announces the following awards to medical officers in recognition of their "conspicuous gallantry and devotion to duty" in the field:

### Bar to D.S.O.

Captain (acting Lieut.-Colonel) William Blackwood, D.S.O., R.A.M.C.

He was in charge of the evacuation of casualties from the divisional front during an enemy attack. When communication with the advanced dressing station was cut by enemy barrage he re-established communication and personally visited the posts under his administration. Throughout the fighting he visited the forward area daily, and his indefatigable energy and exceptional organizing ability were invaluable to the division. (D.S.O. gazetted June 3rd, 1918.)

Major (temporary Lieut.-Colonel) Thomas Ernest Harty, D.S.O., R.A.M.C.

For nearly a month this officer was in charge of the evacuation of the wounded on the front of a whole division. His initiative, courage, and resource during much heavy fighting resulted in the successful clearing of all wounded in the forward area, which he frequently visited during heavy shelling to see that his orders were being executed properly, and also to inspire confidence. He never spared himself in his efforts to arrange for the wounded. (D.S.O. gazetted January 1st, 1917.)

### D.S.O.

Temporary Captain Ralph Franklin Eminson, R.A.M.C.

When two companies who had made a counter-attack and reached a village, were obliged to fall back 150 yards, suffering heavy casualties, whom it was impossible to rescue owing to the accurate machine-gun and rifle fire from the village, this officer went himself, regardless of fire, and in full view of the enemy, across "No Man's Land" many times, and carried and assisted back the wounded, who would otherwise have been left.

Major James Beverley Metcalfe, M.C., Australian A.M.C.

In a village under heavy bombardment of gas and high explosives, this officer, with practically no protection, tended the wounded for four and a half hours. When the advanced dressing station had been moved to a new site, he remained with four men evacuating odd cases which continued to come in until two shells came right into the dressing room, severely wounding him. His cheerfulness and coolness throughout encouraged all around him.

Temporary Captain (acting Major) Henry Moore, M.C., R.A.M.C.

He went through heavy machine-gun and rifle fire to a dressing station which was being evacuated, and cleared a large number of wounded. He also took cars to battle positions which were being shelled, and removed the wounded to safety. At the dressing stations during enemy bombardment he remained to the last, and saved many lives by his courage and devotion to duty.

Major Leslie Gemmel Tassie, Australian A.M.C.

This officer set a fine example of coolness and courage about amongst his stretcher-bearers directing and encouraging them. Day and night he visited the regimental aid post and landing posts, rearranging bearer relays and supervising the evacuation of wounded. Hearing there were several wounded in a village which was being heavily shelled, he organized parties and cleared the village.

Captain and Brevet Major Arthur Walker, R.A.M.C.

He established forward dressing stations and continued to work in them until forced to move by the immediate proximity of the

enemy. He was repeatedly working in the open under heavy fire, no notice for being awarded. He undoubtedly saved many lives which would have been lost but for his courage and initiative.

### Second Bar to Military Cross.

Captain (acting Major) Frank Grahame Lescher, M.C., R.A.M.C.(S.R.).

When his company heavily shelled he had the wounded removed, and attended them in the open for six hours. Again, during the night, when the troops were in a bombard, he proceeded to the scene and extracted the wounded men and attended to them until the enemy continued to shell the position. (M.C. gazetted October 20th, 1916. First bar gazetted August 16th, 1917.)

Temporary Captain Clarence Randolph Young, M.C., R.A.M.C.

When all the officers of the battalion had become casualties and his aid post was almost surrounded by the enemy, he succeeded in evacuating many of the wounded in spite of continuous machine-gun fire. His energy and disregard for his personal safety inspired all who came in contact with him. (M.C. gazetted November 11th, 1916. First bar gazetted July 26th, 1917.)

### Bar to Military Cross.

Temporary Captain George Oliver Fairclough Alley, M.C., R.A.M.C.

After the troops had retired past his aid post, which was temporarily established in a shell hole, this officer continued to attempt to evacuate the wounded. He was exposed to fire from both sides, but succeeded in reaching the line after having evacuated many wounded. He thus prevented any of them falling into the hands of the enemy. (M.C. gazetted June 4th, 1917.)

Temporary Captain (acting Major) Bertram Friend Bartlett, M.C., R.A.M.C.

As Battalion Medical Officer, under heavy machine-gun and shell fire, he continuously languished wounded. Though severely wounded, he stuck to his duties, and his pluck and determination saved many lives. (M.C. gazetted January 1st, 1918.)

Temporary Captain Stanley James Auncer Beale, M.C., R.A.M.C.

He worked unceasingly for forty-eight hours at a forward aid post. As each post in its turn became untenable he was sent to another, all the time carrying on dressing and evacuating wounded, while frequently exposed to machine-gun fire. He was enemy he was responsible for saving large numbers of wounded from falling into the enemy's hands. (M.C. gazetted September 26th, 1917.)

Captain John Arthur Bell, R.A.M.C.

He was ordered to replace a medical officer who was wounded, and at once went up through a very heavy barrage, established a dressing station in the open, and showed the greatest courage and devotion to duty in attending the wounded under very heavy shell fire. He continued his fine work for several days, and was the means of saving many lives. His courage and the example directly inspired all ranks with him. (M.C. gazetted September 15th, 1917.)

Captain Hawtreay William Browne, M.C., R.A.M.C.

When an advanced dressing station was cut off by the enemy, this officer made a very plucky attempt to reach it. Later, when owing to losses amongst battalion medical officers, he was sent to a regimental aid post, he remained there until the enemy was within 300 yards of it, evacuating all his wounded and coming back with the last case under machine-gun fire. He set a fine example of coolness and resource. (M.C. gazetted January 16th, 1917.)

Temporary Lieutenant (acting Captain) William Kealty Campbell, D.S.O., M.C., R.A.M.C.

During a withdrawal, after a long march, he took over the advanced evacuation of the wounded, and having visited the whole line, made his dispositions. Next day he visited all regimental medical officers under machine-gun fire. He showed great energy and determination. (M.C. gazetted January 18th, 1918.)

Captain Harry Edmund Creswell, M.C., R.A.M.C.(S.R.).

After an intense bombardment with gas shells a village was ordered to be cleared. He was one of the last to leave, and though he himself was very badly gassed, he continued to work until he had done everything for the casualties that lay in his power, and was ordered to the field ambulance. (M.C. gazetted August 16th, 1917.)

Temporary Captain John Polson Davidson, M.C., R.A.M.C.

While in charge of forward bearers, by his cool courage he was largely instrumental in getting away all wounded under heavy shell fire. His consistent devotion to duty set a splendid example to all his party. (M.C. gazetted January 1st, 1918.)

Captain Thomas McNaughton Davie, M.C., R.A.M.C.(S.R.).

When battalion head quarters were practically surrounded, and he saw that he could be of no further use, he made his escape and after all the officers of the battalion had become casualties, he remained with the men in the open throughout the fighting on that and the following day. The next day he again went into action with the remnants of the battalion in a counter-attack, rendering excellent service. His cool self-possession and devotion to the wounded under very heavy fire did much to steady all ranks. (M.C. gazetted January 1st, 1918.)

Captain (acting Major) Fred Ellis, M.C., R.A.M.C.

During an enemy attack when the enemy had approached within 200 yards of his advanced dressing station he ordered his personnel to withdraw, and remained at his post under heavy shell fire with a few men to care for the wounded. When a bridge over which the cases were evacuated was destroyed, he evacuated by hand every patient a mile distant and he managed to save his two ambulance cars. His services were of a high order. (M.C. gazetted November 26th, 1917.)

Temporary Captain John James Harrower Ferguson, M.C., R.A.M.C.

He went forward in charge of bearer squads, under machine-gun fire, to find a regimental aid post with which contact had been lost. When there he showed great disregard for personal safety, and set a fine example to the bearers, and did not leave the post until all the casualties had been evacuated, although the enemy was almost in the immediate vicinity. (M.C. gazetted September 15th, 1917.)



**Captain Frank Percy Freeman, M.C., R.A.M.C.**

During an enemy attack he was wounded by a shell which killed others with him. He was taken to a dressing station and his command and other duties were carried out by him. He was wounded again by a shell which killed others with him. He was taken to a dressing station and his command and other duties were carried out by him. He was wounded again by a shell which killed others with him. He was taken to a dressing station and his command and other duties were carried out by him. (M.C. gazetted February 1915.)

**Temporary Captain acting Major, Hugh Bernard Curman, M.C., R.A.M.C.**

While in charge of stretcher-bearers he supervised the evacuation of wounded from the front line to the advanced dressing station, often under heavy shell fire. Also, he continued to dress wounds in a dressing station unprotected from shell fire. (M.C. gazetted February 1915.)

**Temporary Captain acting Major, Robert Masson, G.D.C., M.C., R.A.M.C.**

For several months he was in charge of the advanced dressing station, often under heavy shell fire. He was wounded again by a shell which killed others with him. He was taken to a dressing station and his command and other duties were carried out by him. He was wounded again by a shell which killed others with him. He was taken to a dressing station and his command and other duties were carried out by him. (M.C. gazetted February 1915.)

**Temporary Captain Austin Harvey Huxford, M.C., R.A.M.C.**

While in charge of stretcher-bearers he supervised the evacuation of wounded from the front line to the advanced dressing station, often under heavy shell fire. Also, he continued to dress wounds in a dressing station unprotected from shell fire. (M.C. gazetted February 1915.)

**Temporary Captain Edmund Basil Jardine, M.C., R.A.M.C.**

During his duty he was wounded by a shell which killed others with him. He was taken to a dressing station and his command and other duties were carried out by him. He was wounded again by a shell which killed others with him. He was taken to a dressing station and his command and other duties were carried out by him. (M.C. gazetted February 1915.)

**Temporary Captain James Huntly Legge, M.C., R.A.M.C.**

When acting as Orderly he was during a raid he established a first aid post in the front line, under conditions of great difficulty. He was wounded again by a shell which killed others with him. He was taken to a dressing station and his command and other duties were carried out by him. He was wounded again by a shell which killed others with him. He was taken to a dressing station and his command and other duties were carried out by him. (M.C. gazetted February 18th, 1915.)

**Temporary Captain George Edwin Lindsay, M.C., R.A.M.C.**

Not only in this officer's duty but his professional duties and a cheerfulness that inspired all ranks, but on two occasions, regardless of personal danger, he continually attended wounded in the open under heavy machine-gun and rifle fire, only withdrawing when ordered to by his commanding officer. (M.C. gazetted September 28th, 1917.)

**Temporary Captain Frederick Buck McArthur, M.C., R.A.M.C.**

During a severe engagement this officer established an advanced dressing station within 200 yards of the front line, where for forty-eight hours, continuously under heavy fire, he attended to the wounded and arranged for their evacuation. (M.C. gazetted February 4th, 1918.)

**Captain William Hildgrove Leslie McArthur, M.C., R.A.M.C.(S.R.)**

This officer, hearing that an aid post was filled with wounded who could not be evacuated by the normal route, owing to the enemy bombardment, led a party of stretcher-bearers through heavy shell fire and reorganized the evacuation. He dressed four wounded men in the open on the way up, and made several journeys during the day. (M.C. gazetted January 14th, 1916.)

**Temporary Captain Daniel McKelvey, M.C., R.A.M.C.**

In evacuating the wounded he went to and fro with a small ambulance car right up to the firing line, meeting the stretcher-bearers and bringing back wounded as soon as dressed. In spite of the heavy fire he carried on with his well-organized arrangements. Later, whilst looking for a new dressing station, he was captured, but managed to make good his escape. Throughout the operations he displayed great energy, and his work was magnificent. (M.C. gazetted July 18th, 1917.)

**Temporary Captain George Boyd McTavish, M.C., R.A.M.C.**

Throughout nine days' operations he worked continuously in charge of the bearer division, and refused to be relieved. He went to and fro superintending the clearing of the wounded, quite regardless of the many barrages through which he had to pass, and no doubt saved many lives by his untiring zeal and coolness. (M.C. gazetted October 29th, 1916.)

**Captain John Wright Malcolm, M.C., R.A.M.C.(S.R.)**

During an enemy attack he was at an advanced dressing station with another medical officer, and seeing the enemy advancing they loaded their car with wounded and, picking up others on the way, conveyed them to a safe place. During the journey he was under close and constant fire. (M.C. gazetted January 10th, 1917.)

**Captain Duncan Westlake Pailthorpe, M.C., R.A.M.C.**

He collected wounded under fire after a raid, working till daylight. He then went out in broad daylight, established the fact that a man reported missing was dead on the enemy's wire, and brought him in from within ten yards of the wire. (M.C. gazetted September 22nd, 1916.)

**Temporary Captain Reginald Thompson Raine, M.C., R.A.M.C.**

He attended the wounded under heavy rifle and shell fire, and superintended their evacuation. By his devotion to duty he set a fine example to all ranks. (M.C. gazetted January 18th, 1918.)

**Captain John Elvin Rnsby, M.C., R.A.M.C.(S.R.)**

During an intense bombardment an artillery dug-out was blown in. This officer with his stretcher-bearers dug out two officers and three men who were buried. Later, he went to an exposed flank to attend to wounded men under heavy fire. Throughout the whole week's operations he worked untiringly, and undoubtedly saved many lives. (M.C. gazetted September 26th, 1917.)

**Captain (acting Major) Arthur Ashton Smalley, M.C., R.A.M.C.(S.R.)**

For his skilful and bold leading of the stretcher-bearers, and in evacuating the wounded. By his devotion to duty under the

most difficult conditions he was wounded by a shell which killed others with him. He was taken to a dressing station and his command and other duties were carried out by him. He was wounded again by a shell which killed others with him. He was taken to a dressing station and his command and other duties were carried out by him. (M.C. gazetted February 1915.)

**Captain (acting Major) Charles Nixon Smith, M.C., R.A.M.C.**

This officer was in charge of an advanced dressing station and collected wounded from the front line for four days. He was wounded again by a shell which killed others with him. He was taken to a dressing station and his command and other duties were carried out by him. He was wounded again by a shell which killed others with him. He was taken to a dressing station and his command and other duties were carried out by him. (M.C. gazetted December 17th, 1917.)

**Temporary Captain James Williamson Tocher, M.C., R.A.M.C.**

On several occasions he was wounded whilst under very heavy shell fire. He was wounded again by a shell which killed others with him. He was taken to a dressing station and his command and other duties were carried out by him. He was wounded again by a shell which killed others with him. He was taken to a dressing station and his command and other duties were carried out by him. (M.C. gazetted June 1915, 1917.)

**Captain William Joseph Webster, M.C., R.A.M.C.(S.R.)**

He got up to a collecting post and supervised the evacuation of the wounded under direct enemy machine-gun fire. His ambulance car had most of its body blown away and the radiator smashed. In spite of this, by packing the holes with candle grease, he was able to bring the car back through the heavy barrage with the wounded men. He showed fine devotion to duty. (M.C. gazetted January 1st, 1918.)

*Military Cross.*

**Lieutenant Joseph Adams, R.A.M.C.(S.R.)**

He dressed and attended to wounded in an aid post under heavy shell fire and he established a stretcher post and got wounded away to the rear.

**Temporary Captain Douglas Reid Alexander, R.A.M.C.**

He continued to attend to the wounded under heavy shell fire working day and night for six days at very high pressure. He showed an example of coolness and courage to all, and by his perseverance the lives of many were saved.

**Captain Francis Dighton Annesley, R.A.M.C.(S.R.)**

When a shell was brought to the quarters of a Brigade that the cookhouse of the battery had been struck, and that there were many killed and wounded men inside, he immediately left his aid post and went forward to see what could be done. Whilst going up, a shell struck the remaining portion of the cookhouse, partially burying the occupants. He personally assisted in extricating the men, dressed their wounds on the spot under heavy shell fire, and got them away safely to the dressing station. His promptness and courage were undoubtedly the means of saving several lives.

**Captain Frederick Stanley Bedale, R.A.M.C.**

His only duty was working at an aid post in a village, a portion of which was captured by the enemy. He remained until the last possible moment, only leaving when all wounded had been evacuated. He then established an aid post in the open, working unceasingly day and night, being the only medical officer left in the area, and his staff greatly reduced. His attention to the wounded, at grave personal risk, was most praise-worthy.

**Captain Francis Lionel Percy Garnett Bennett, R.A.M.C.(S.R.)**

Seeing that wounded men were in danger of becoming prisoners, he obtained ambulances, and three times personally took them away under heavy shell and machine-gun fire. On the last occasion he was himself wounded, but he sent his last car away full and struggled on on foot until he lost with assistance. He had been working continuously for forty-eight hours previously.

**Temporary Lieutenant (temporary Captain) John Hamilton Boag, R.A.M.C.**

When an aid post was occupied by the enemy he hastily established himself in a new position and rendered valuable assistance. He several times went fearlessly out under machine-gun fire and brought in casualties, and by his devotion saved many lives.

**Temporary Captain (acting Major) Cecil Anderson Boyd, R.A.M.C.**

He repeatedly attended to wounded under heavy shell fire, and on several occasions was compelled to evacuate his aid post, succeeding each time in removing all his wounded, often across country, and by his fine judgement and tireless energy saving a large number from falling into the enemy's hands. His conduct throughout was excellent, the conditions being exceptionally hazardous and trying.

**Temporary Captain Harold Francis Brice-Smith, R.A.M.C.**

This officer displayed great gallantry during ten days' severe fighting, attending to wounded men under severe hostile artillery fire. He was himself wounded in the arm at an early stage, but with unselfish devotion he remained at his duty throughout the operations, rendering most valuable service night and day, although suffering great pain from his injuries.

**Captain (acting Major) George Allman Bridge, R.A.M.C.(S.R.)**

This officer, who was in charge of a forward dressing station and bearer posts, hearing that one had been blown in, proceeded at once with a N.C.O. through a heavy barrage and rescued the injured men, conveying them to a place of safety. After establishing another post he filled up shell holes at a cross-road to enable motor ambulances to pass.

**Captain (acting Major) Charles Frank Burton, R.A.M.C.(S.R.)**

In his skilful leading of the stretcher-bearers on all occasions he has always shown great coolness under the heaviest fire.

**Captain Charles Hope Carlton, R.A.M.C.(S.R.)**

He took an ambulance out into a village after the enemy had entered it, and succeeded in clearing several wounded in the face of heavy machine-gun and rifle fire. Throughout operations he showed great energy and devotion to duty under very difficult conditions.

**Temporary Captain (acting Major) Philip Carney, R.A.M.C.**

In leading motor ambulance wagons up to a village under heavy fire and bringing away the last of the wounded. He showed on many occasions a splendid example of devotion to duty under most difficult conditions.



**Captain Gerald Francis Carr, R.A.M.C.**

After the first a forced dressing station of which he was in charge was bombed out three times, by his courage and example he kept the patients and personnel safely away and established his dressing station without interrupting the evacuation.

**Temporary Captain Clifford Cuthbert Chance, R.A.M.C.**

When a heavy barrage interrupted communications between regimental and post-aid posts he organized his stretcher-bearers to get them through the barrage, cleared the wounded and re-established the chain of evacuation. He has repeatedly led his squads through heavy fire and gas shell, and has by his magnificent example of devotion to duty maintained the moral of cool and shaken battalions.

**Temporary Lieutenant Charles Clyne, R.A.M.C.**

He worked for twenty-four hours in a dug-out machine-gun and shell fire, and evacuated over 200 cases. Two days later, under heavy shell fire, he continued to evacuate wounded. His devotion to duty saved many lives.

**Temporary Lieutenant George Carter Cossar, R.A.M.C.**

This officer, who was medical officer of the battalion, performed his duties with the greatest coolness under heavy fire and gas shelling for four days, attending to the casualties with great devotion to duty, although on one occasion he became unconscious from gas. He was twice wounded, but remained at his work, though suffering all the time from the effects of gas. His devotion to duty and disregard for his own safety set the finest example to his men and maintained the steadfastness of the workers in the regimental and post-aid posts during many dangerous periods.

**Temporary Captain Douglas Crellin, R.A.M.C.**

He remained at an advanced dressing station till all the wounded were clear, in spite of the enemy's approach, and the rain of gas and high explosive shells.

**Captain Spencer Stawell Crosse, R.A.M.C.**

Thanks to his untiring efforts in tending wounded under heavy fire, no wounded were left in the enemy's hands.

**Captain acting Major John William Dale, R.A.M.C.**

He collected and evacuated many wounded from close up to the enemy's lines. Also he completed evacuation of all wounded from an advanced dressing station when the enemy was within 200 yards. He showed fine courage and determination.

**Temporary Lieutenant David Davies, R.A.M.C.**

He organized stretcher-bearers and attended to the wounded. He took forward the stretcher-bearers in a counter-attack under heavy shell and machine-gun fire to within a few yards of the enemy and collected all wounded.

**Temporary Captain acting Major John Edgar Davies, R.A.M.C.**

While in charge of stretcher-bearers he evacuated wounded over ground heavily shelled in full view of the enemy. Although several of his bearers were wounded, he showed a personal disregard for his own safety, and set a fine example to his men.

**Captain Donald Gordon Duff, R.A.M.C. S.R.**

He proceeded to an area that was being heavily shelled, and at once organized stretcher parties superintending the conveyance of wounded to his dug-out, and returned to make certain that no casualties were left. His coolness and devotion to duty throughout have been most marked.

**Temporary Captain George Dundee Eccles, R.A.M.C.**

While evacuating wounded from the firing line, although obliged to retire on four separate occasions, he with great skill and resourcefulness cleared all his wounded safely. His complete disregard of danger was entirely responsible for a completely successful evacuation under circumstances of considerable difficulty.

**Captain acting Major Thomas Stokoe Elliot, R.A.M.C.**

This officer was unflinching in superintending the dressing of the wounded during four days' fighting. He was in charge of three advanced dressing stations, each of which was in turn destroyed by enemy shell fire, but he managed to evacuate all the wounded. Officers, personnel and patients were all encouraged by his cool example.

**Temporary Captain John James Harrower Ferguson, R.A.M.C.**

When a brother officer was buried alive, just a mass of bricks as a result of a shell having struck his billet, this officer, hearing his cries for help, discovered his whereabouts in the darkness, and after four hours' work, although the place was being heavily shelled the whole time, succeeded in extricating him.

**Captain acting Major William Haig Ferguson, R.A.M.C. S.R.**

When the advanced dressing station was completely destroyed by shell fire, and every one was ordered to take cover, this officer left his dug-out and carried several wounded, unaided, some hundred yards to safety, passing through a zone of gas and heavily shelled area. He did the same thing again later on.

**Captain acting Major Robert Alexander Flood, R.A.M.C.**

With the enemy within 300 yards of a divisional rest station he put a car loaded with wounded and took those who could walk, and one stretcher case across the fields. Although knocked down by a high explosive shell, he finally got them to shelter.

**Temporary Captain Augustin Pownall Fry, R.A.M.C.**

He went from place to place across the open, under heavy machine-gun, rifle, and shell fire, to attend to the wounded. His splendid coolness undoubtedly saved many men from becoming to death. Throughout he displayed devotion to duty of a high order.

**Captain acting Major Henry Norman Goode, R.A.M.C.**

He was in charge of the bearers collecting wounded, and frequently visited his posts under very heavy shell fire. He organized the evacuation of the casualties from the regimental and post-aid to the advanced dressing station, frequently being obliged to alter his routes and establish new relay posts, owing to the heavy shelling. It was largely owing to his courage and energetic ability that the removal of the wounded was carried out in such a speedy and efficient manner.

**Captain Francis Hennessey Goss, R.A.M.C. S.R.**

This officer worked all night in the open in front of the line under heavy fire, dressing the wounded and carrying them back to safety. His temporary aid post was captured and the staff took prisoners,

but he came his way back through the enemy lines alone. The following night he carried many casualties into the open, carrying wounded on stretchers to temporary shelter. His devotion to duty saved many lives.

**Temporary Captain acting Major Frank Cyril Greig, R.A.M.C.**

He remained at the advanced dressing station for five days, working under very heavy fire, and while temporarily blinded by the destruction of his eyes. When the post was almost completely destroyed he still continued to work, and was wounded in a dug-out, and he worked with unremitting energy under heavy shell fire to get them out.

**Temporary Captain Charles Hope Hadford, R.A.M.C.**

When the enemy drove the line back to battalion head quarters he kept his post open till he was killed, with only two men within 200 yards, and succeeded in evacuating all wounded. Later, under a counter-attack, he showed untiring energy in dressing and evacuating wounded under very difficult conditions. He showed the devotion to duty.

**Temporary Captain Alfred Ernest Hallinan, R.A.M.C.**

When the enemy was snatched by the enemy, he got through to battalion head quarters, reported on the situation, and established an aid post there, where he evacuated a large number of wounded. Later, he worked for hours at another aid post while the enemy were within a few hundred yards. He displayed great energy and efficiency.

**Temporary Captain Chester Harris, R.A.M.C.**

When the enemy was attacking in large numbers he, in spite of the heavy fire, kept these machine-gun posts open, and in clearing all the wounded, and three times went back through heavy barrage to dress and carry wounded men. His conduct was a fine example.

**Captain acting Major John Henderson Hunter, R.A.M.C.**

He was in charge of advanced dressing stations, which were continually shelled.

**Captain Arthur Edward Huxtable, R.A.M.C.**

For conspicuous bravery and devotion to duty in carrying on the evacuation of wounded under heavy shell fire. He made several journeys under extremely heavy machine-gun, rifle, and high explosive shell fire. His real courage and untiring energy were admirable.

**Captain George Kingsley Edwin Inman, R.A.M.C. S.R.**

Heating that the infantry were heavily shelled, he obtained permission to go forward and help them. He found that the position was being heavily shelled and that the enemy were in the air, and had been killed. He at once assumed command of the battalion, and, though the infantry had retired, twice took stretcher-bearers back to the position, and thus rescued many wounded who must otherwise have been captured.

**Temporary Captain Charles George Lambie, R.A.M.C.**

He tended wounded under intense hostile barrage, constantly going out into the open and bringing wounded in. On a later occasion he went from battery to battery under heavy shell fire, dressing the wounded and sitting near them to the nearest ambulance. He was several times hit by shell fragments.

**Temporary Captain John Gagen Lee, R.A.M.C.**

He attended to casualties under very heavy machine-gun and shell fire, and only for four days. He was wounded in the head and leg, but remained at duty. He had his dressing station blown up twice. Each time new stations were reorganised, every casualty he received splendidly, and his conduct was a very fine example.

**Temporary Captain acting Major Francis Charles Lees, R.A.M.C.**

For forty-eight hours, while in charge of the arrangements for the evacuation of wounded, he worked unceasingly in an advanced dressing station, and owing to his courage and energy a large number of wounded were cleared from the forward area under most difficult circumstances.

**Temporary Captain Sidney John Liddon Lindeman, R.A.M.C.**

For ten days he worked unceasingly, tending wounded under heavy fire, saving many lives. On one occasion, under intense machine-gun fire, he shot continued dressing and collected wounded, and his complete disregard of danger set a fine example to those under him.

**Temporary Captain acting Major John Wychiffe Linnell, R.A.M.C.**

He dressed and evacuated wounded under shell fire during five days' operations. On two of the days, at great personal risk, he cleared wounded from villages which were being shelled.

**Temporary Captain Vernon Edmund Lloyd, R.A.M.C.**

While in charge of stretcher-bearers he worked for hours under shell fire, and under wounded, and in an advanced dressing station exposed to shell fire he dressed and evacuated a large number of wounded.

**Temporary Captain George Albert Lyons, R.A.M.C.**

During four days' heavy fighting he worked unceasingly. When the regimental aid post was heavily shelled he organized a carrying party and removed all men incapable of walking. He was the cause of saving many lives.

**Captain James McLean Macfarlane, R.A.M.C.**

This officer, while a town was being heavily bombarded, frequently entered it to attend to the wounded who required surgical aid before they could be evacuated. Later, he attended to the wounded and evacuated them to the casualty clearing station for three days, working day and night, and when compelled to leave owing to the heavy shelling, took his party to man a bridge over a canal, carrying on until ordered to leave just before the bridge was blown up. He was responsible for the saving of many lives.

**Temporary Captain James David Mackinnon, R.A.M.C.**

During very heavy fighting he attended to the wounded in the open under machine-gun and rifle fire. He showed fine courage and saved many lives.

**Temporary Captain Kenneth Duncan Cameron Macrae, R.A.M.C.**

He was sent to a forward post to wounded men in the open and shell fire. He also organized an aid post on the line of the enemy's artillery barrage. By his devotion to duty many lives were saved.



Captain (acting Major) Alexander Cross Mollace, R.A.M.C.

When in the front line, harassing the enemy, he worked on tirelessly until he had been wounded, when his troops continued to remain to clear his last cases until the enemy was within 100 yards.

Captain (acting Major) William McCombie, R.A.M.C.(S.R.).

He repeatedly volunteered to go forward with the stretcher-bearers to the front lines, and was on the stretcher-bearers' line for several days. He was wounded on the 10th of July, but continued to work until he was killed. He showed great devotion to duty.

(Continued on p. 332)

#### D.S.C.

Among the honours awarded for services in action with the *Galileo* and *Invicta*, on January 10th, 1918, the Distinguished Service Cross is bestowed upon Surgeon James M. Harrison, R.N. (H.M. Monitor "M28").

A wounded man having fallen into the water, Surgeon Harrison went in after him and kept him afloat until picked up. It was due to his untiring efforts that eight severely wounded cases arrived in good condition at the hospital ship twenty-two hours later.

The Distinguished Service Cross has also been bestowed upon Surgeon Probationer George L. Strahan, R.N.V.R., for services in action with enemy submarines.

#### FOREIGN DECORATIONS.

The King of Serbia has conferred the following honours upon officers of the A.M.S. and R.A.M.C.:

*Order of the White Eagle, 2nd Class.*—Lieut.-General Sir Alfred Keogh, G.C.B., G.C.V.O.

*Order of the White Eagle, 1st Class.*—Lieut.-Colonel Charles H. St. John.

*Order of St. Sava, 3rd Class.*—Lieut.-Colonel Leifard S. Davidson, C.M.G., Lieut.-Colonel George S. Davidson.

*Order of St. Sava, 4th Class.*—Lieut.-Colonel Robert Cunningham Brown, Lieut.-Colonel John S. Davidson, Lieut.-Colonel Basil Hughes, Lieut.-Colonel John A. Davidson, Lieut.-Colonel Thomas W. Edmonstone Ross, temporary Major John W. Strathairn.

*Order of St. Sava, 5th Class.*—Temporary Captain Joseph T. Carson, temporary Lieut.-Colonel Arthur F. Wright, Captain George S. Davidson (S.R.), temporary Captain Frederick P. Wigfield.

The King of Italy has conferred the following honours upon officers of the A.M.S. and R.A.M.C.:

*Order of St. Maurice and St. Lazarus.*—Officer: Colonel Thomas du Bédat White, C.M.G., A.M.S. Cavalier: Major George W. W. Ware, D.S.O.

*Order of the Crown of Italy.*—Officer: Colonel Lieut. W. Wright, C.M.G.

*Order of the Crown of Italy, 1st Class.*—Captain John J. H. Brown.

The King of the Belgians has conferred the Croix de Guerre on Staff Surgeon Henry Cooper, D.S.O., R.N.

The King of the Hellenes has appointed Staff Surgeon James Campbell Bringan, R.N., an officer of the Order of the Redeemer.

#### NOTES.

##### CLINICAL LABORATORIES IN THE U.S. ARMY.

THE *New York Medical Journal* of August 24th states that every division of American troops already has, or will have, attached to it a mobile clinical laboratory provided with a bacteriological outfit, where diagnostic examinations can be made. Every base, general and special hospital will also have its clinical laboratory as soon as the staff and equipment can be provided. To secure uniformity in the methods of examination and the forms of reports the Division of Infectious Diseases and Laboratories of the Surgeon-General's office has compiled a *Manual of Laboratory Methods* which describes the collection and shipment of specimens and materials, and gives an account of solutions and stains to be used in the laboratory, with standards and a summary of the pathological work, and the quantitative analytical and bacteriological methods to be followed. The principal function of the army laboratory is said to be the safeguarding of the health of the troops by making rapid and accurate diagnoses of infectious and other diseases for the guidance of the division surgeon and his staff in regard to prophylaxis and treatment.

##### TRENCH FAUNA.

The various forms of animal life that infest the trenches form the subject of a thesis recently presented to the University of Bordeaux by Dr. Gènevray. Of the three varieties of lice the *Pediculus capitis* is less common than the *P. vestimentorum*. In the German trenches occupied by the French the lice are numerous, and are said to be of larger size than the ordinary kind. The picturesque fancy of the *poilu* finds a distinguishing mark of the Boche louse in the "iron cross" which he professes to see on its back. The destruction of these parasites is a long business, requiring minute attention to detail, as reinfection takes place very quickly. The agents recommended by the author are sulphur and formol. Rats, though not such a nuisance as lice, are still distinctly *mauvais coucheurs*. Little is seen of them during the day; their hunting time is the night, when they scamper over the bodies of sleepers in dug-outs and bite their hands when they try to sweep them off. They are very fierce and fight bitterly," as the communiqués say.

among themselves. As rats are carriers of plague their destruction is a matter of vital importance. For this purpose the cat is of comparatively little use; the fox terrier is much more efficient. Various preparations of arsenic and other poisonous substances are also successful. But, according to Dr. Gènevray, the best agent is the vaccine made by Danyz of the Pasteur Institute; it produces in the rat a contagious gastro-enteritis which causes death. The destruction of flies, mosquitos, and fleas is difficult. As regards scabies, men suffering from that complaint are sent to special centres established not far from the front lines.

## Scotland.

### REPRESENTATION OF THE SCOTTISH UNIVERSITIES IN PARLIAMENT.

THE Right Hon. Sir Henry Clerk, K.C.B., M.P., and Sir W. Watson Cheyne, Bt., K.C.M.G., M.P., have accepted the invitation of the Unionist Association of the four universities of St. Andrews, Glasgow, Aberdeen, and Edinburgh to become the official Unionist candidates for two of the three seats now allotted to the group of the four universities at the next general election.

We are asked to announce that, in consequence of the reconstitution of University representation in the House of Commons, and in view of the probability of a general election, a Scottish Universities Parliamentary Association has been formed, with the following as executive officers: Chairman, Professor Sir Thomas Oliver, M.D., D.Sc., LL.D.; honorary secretaries, Professor W. J. R. Simpson, C.M.G., M.D., and Dr. Ellen B. Orr. The offices of the new association are for the present situated at 37, Russell Square, London, W.C.1.

### THE CRICHTON ROYAL INSTITUTION.

In the report of the Crichton Royal Institution, Dumfries, for 1917, Dr. C. G. Easterbrook, the physician-superintendent, deals with many matters of interest and importance. Among these reference may be made to his observations on a new category of "service patients," soldiers and sailors who, having served during the present war, have been admitted to an asylum owing to mental illness (whether due to or aggravated by military service or not) and have been officially recognized by the Minister of Pensions as being entitled to be placed on the list of private patients. Dr. Easterbrook considers that the "service patient" should be classified as such before he is sent to a mental hospital for treatment, and that the hospital should be selected beforehand in consultation with the patient and his wife and relations. Dr. Easterbrook congratulates the Government on a wise and practical solution of a difficult problem, and on the decision to remove the opprobrium of pauperism from the mentally afflicted soldiers and sailors. He takes advantage of the occasion to urge that similar justice should be done to the larger class of the ordinary "pauper" insane, whose affliction is essentially a health question, and not a necessary part of poverty.

The report contains a very interesting table showing the results of treatment for the ten years 1908-1917; its outstanding feature is the larger proportion of recoveries among the "voluntary" than among the "certificated" patients, the excess in favour of the former amounting to 11 per cent. Dr. Easterbrook has adopted Dr. Thurnam's principle of basing the recovery-rate on the admissions, but points out various circumstances which modify the character of the "total admissions" at the present time, especially the constant interchange of patients to and fro between the mental hospitals and the outside community and between the hospitals themselves. Accordingly he distinguishes admissions into two groups according as each patient has or has not during the existing illness previously been under official care.

A remarkable feature of the statistics is the large proportion of voluntary boarders. Only private patients can be admitted in this way; during the ten years 69 per cent. of the patients were certificated and 31 per cent. were voluntary. The total number of patients received as voluntary boarders during ten years was 593, a number large enough to warrant some general conclusions. Taking only the cases admitted which had not been under official treatment previously during the illness the recovery-rate was 43.1 per cent. among the certificated and 53.4 per cent. among the voluntary patients. The voluntary boarder system has long been utilized as far as possible at the



ment Institution, and in the report for 1914 Dr. Easterbrook discussed the whole question very fully, making a strong plea, for which he will have wide support, that the privilege should be extended to rate-aided or public patients, and arguing against a system compelling a patient to gain admission only by being classed as both a "lunatic" and "pauper." He rightly insists that mental illness, like other illnesses, is primarily a derangement of health and not a necessary part of poverty, nor an offence, nor a crime, and he suggests that the local health authority would be the more appropriate department to take the initial steps in dealing with rate-aided mental invalids.

#### A CLINICAL COURSE IN VENEREAL DISEASE.

Under the local authority scheme for the diagnosis and treatment of venereal diseases, Dr. D. Watson, lecturer on venereal diseases in the University of Glasgow, will conduct a course of clinical instruction for medical practitioners, from Monday, September 30th, to Friday, October 11th, at 2 p.m. each day. The class will meet on Mondays, Wednesdays, and Fridays at the Glasgow Royal Infirmary, and on Tuesdays and Thursdays at 41, Rottenrow, Glasgow. The course is free, but as the number who may attend is limited, early application should be made to the medical superintendent, Royal Infirmary, Glasgow.

## England and Wales.

#### A MINISTRY OF HEALTH.

At the annual conference of the National Union of Holloway Friendly Societies, held at Stroud on September 14th, Mr. P. Rockliff, Chairman of the London Insurance Committee, referring to the announcement made some time ago by Dr. Addison that he had effected an agreement with regard to the proposed Ministry of Health, said that such agreement no longer existed: the Committee on Home Affairs, to which the bill had been referred by the War Cabinet, had since made such alterations in the draft measure as to render it quite unacceptable both to the friendly societies of the country and to all the county and borough Insurance Committees. The conference passed a resolution of protest against the introduction of any bill for the establishment of a Ministry of Health which proposed to associate the work of the Ministry with Poor Law relief. Sir Kingsley Wood condemned the delay in the introduction of the Government measure, but said there were now high hopes that the Prime Minister's indictment of health conditions at Manchester on September 12th implied the early introduction of the bill. If it were not introduced next session it would become a test question at the election, and the twelve million women voters would plump for the Ministry. The bill itself would be a short one; it was an urgent war measure which the Government should deal with immediately.

#### WORK OF THE METROPOLITAN ASYLUMS BOARD.

The twentieth annual report of the Metropolitan Asylums Board, for 1917, has been issued, and, like its three predecessors, it appears in a much abbreviated form. The Board has had great difficulty in getting a sufficient number of staff, and at the end of the year there were something like 600 vacancies. Many expedients were tried, but the national demand for woman labour was so large that small success was attained. Fortunately, infectious disease, which has always affected the requirements of the staff more than any other class of illness, was not severe in its incidence. It has at length been decided by the Local Government Board that the accounts of the Metropolitan Asylums Board shall be made up yearly instead of twice a year as hitherto. Annual accounts are nowadays the custom in nearly every branch of accounting, whether commercial or other, and the ancient practice of making up half-yearly accounts is deservedly in abeyance. The total number of persons admitted into the institutions of the Board (excluding war refugees) was 35,808, which is 1,202 fewer than in the previous year. The admissions of cases of infectious disease were 20,246 in number. As the result of representations made to the managers by the Local

Government Board, arrangements were completed during the year for the reception of cases of parturient women at Thavies Inn Infirmary, under the control of the guardians of the City of London.<sup>1</sup> Further arrangements are being made to provide accommodation in two separate hospitals, one in the north and one in the south of London, for the hospital treatment of certain cases of ophthalmia neonatorum. The report includes a brief summary of the routine work done during the year in the bacteriological laboratories, but it is noted that the research work, which for some years past has been conducted at the Lister Institute by the Board's research pathologist, has temporarily ceased owing to the claims of military service.

## Correspondence.

#### PARLIAMENTARY REPRESENTATION OF THE UNIVERSITY OF WALES.

SIR,—The University of Wales is to elect a member of Parliament. Every friend of the university must desire that the constituency, which will be at the best a small one, should be as large and representative as possible, and that no ground should be afforded for suspicion that Welsh graduates fail either to appreciate the privilege or to discharge the duty they owe to their university and to Wales. There is evidence that many have not realized that any action on their part is necessary in order to find a place on the register, whereas they must apply for registration and pay a fee of 5s. I have made many attempts to communicate with them and, as the matter is one of public interest, I shall be greatly obliged if you will allow me to make one more by appealing to them through your columns to communicate with me immediately.—I am, etc.,

J. MORTIMER ANGUS.

Registrar.

University Registry,  
Cathays Park, Cardiff, Sept. 11th.

#### THE FUNCTION OF THE CARDIAC VAGUS.

SIR,—Without pretending to throw any further light on the problem of inhibition, it seems to me that most of the confusion around it, referred to by Mr. Morley Roberts in the *BRITISH MEDICAL JOURNAL* of September 14th, p. 302, was cleared up by the classical experiments of Joseph Lister, communicated to the Royal Society in a letter to Dr. Sharpey (then secretary), received August 13th, 1858, entitled, "Preliminary account of an inquiry into the functions of the visceral nerves, with special reference to the so-called inhibitory system," published in the *Proc. Roy. Soc. of London*, 1859, pp. 367-380.

This paper attracted the close attention of Mr. Hugh Owen Thomas, and was taken into account in his pamphlet on nerve inhibition in his contributions to *Surgery and Medicine*, Part viii, January, 1883, p. 5, which appears to have been a successful attempt to discuss the question from a clinical standpoint, in the light of his personal experience, fortified by Lister's illuminating research.

The writings of H. O. Thomas may be seen in the Library of this Association, and in that of the College of Surgeons of England.—I am, etc.,

Liverpool, Sept. 16th.

RUSHTON PARKER.

#### THE ABUSE OF DRAINAGE TUBES.

SIR,—I have to thank Dr. Sunways for his valuable criticism of my paper, and my old teacher, Mr. Dowden, for his appreciation. I am glad to say that I am steadily converting my colleagues here, and a drainage tube is used in our hospital only in exceptional circumstances—that is, drainage of a cavity with rigid walls, such as a bone cavity—and it is an unusual sight to see a drainage tube used, so I think King Edward VII Hospital, Windsor, may claim to be the first hospital to give up the use of drainage tubes. I know that after the war, when so many surgeons will return to their hospitals, they will also have given them up. Every surgeon will remember instances of a drainage tube causing the death of a patient either by ulceration or kinking of the bowel. I can vividly recall

<sup>1</sup> *BRITISH MEDICAL JOURNAL*, January 12th, 1918, p. 59, and July 27th 1918, p. 92.



such a calamity, a gunshot wound penetrating the abdomen, which occurred to me in France, and I am quite sure had I known what I do now and sewn his wound up instead of using a drainage tube, that this man would have been alive now. I quite agree with Mr. Dowden that I should have mentioned this danger of ulceration or kinking of the bowel by a drainage tube. I completely forgot it, but it is the most real and serious danger of a drainage tube. Strangely enough, within a few days of the publication of my paper I was asked to see as an emergency the case of a colleague of mine. He had been operated on the evening before for empyema. When I saw the case he had a steady haemorrhage which had been going on all night. I opened him up quickly and found the cause of the bleeding was coming from a big hole in his lung which had been made by each respiratory movement pushing the lung up against the rigid drainage tube. With packing and open treatment he made an uninterrupted recovery.

I have dealt with five cases of empyema by lavage and sewing up and am pleased with my results, and propose shortly to write a paper on the subject. As regards thymol paraffin wax, I have had several inquiries from France and America as to the composition. For internal application—for example, filling up a bone cavity—I use two parts paraffin molle to one part wax and 2 per cent. thymol. For the treatment of large superficial wounds I use equal parts paraffin molle and wax with 2 per cent. thymol, and find it is a good and comfortable dressing.

Messrs. Mayer and Meltzer are making for me a passage tube of soft rubber made ready in lengths. All that is necessary to do is to sterilize and cut off such lengths as are required.—I am, etc.,

Windsor, Sept. 16th.

FRANK HATHAWAY.

#### MEDICAL MISSIONARIES.

SIR,—In your Educational Number you give some particulars of the increasing opportunities which present themselves for the work of medical missionaries.

The difficulties created by the war have made it exceedingly difficult to carry on the mission hospitals of the Church Missionary Society in the many fields in which it is at work. Twenty-eight out of our all too small staff of doctors are on war service, and others have served for shorter periods in the R.A.M.C. Its missions in Palestine and Turkish Arabia were naturally closed on the outbreak of war with Turkey, and its European workers with difficulty escaped from the country. In spite of terrible damage to property some hospital work has been restarted, at the request of the British authorities, for the benefit of the civilian population of Palestine. In Bagdad at the outbreak of war a new hospital was in process of erection, and there also it is hoped soon to reopen work.

The Mission Hospital in Uganda has played an important part in military operations in East Africa, and in other places the war has helped to prove the vital importance of these mission hospitals.

Perhaps, however, few things are more remarkable than the way in which missionary doctors from China are participating in the medical care of the Chinese who are labouring in France, where they are supported by Chinese dressers trained in the mission hospitals, including doctors trained at some of the missionary medical schools.

These facts indicate the urgency of the missionary problem, which will be greatly accentuated after the war, and it is hoped that many men and women who are now engaged in war service will realize the call to take part in this great work, which cannot fail to influence large areas in many parts of the world.—I am, etc.,

CHARLES F. HARTFORD,  
Captain R.A.M.C.

B.E.F., France, Sept. 2nd.

### Universities and Colleges.

#### UNIVERSITY OF LONDON.

##### KING'S COLLEGE HOSPITAL MEDICAL SCHOOL.

THE following awards have been made:

Burney Yeo Scholarship: A. D. Porter, B.A., Pembroke College, Cambridge; H. L. Rayner, B.A., Balliol College, Oxford. Senior Scholarship, Tanner Prize, Todd Prize and Medal: L. M. Moody, M.R.C.S., L.R.C.P. Class Prizes: Surgery and Psychological Medicine, A. N. M. Davidson; Obstetric Medicine, H. Kamal; Forensic Medicine, H. N. W. Collins; Hygiene and Diseases of Children, E. A. Crichtlow.

### The Services.

#### TRANSFERS TO THE ROYAL AIR FORCE MEDICAL SERVICE.

A RECENT Army Order announces that on October 1st next all medical officers and other ranks of the Royal Army Medical Corps employed exclusively with the Royal Air Force will be transferred or attached to the Royal Air Force unless prior to that date they give notice of objection to such transfer or attachment. Medical officers and dental surgeons holding temporary commissions will be required to relinquish their temporary commissions in the R.A.M.C. or General List respectively. In the case of an officer serving under a yearly contract which has not expired a *pro rata* gratuity will be issued. Officers of the Regular, Special Reserve, or Territorial Force R.A.M.C., will be attached to the Royal Air Force, and will continue to serve on the conditions of their present terms of service.

### Medical News.

DR. J. S. CRONE, J.P., Deputy Coroner for West Middlesex, has been adopted as prospective Liberal candidate for the new division of West Willesden, in which he has practised for thirty-five years.

THE presentation of the Shrieval Chain and Badge to Colonel and Sheriff-elect William R. Smith, M.D., will be made by Alderman Sir William Treloar, in the absence of the Earl of Athlone, Chairman of the Presentation Committee, at 12 noon on Thursday, September 26th, at the Apothecaries' Hall, Water Lane, Queen Victoria Street, E.C.4.

THE Gresham Lectures on Physic will be delivered by Sir Robert Armstrong-Jones at Gresham Hall, Basinghall Street, at 6 p.m. on November 12th, 13th, 14th, and 15th. The public will be admitted without tickets.

THE annual distribution of prizes at Charing Cross Hospital Medical School (University of London) will take place in the out-patients' hall at the hospital, on Tuesday, October 1st, at 3 o'clock.

THE Royal Sanitary Institute will hold a discussion at the Audit House, Southampton, to-day (September 21st), at 11 a.m., on infant welfare work, to be opened by Lieut.-Colonel H. R. Kenwood, C.M.G., Chadwick Professor of Hygiene, University of London.

THE Académie des Sciences has awarded the Montyon prize to Drs. Henri Guillemard and André Labat, of Paris, for their researches on asphyxiating gases. The prize is of the value of £100.

THE Government of the Republic of Cuba has presented to the Italian Red Cross through Dr. Antonio Martin Rivero, its Minister Plenipotentiary at Rome, the sum of £14,414 for distribution among the families of soldiers who have died in the war and men who have been invalidated.

SENATOR COUNT GIUSEPPE FRASCARA has been named by royal decree President-General of the Italian Red Cross, in the room of Count Della Somaglia, who died recently of typhoid fever. The new president at various times represented Alessandria in the Chamber of Deputies, and became a Senator in 1910.

TWO women psychologists, Dr. Mabel Fernald and Dr. Margaret Cobb, have been appointed to the Army Medical Department at Washington. According to Major R. M. Yerkes, of the Psychological Division, trained women can be used for the highly specialized work of handling the army reports and may eventually be called upon to help with work in special hospitals dealing with cases of reconstruction.

IN a recent report the French Minister of Commerce called attention to the fact that the cultivation of medicinal plants, which was formerly a very active industry in France, has rapidly fallen off in the last half-century. Before the war the value of the imports of medicinal plants, mainly from Germany and Austria-Hungary, was estimated at tens of millions of francs. The Minister has therefore set up a committee for the purpose of organizing and intensifying the cultivation, gathering, and preparation of medicinal plants.

THE Board of Trade announces that the Order in Council authorizing the standard uniform for the mercantile marine can be purchased at the price of 1d. a copy through any bookseller or directly from H.M. Stationery Office, Imperial House, Kingsway, London, W.C.2; 37, Peter Street, Manchester; 1, St. Andrew's Crescent, Cardiff;



23, North Street, Edinburgh; and from E. Pousonby Lambert, 116, Grafton Street, Dublin. This Order contains detailed particulars of the uniform which has been approved by the King. It is an offence under the Defence of the Realm Regulations for any unauthorized person to wear the uniform, or any uniform so nearly resembling it as to be calculated to deceive; or for any person falsely to represent himself to be a person entitled to wear the uniform.

The Local Government Board has issued an order, dated September 6th, 1918, amending the Public Health (Tuberculosis) Regulations, 1912, so as to provide for the notification of any case of tuberculosis discovered at examinations undertaken by National Service medical boards, to the medical officer of health of the sanitary district in which the man resides. The notification of the case will be made by the chairman of the medical board, or by some member of the board designated by him. The fee for each notification will be 1s., but no fee will be payable to any person holding a commission in any of His Majesty's Forces and receiving pay in respect thereof.

IN an editorial note on the Ministry of Health in the *British Journal of Ophthalmology*, August, 1918, the opinion is expressed that "most of the discussions which have as yet taken place have given evidence of much impractical theorization and of divergent or even mutually destructive principles. They have been lacking in the responsibility of constructive statesmanship, which is wholesomely restrained in its architectural experiments by the necessity of making its bricks out of the materials which are available. Hence it would be wise for the medical profession to come down to earth and start seriously to work. . . . Now, the first requirement of political organization is proper representation of sectional interests. Our own branch of medicine has recently set up a body, the Council of British Ophthalmologists, which is intended to be truly representative. Time alone will show whether this aspiration is justified, but if it is, public bodies, whether governmental or otherwise, have in this council an authoritative source of information on all matters relating to the public welfare which involve questions of ophthalmological interest." Finally, the opinion is expressed that other branches of medicine might well follow the lead of the British ophthalmologists.

## Letters, Notes, and Answers.

Authors desiring reprints of their articles published in the *British Medical Journal* are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and *BRITISH MEDICAL JOURNAL* is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Albion*, Westrand, London; telephone, 2631, Gerrard.
  2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2630, Gerrard.
  3. MEDICAL SECRETARY, *Melrose*, Westrand, London; telephone, 2631, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.
- The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the British Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### LETTERS, NOTES, ETC.

#### BOOKS FOR PRISONERS OF WAR.

SIR ALFRED T. DAVIES, K.R.E., of the British Prisoners of War Book Scheme (Educational), informs us that, largely owing no doubt to the capture of many thousands of British and Colonial prisoners by the Germans since last March, the requests for books have of late enormously increased. The organization, of which he is chairman and honorary director, exists to provide British prisoners of war interned in enemy or neutral countries with books for the purpose of study. He will gladly furnish information about the work to inquirers. Communications should be addressed to him by name at the office of the scheme, Victoria and Albert Museum, South Kensington, London, S.W.7, the words "Prisoners of War" being written in the bottom left-hand corner of the envelope. No catalogue is issued of educational works needed for prisoners, but almost any book is permissible if it does not refer to the war. Among the headings we note anatomy, biology, chemistry, medicine, physics, physiology, and zoology. Offers of books of all grades, in good condition and up to date, are invited.

#### MANIFEST A POISON.

DR. JAMES GAIRDNER, M.D. (Edin.), calls attention to the inclusion of *mercurio* among the poisonous metals in the new edition of *Notes on the Poisons*. Five or three years ago Dr. Gairdner, in one of his articles in this journal, expressed the view that *mercurio* is not a poison.

#### ANTI-VERMIN UNDER CLOTHING.

IN view of the prevalence of trench fever and lice, we have had several inquiries from battalion medical officers as to some anti-vermining material which might be obtained for themselves or their men. We know that Mrs. Agnes Carter, War Work Department, Registered, 11, Albany Street, Portsmouth, makes a feature of preparing anti-vermining suits for distribution by officers at the front, and also to individual applicants. They are made of battery material dipped in a solution of lysol 5/1 to the part, and are intended to be worn next the skin. The price is 2s. 6d. a suit. After washing and drying, the garments can be resopped in a solution of the same kind.

#### AN ENDOWMENT FOR LITHOTOMY.

IN *Paris medical* of August 17th Dr. A. Satre of Grenoble gives an account of a curious volume containing a collection of ordinances and regulations made in Lorraine in the reign of Louis XV. The book is in an old chateau of Lorraine, where he had been held in confinement at a distance of 100 kilometres from the enemy's lines. It bears date 1769. Among its contents is a decree of the sovereign court of Lorraine and Bar concerning a foundation in the Lorraine hospital by Stanislas Leszczynski, King of Poland, Duke of Lorraine and Bar, and father-in-law of Louis XV, for the gratuitous cutting of the stone of poor patients belonging to the two provinces. The operation was to be done twice a year, at the beginning of May and September. Patients and local officers were enjoined to take strict precautions to prevent abuse by giving certificates of poverty to patients. Patients were to be admitted, eat, fed, nursed, and treated, and medicines gratuitously till perfectly cured.

#### AN OLD NOTE-BOOK.

DR. NASH (Sydney, N.S.W.) writes: As a student, lately returned from abroad with a university degree, it was my lot to start practice in a colliery district near Newcastle and to work there for about nineteen years. Looked back at those days, weeks, months, and years of a very strenuous professional life are regarded without regret except in respect to my own shortcomings. It was my custom to write up, in books, notes of midwifery cases, urine examinations, special examinations, and operations, without thought other than to be thorough in my work. Was the labour expended worth while? From the £ s. d. point of view, no. But in mid-April of this year, eighteen years after leaving Wallaseed for Sydney, a woman came to me for a licence. She said: "You attended me when my only child was born. I have convulsions at the time." Referring to my note-books, the following was found in the Urine: "Mrs. —. Pale yellow; sp. gr. 1019. Reaction: Acid. Heat (boiling): No change. Heat + acetic: A faint cloud. Liq. pot.: No appreciable change. Liq. pot. + boiling: Much flaky material. HNO<sub>3</sub> (cold): Greenish coloration extending halfway up column of urine, a ring of pink colour surmounting the greenish. r. Mid. Book No. 119) and Albumen in urine (25-11-94)." The notes in this book told of a case of puerperal eclampsia with albuminuria.

To me the mental satisfaction derived from perusal of the notes written in November, 1894, and January, 1895, were sufficient reward for whatever trouble they gave me in the making. There is hope within me that the recording of them will be beneficial to my patient of to-day. It is interesting to know that the son born on November 26th, 1894, 'midst a nerve storm and a tempest of muscular commotion, sequel to an auto-poisoning maternal blood, has in the present war gained the Victoria Cross, and gave his life for the Empire in his 23rd year.

THE Chief Inspector of Factories announces that the appointments of certifying factory surgeons for Dambarton and for Dingle (Kerry) are vacant.

#### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	...	...	0 6 0
Each additional line	...	...	0 0 9
Whole single column	...	...	4 0 0
Whole page	...	...	12 0 0

An average line contains six words.

ALL remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *post* *restante* letters addressed either in initials or numbers.



## Observations

ON

## THE PRODUCTION OF MENINGOCOCCUS ANTI-ENDOTOXIN.

BY

M. H. GORDON, C.M.G., M.D.

TEMPORARY HONORARY LIEUTENANT-COLONEL R.A.M.C.

(From the Central C.S.F. Laboratory, London.)

In a paper published in the *British Medical Journal* of January 26th, 1918, attention was drawn to the fact that the growth from young cultures of virulent specimens of the meningococcus, when killed by ether, dried *in vacuo* and powdered, was toxic to mice intraperitoneally in a dose varying from 2 to 10 mg. By carefully and thoroughly grinding 0.1 gram of this powder in an agate mortar, after the method of endotoxin extraction described by Besredka, by slowly adding 5 c.cm. of distilled water, and then centrifuging out the heavier particles, an opaque watery extract was obtained that contained enough of the intracellular poison of the meningococcus to kill mice intraperitoneally in a dose varying from 0.1 to 0.2 c.cm. Considerable differences were found in the capacity of various specimens of antimeningococcus serum to neutralize the endotoxin obtained in this manner from each of the two commonest types of the meningococcus. Some therapeutic serums, in spite of a high content of opsonin and agglutinin, proved to be deficient in anti-endotoxin. Two samples of serum, however, emerged successfully from the test, and were found to neutralize 1 minimal lethal dose of the endotoxin of both types I and II of the meningococcus with 0.5 c.cm. of serum. The first was a sample from a batch that had given far better results therapeutically in military cases than any other serum employed up to that date. At the time that the second serum was submitted to the test for anti-endotoxin it had not yet been tried clinically, but in view of its evident toxin-neutralizing qualities this serum was strongly recommended for therapeutic use during the earlier months of the present year, especially in cases infected by Type I meningococcus, for which it contained more anti-endotoxin than for Type II. The results have been exceedingly satisfactory.

From this experience, and also from the fact that specimens of multivalent serum that proved to have less therapeutic value than the two serums in question failed without exception to neutralize 1 minimal lethal dose of the endotoxin of the two commonest types of the meningococcus with 0.5 c.cm. of the serum, there is ground for believing that in the case of antimeningococcus serum the highest clinical potency is not obtained unless the serum has a definite amount of anti-endotoxin. Nor is an excellent reason for this far to seek, since the pathogenicity of the meningococcus is admittedly due to its endotoxin. Meningococcus anti-endotoxin is by no means easy to obtain, since at present only occasional batches of antimeningococcus serum are found to contain it in any quantity. Nevertheless it would seem to be very desirable that antimeningococcus serum should possess as high a value as possible in regard to anti-endotoxin. But before serum of this quality can be prepared on a scale large enough to reduce materially the present aggregate mortality from cerebro-spinal fever further information is needed concerning the production of meningococcus anti-endotoxin. For this reason an investigation was begun for the purpose of defining the value of various preparations of the meningococcus for stimulating the production of anti-endotoxin in the rabbit.

## Procedure.

Young rabbits of 1,000 to 2,000 grams weight were used and all the injections were made intravenously. The antigens compared have been (1) the raw coccus suspended in saline; (2) the same coccus after being sensitized by leaving it all night in contact with a good specimen of antimeningococcus serum, which is drawn off next morning and the agglutinated cocci resuspended in saline; (3) the raw coccus autolyzed by leaving it for three days at 37°C.; (4) the raw coccus softened and partially dissolved by suspending it in N/40 NaOH; (5) a standard suspension

(0.1 gram powder to 5 c.cm. water) of the dried coccus ground up and suspended in distilled water; (6) a suspension of the dried coccus of similar strength but with the endotoxin inactivated by leaving it in the incubator overnight in contact with N/1 NaOH subsequently reduced to N/40. All of the above antigens were preserved by the addition of 0.5 per cent. of phenol.

Samples of serum have been tested for anti-endotoxin in the following way. At first a standard extract of the dried coccus was used, but later, with multiplication of the tests, it was found impossible to spare the time necessary for making these extracts, and so recourse has been had mainly to suspensions of 0.1 gram of the dried and powdered coccus ground up for about ten minutes in 5 c.cm. of distilled water and well shaken, but not centrifuged. As a preservative, 10 per cent. of ether is added, phenol being avoided because it is toxic for the mice. Such suspensions vary somewhat in toxicity according to the thoroughness of the grinding. I have preferred to use watery suspensions as a rule, but sometimes the results may be rendered more uniformly fatal in the controls by the addition of N/40 NaOH to the suspension by grinding up 0.1 gram of the powder in 2.5 c.cm. of distilled water, and then adding 2.5 c.cm. of N/20 NaOH. The objection to NaOH is that while it tends to dissolve the dried coccus it also tends, especially if too concentrated, to destroy the toxin. Before using it for the present purpose the minimal lethal dose of NaOH for the mouse intraperitoneally was determined, and found to be 0.5 c.cm. of a N/10 solution, or 2 mg. In testing serums the minimal lethal dose of the endotoxin—generally from 0.1 to 0.2 of the standard suspension—is measured out into a series of watch-glasses enclosed in Petri dishes; 0.5 c.cm. of serum is then added to each, and the Petri dish transferred to the 37°C. incubator for thirty minutes, at the end of which time the contents of the watch-glasses are injected intraperitoneally into mice, preferably of between 12 and 20 grams weight. The mice are kept under observation for two to three days. With potent toxin, of course, the life or death of the mouse is the criterion, but with weaker toxin the presence or absence of illness is a good index to the antitoxic value of the serum. To this end the mice should be individually inspected, especially on the morning after injection, and a note made with regard to their appetite, mobility, and particularly the question as to whether their eyes are open or not, for mice affected by meningococcus endotoxin tend to keep their eyes shut. When carrying out tests on a large number of samples of serum (for example, twenty or more at a time) I have found it convenient to use two specimens of the same endotoxin. In the first place, 0.5 c.cm. amounts of the samples are put up against a weaker toxin in order to separate those with any neutralizing powers from the rest; the serums thus selected are then retested against more potent toxin and their capacity to save the life of a mouse from its effects ascertained. If necessary, serums that neutralize in 0.5 c.cm. can then be tested in the same way in smaller amounts.

Four series of observations have been carried out so far, and the results may be summarized as follows:

## SERIES I.

In December, 1917, eleven rabbits were prepared with Type I meningococcus, strain *Howes*, as follows: Two with the raw coccus, two with the same after sensitization, and two with the coccus after autolysis for three days at 37°C. The remaining five rabbits received the watery extract of the dried coccus. Throughout the experiment the dose was raised at each injection and the animals were frequently weighed.

Test 1.—On January 7th, 1918, the twenty-first day of the experiment and three days after the fourth dose, samples of blood were taken from all the rabbits and the serum tested for anti-endotoxin. Result: Five rabbits positive and six negative. The positive rabbits were: Both the animals inoculated with the sensitized coccus, both the autolyzed coccus rabbits, and one of the four rabbits prepared with the extract of the dried coccus. The injections were continued, the dose being raised further, and on February 4th, five days after the sixth dose, the test was repeated. Two of the rabbits had died—namely, one of those prepared with the sensitized coccus and one of those prepared with the extract, so that nine rabbits were left.

Test 2.—Four of the rabbits were positive and five negative. The positive animals were the rabbit prepared with the sensitized coccus, both those prepared with the autolysate and one of the rabbits prepared with the extract. The injections were continued, the dose being raised further, and on March 23rd, nine days after the ninth dose, a final test was made. Five of the rabbits now survived—namely, one of those



prepared with the sensitized coccus, both those prepared with the autolysate, and two of those prepared with the extract.

*First Test.*—Only two of these five rabbits showed anti-endotoxin—namely, one of the rabbits prepared with the autolysate, and one of those prepared with the extract.

#### SERIES II.

While the preceding experiment was in progress another one was started in which four rabbits were prepared with equal doses of the same coccus (Type I, Howes) as follows: (1) Coccus raw, (2) coccus sensitized, (3) coccus dried, (4) coccus dried and sensitized. On the twenty-first day of the experiment, six days after the fourth dose (4,000 million cocci) had been given, the serum of these rabbits was tested for anti-endotoxin, with result that the animal prepared with the raw coccus and that prepared with the dry coccus after sensitization were both positive, the other two negative. All of the rabbits now received three further injections at intervals of a week as follows: 10,000 million, 20,000 million, and 25,000 million, and six days after the last injection another test was made, with the result that the serum of all the rabbits was now found to be negative.

Though these two experiments failed to settle the question as to which is the best antigen for evoking the production of anti-endotoxin, they nevertheless brought out the important point that for the production of anti-endotoxin to Type I it is very necessary not to raise the dose too high. So far from increasing the yield of anti-endotoxin, super-immunization may cause it to disappear.

#### SERIES III.

At the time that Series I was started a similar group of eleven rabbits was prepared in the same way with Type II meningococcus, strain Morgan. These rabbits received doses of the same size as those given to the rabbits in Series I, the intervals were similar and the dose was raised in much the same way. The first dose was 500 millions and the last 10,000 millions. In contrast to what happened in Series I, none of the present rabbits died during immunization—an experience that confirms a previous observation, namely, that Type I is more toxic than II to laboratory animals. No examination was made of the antitoxic value of the serum of these rabbits until they had been under preparation for a period of three months, during which time they received nine injections. Ten days after the last injection a sample of blood was taken from each animal and tested for anti-endotoxin (Type II) with the following result:

No.	Antigen	Serum			No.	Antigen	Serum		
		0.5	0.25	0.1			0.5	0.25	0.1
1	Raw coccus	—	—	—	7	Dried coccus ...	+	+	+
2	Raw coccus	+	+	+	8	Dried coccus ...	+	+	—
3	Sensitized coccus	+	—	—	9	Dried coccus ...	+	+	—
4	Sensitized coccus	+	—	—	10	Dried coccus ...	+	+	—
5	Autolyzed coccus	—	—	—	11	Dried coccus ...	—	—	—
6	Autolyzed coccus	—	—	—					

The sign + indicates that the serum neutralized 1 minimal lethal dose of endotoxin.

It would seem that anti-endotoxin is more readily elaborated by the rabbit to Type II meningococcus than to Type I. The sensitized coccus and the suspension of dried coccus would appear to be more consistently successful than the other antigens here tried.

#### SERIES IV.

The next step was to resume comparison of various antigens of Type I, but with precautions against overdosage. To this end the present experiment was performed in duplicate, one set of rabbits receiving the same dose throughout, the dose being very slowly increased in the other. An interval of about forty-eight hours was allowed to elapse between the injections, and each rabbit received altogether ten doses.

The antigens compared were: (1) A suspension of the raw coccus in saline; (2) the same coccus after being sensitized; (3) the same coccus after being partially dissolved in N/40 NaOH; (4) a standard suspension of the dried coccus; (5) a suspension of the dried coccus of strength similar to the last, but with the toxin inactivated by leaving it in contact overnight in the incubator at 37° C., with N/1 NaOH, subsequently reduced to N/40.

Particulars of the mode of preparation of these rabbits are seen in the following table, which shows details of the treatment given to the five rabbits in which the dose was raised. In the five other rabbits the dose here given on the first day was repeated on all the subsequent nine occasions without being raised.

Table showing Details of Treatment in Five Rabbits in which the Dose was raised.

The figures for Nos. 1, 2, and 3 represent millions of cocci; those for Nos. 4 and 5, cubic centimetres of standard suspension.

No.	Antigen.	Day									
		1	4	6	8	10	12	14	17	19	21
1	Raw coccus	500	500	600	600	700	700	800	800	900	1000
2	Sensitized coccus	500	500	600	600	700	700	800	800	900	1000
3	Coccus dissolved in NaOH	500	500	600	600	700	700	800	800	900	1000
4	Dried coccus	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.1
5	Dried coccus dissolved in NaOH	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.1

Two specimens of the endotoxin of the meningococcus used in this experiment were employed for testing the serum of the rabbits for anti-endotoxin. The first toxin was a strong one, since 0.1 c.cm. of it invariably killed the controls. The second toxin, on the other hand, while it produced a severe illness in the dose given—0.1 c.cm.—did not usually kill. While less stringent as a test for anti-endotoxin than the first toxin, therefore, it was more delicate. For this reason, in the tests for anti-endotoxin made after the rabbits had received the fifth and tenth injections, the serum of all ten rabbits was first of all examined against the weak toxin, and the serums that neutralized this were then tested against the stronger toxin.

#### RESULTS.

##### First Test.

On the third day of the experiment, and forty-eight hours after the first dose, 0.5 c.cm. of serum from each rabbit was mixed with 0.1 c.cm. of the strong toxin, and after thirty minutes at 37° C. injected intraperitoneally into a mouse. All the mice were dead within forty-eight hours, and cultures made from their hearts' blood were, as usual, sterile. At this stage, therefore, none of the rabbits gave any evidence of anti-endotoxin.

##### Second Test.

On the eleventh day of the experiment, twenty-four hours after the rabbits had received their fifth injection, the serum of each rabbit was tested against 0.1 c.cm. of the weak toxin. Six of the serums failed to neutralize it and four inactivated it, the mice remaining unaffected. The rabbits providing the successful serum had received the following antigens:

1. The raw coccus, dose stationary.
2. The dried coccus, dose stationary.
3. The dried coccus, dose raised.
4. The sensitized coccus, dose raised.

The serums from these four rabbits were now tested against the strong toxin, with the result that two failed to save the mice and two succeeded. The successful serums were those from the rabbits that had received rising doses of the dried coccus and of the sensitized coccus respectively; 0.25 c.cm. of each serum was then put up against the weak toxin, but failed to neutralize it.

##### Third Test.

On the twenty-first day of the experiment, twenty-four hours after the tenth dose, the serum of all the rabbits was once more tested against the weak toxin. Six of the serums failed to neutralize it and four succeeded. The four successful serums came from the rabbits prepared with:

1. The dried coccus, dose stationary.
2. The dried coccus, dose raised.
3. The sensitized coccus, dose raised.
4. The raw coccus, dose raised.

On testing these four serums against the strong toxin, the serum from the rabbit with the raw coccus failed, the rest succeeded in saving the mice. The three successful serums were now tested against the strong toxin, but only 0.25 c.cm. of serum was used instead of 0.5 c.cm. as before. The serum from the rabbit prepared with the sensitized coccus failed, the other two succeeded. Both the successful serums were then tested in 0.1 c.cm. amounts against the weak toxin, with result that the serum from the rabbit that had received rising doses of the dried coccus







electrothermic coagulation, I think as a general rule this type of growth is best left to the radiologist.

#### TREATMENT OF RECURRENCES.

Here the question of further operative measures arises. The special circumstance of each case must be considered, but speaking generally, surgeons hesitate to operate upon secondary glandular deposits, and the patients are frequently referred to the radiologist. Much can be done to relieve pain and prevent ulceration by efficient treatment; indeed, in some cases, and frequently when least expected, brilliant results are achieved. Foul ulcerating surfaces heal up, large masses of glands disappear, and a symptomatic cure is obtained.

#### INOPERABLE GROWTHS.

All inoperable cases should be given the chance of deriving benefit or amelioration of symptoms by  $x$  ray or radium therapy, and frequently both methods are used. We can never tell beforehand to what extent a patient may respond to radiation. Very often what appear to be the most hopeless cases do best, and vice versa. When patients are already cachectic little can be done beyond giving them some relief from pain. Sometimes those taking morphine are enabled to give it up. The general health and resisting-powers are, as in every other disease, all-important factors. An examination of the blood from time to time is a helpful guide in prognosis, and  $x$ -ray examinations of the thorax for secondary deposits should be made at intervals. Malignant growths are affected by radiation both directly and indirectly. Research has shown that cells in process of rapid division, lymphoid tissue, and the endothelium of the blood vessels are especially vulnerable to radiation. In addition to this direct local action, there is an indirect effect brought about through the reaction of the patient to the rays. In these inoperable cases inefficient treatment is worse than useless—it is dangerous, as small doses stimulate cell growth. The treatment must be pushed in massive doses to the limit, and in some instances beyond the limit, of skin endurance. An important guide, and one that it is necessary to watch carefully, is the amount of constitutional disturbance following this intensive therapy. I have known patients have a temperature of  $102^{\circ}$  or  $103^{\circ}$  for weeks following heavy treatment of this nature. I mention this as it is possible to get too great a constitutional reaction. In cases which ultimately succumb to the disease, the end frequently comes rapidly.

Before concluding, I wish to draw attention to two rare conditions which arise as a result of radiation:

1. *Late X-Ray Reaction.*—I have seen three examples of this condition. The skin and subcutaneous tissue become very tough, and assume the appearance of wash-leather and finally slough. This late  $x$ -ray reaction has occurred only in an area that has had a more than usual heavy bombardment of the rays owing to the dangerous and threatening character of the disease. The curious point is that this reaction develops at a date some weeks or months after the patient has ceased treatment, and is quite different from the ordinary normal erythema or pigmentation following vigorous radiation. This late reaction is very painful and takes a long time to heal. Dr. Finzi called attention to the condition some years ago. In one of the three cases which have come within my experience a large secondary mass in the anterior axillary fold had been vigorously treated with heavily filtered rays. The skin, subcutaneous tissues, and the secondary deposits sloughed away. The disease appeared to be killed in this area, and the patient was in good general health when last seen.

2. *Anaemia.*—I have noticed anaemia develop in about half a dozen inoperable cases, in patients where intensive therapy has been given for a number of years. The primary growth remained quiescent or perhaps shrank, there was no evidence of secondary deposits, and no toxæmia resulting from the cancerous mass. Death apparently occurred from general debility and heart failure. This anaemia, I think, may probably be of the same type as that which sometimes develops in  $x$ -ray operators, but I have no microscopic evidence to support this view. It is known that  $x$  rays have a profound effect on the blood.

The general conclusions drawn from the treatment of a large number of inoperable growths are that the  $x$  rays are of undoubted therapeutic value. Life is frequently

prolonged for years, and the growths are robbed of their most distressing features. Pain is relieved or alleviated, secondarily infected glands can be controlled and prevented from ulcerating—ulcerated surfaces usually heal up and foul discharge ceases. The primary growth often shrives or remains *in statu quo*. Inoperable growths occasionally become operable. The mental comfort derived by the patient would alone justify the treatment. In some of these cases also surgeons might with advantage employ electrothermic coagulation, but surgical diathermy has up to the present been very little used in this country.

There is perhaps a tendency for men engaged in any particular branch of work to over-estimate its value, but I do not think I have over-stated the case for employment of  $x$  rays in the treatment of cancer of the breast.

## GUNSHOT WOUNDS OF THE KNEE-JOINT AS SEEN AT A BASE HOSPITAL.

BY

H. H. HEPBURN, M.C., TEMP. CAPTAIN R.A.M.C.

In a recent issue of the *BRITISH MEDICAL JOURNAL* (June 29th, 1918) there appeared a very convincing article on the treatment of gunshot wounds of the knee-joint at a casualty clearing station, illustrating the great advance in technique employed and the gratifying results obtained. As the last word has not yet been written on this much-discussed subject, I feel it advisable to record a corresponding improvement in the results of these cases as seen in the base hospitals in France. Since the cases collected at a base hospital are necessarily drawn from a larger number of casualty clearing stations, and as so much depends upon primary treatment, one will naturally expect to find the figures a little below those of the best casualty clearing station and a little above those of the worst. I have undertaken to summarize fifty consecutive cases of gunshot wound of the knee-joint which have come under my observation since the beginning of the spring activities in March, 1918.

Before proceeding to an analysis of these cases I would like to point out that this series does not include those cases where the synovial membrane was not found to be penetrated, and at the same time to commend the practice of early and complete excision of these non-penetrating wounds, thereby preventing secondary infection of the joint in a large number of cases. It is a rare occurrence to-day at the base to find suppuration in a knee-joint when the notes from a casualty clearing station say "Wound excised, not penetrating." In the early days of the war this was unfortunately common, partly due no doubt to faulty diagnosis, but in a large number of cases probably due to secondary infection of a damaged but non-penetrating synovial membrane.

Of the fifty cases under consideration, twenty-five were complicated by demonstrable bony lesion and twenty-five were not. I shall record them under two headings: (a) with fracture, and (b) without fracture. Unfortunately the details of the primary operation performed are not all at hand. In many cases the notes simply state "wound excised" or "excised and sutured at the casualty clearing station." However, the synovial cavity is definitely stated to have been washed out and closed in twenty-seven cases—fourteen cases in Class A with fracture and thirteen in Class B without fracture. Saline solution is stated to have been employed in six cases, eusol in six, and ether in two. The remainder were not specified. Bipp was introduced into the joint in two cases and flaine in one; all three did well. The foreign bodies were "not found," or "not looked for," at the casualty clearing station in nine cases. Five of these required removal at the base. Of the remainder, one was left embedded in the femur, the other three being very small and the joints all quiescent.

It was found necessary to reopen the joint in nineteen cases out of fifty. Of these, twelve were in Class A with fracture, and seven in Class B without fracture. A partial arthrectomy was performed on one case with extensive loss of the condyles of the femur. Subsequent amputation was necessary in six of the nineteen cases—four in Class A and two in Class B. Of the latter, one was amputated for secondary hæmorrhage from a separate wound. Two patients died from septicaemia, one in each class. Both



were suffering from other severe wounds in addition to those of the knee-joint. In one successful case in Class B both knee-joints were penetrated. All cases requiring more than dry dressing were treated with eusol at this hospital.

	Class A.	Class B.
Number of cases in series	25	25
Known to have been washed out at casualty clearing station	14	13
Nature of primary operation not known	11	12
Joints requiring reopening at base	12	7
Amputations	4	2
Deaths	1	1

Since the fate of a wounded joint is largely settled at the casualty clearing station, the treatment at the base hospital is necessarily what we are accustomed to call "expectant." While it is impossible to state a danger period with any degree of certainty, I am accustomed to regard the third day after the journey from a casualty clearing station as being the end of a critical period, provided, of course, that the man has been kept at least a week at the casualty clearing station after operation, as he should be in all cases where the joint has been washed out and closed. If there is no indication of a recrudescence of the infection on the third day after his arrival from a casualty clearing station, I am usually satisfied that the patient will require no further surgical interference in France.

I do not propose to enter into an exhaustive discussion of the treatment of those cases in which delayed suppuration does occur. The personal element is a very important item, and while various surgeons employ methods differing in technical details, I believe the general principles to be practically the same in all cases—namely, the evacuation of pus and all foreign material, thorough cleansing with a minimum of traumatism, the relative abolition of drainage tubes, immobilization, and preservation of the best possible functional limb. The greatest difficulty, to my mind, is in deciding when to attempt to save or sacrifice a limb of questionable functional value, the preservation of which may mean a menace or a burden to the patient. Concerning this point I hope we shall soon get some guidance from the experience of surgeons in orthopaedic centres in England.

Repeated aspiration, with or without lavage through a cannula, has not, in my hands, given results which warrant the delay in more complete drainage. It is now my custom to aspirate only once, and if the pathologist reports an active infection, to proceed with freer drainage should the accumulation of pus recur.

I have found that suppuration occurs much more frequently in the anterior than the posterior portion of the synovial sac. This is partly due, no doubt, to the greater frequency of wounds in the anterior region, and partly, I believe, to the anatomical arrangement, which greatly favours the collection of fluid in the region of the patella. The synovial membrane appears to be more capable of dealing with invading micro-organisms when the sac is completely collapsed, so that two synovial surfaces are maintained in direct apposition without the intervention of a layer of infected fluid. Absolute immobilization, and evenly distributed support under the popliteal region, are extremely important points in the treatment. When pus does form in the popliteal bursa, thorough drainage is very difficult to obtain. The tendency is for the pus to track downwards into the leg on the posterior interosseous membrane as well as upwards along the femur, with a bad prognosis. Of the nineteen cases in this series which I drained by lateral incisions, to be described below, seven developed an abscess in the posterior pouches. Six of these were treated by incision in the popliteal space, and one by an incision in front of the tendon of the adductor magnus, with eusol injections as described below. Four of these subsequently required amputation, and one of the four died.

The offending organism in all cases reopened was the streptococcus, with or without *Staphylococcus albus*. I use a small trocar or a spinal needle for aspiration.

When a joint refills with pus after aspiration and culture my procedure is as follows:

After a preliminary injection of omnopon the patient is anaesthetized by nitrous oxide and oxygen, or ether. The splint is removed and the limb thoroughly scrubbed with soap and water followed by eusol, with as little movement of the joint as is feasible. A tourniquet is applied as bleeding from many small vessels is to be expected and the field of operation

must not be obscured. An incision 3 to 4 in. long is made practically parallel to, and on a level with, the antero-external margin of the femur, the centre of the incision being opposite the upper pole of the patella. If the incision is carried down to or past the lower pole of the patella the capsule will gape unduly and retard healing, or require another anaesthetic for secondary suture. This incision is carried down to, but not through, the synovial membrane. The extra-synovial fibrous capsule is then stitched to the subcutaneous tissues by a continuous catgut suture for the entire length of each margin of the incision. This obviates the necessity for separate ligation of many small vessels, and the danger of delayed haemorrhage, in addition to protecting the divided tissues against infection when the synovial sac is later incised. A similar incision is made along the antero-internal margin of the femur and stitched in a corresponding manner. The synovial sac is then incised for the entire length of the original incision on either side. The anterior aspect of the cavity is then thoroughly irrigated with the limb in full extension. I find it an advantage to have the operating table inclined slightly towards the foot for drainage, avoiding the encumbrance of receptacles. A large quantity of warm water or saline solution is used, at least a gallon, followed by a pint or two of eusol. No instrument is introduced into the joint other than the nozzle of an irrigator and a gloved finger.

The knee is then flexed and a rubber tube, or No. 8 catheter, attached to an irrigator is introduced first between, and then along either side of the condyles of the femur. Another gallon or more of saline solution and a quart of eusol are allowed to run in. Meanwhile the leg is alternately flexed and extended by an assistant or by the surgeon with a finger hooked under the quadriceps tendon. It is difficult to say just how much solution actually reaches the popliteal bursa, but pus can be readily seen in the return flow. The anterior pouches are again washed out with eusol and the tourniquet removed. Four Carrel tubes are introduced into the joint, two directed upwards under the quadriceps tendon and one down either side of the patella to the joint line. The inferior pair of tubes must not be insinuated between the femur and the tibia, as it is hoped that the joint will become shut off into an anterior and a posterior cavity, the latter being left to take care of itself, as it did in twelve out of nineteen cases in this series quite satisfactorily. For the same reason I apply no extension whatever. A superficial eusol dressing is then applied, no gauze entering the synovial sac. The limb is then placed on a splint.

I am now using the Thomas knee splint, with about ten degrees of flexion, and without any extension. Absolute fixation by this means is, I admit, difficult to obtain, but on the whole it is more satisfactory than any splint I have seen used, largely because it interferes so little with the circulation, which is an important point, and because it facilitates dressing with a minimum of disturbance, especially if sectional flannel supports be employed. A foot support is of course essential, and the ring of the splint should fit the patient.

The post-operative treatment is—two-hourly injection of half an ounce of eusol into each of the four Carrel tubes, with one thorough daily irrigation for three days. The tubes may be changed daily if they become blocked. At the third daily dressing the tubes are all removed and replaced by two tubes, which lie in the incisions but not within the synovial sac. On the fourth day the last through-and-through irrigation is given to remove any loose débris. From this time onwards only superficial tubes and dressings are employed, and the incisions in the synovial sac encouraged to close. They are usually sealed up by lymph on the fifth or sixth day. An accumulation of pus may recur in one or both sides, and require the reintroduction of a tube for another three days. I have repeated this procedure up to three times with ultimate success. I have arrived at the three day unit of treatment by experience and a process of exclusion.

If, as sometimes happens, pus collects in the popliteal region it must be dealt with on lines similar to those I have indicated above. Periarticular oedema or actual cellulitis is often troublesome, especially in the presence of extensive wounds. Once the synovial sac is securely sealed up I have found the frequent application of boric fomentations to be of great value in these cases.

Movement of the joint must not be encouraged too early on account of the great danger of stirring up and liberating infection. I hesitate to state a time, but have been accustomed to start gentle passive movement when the synovial sac has been closed and the temperature under 99° F. for ten days. In one very favourable case I began after five days. The result was a "flare up" which set the patient back a full month.

Anything I might write concerning the future functional value of these limbs would be rather a vague estimate, as in past years I have found it difficult to keep in touch with



anything like a useful number of cases, or their records, for a sufficiently long time after their evacuation from France. Except when the military situation demands it, a patient is not fit for evacuation from France until he is at least fit and ready for passive movement.

In conclusion I would like to call attention again to the widespread desire of surgeons serving abroad to hear more of the ultimate results of cases which pass through their hands. Our colleagues on home service are apt to forget that some of us have been in France for four years and are consequently more or less in ignorance of many facts which they may regard as common knowledge.

## SOME ASPECTS OF MILITARY OPHTHALMOLOGY.\*

BY

COLONEL S. HANFORD MCKEE, C.M.G.,

OFFICER COMMANDING WEST CLIFF CANADIAN EYE AND EAR HOSPITAL.

MILITARY differs widely from civilian ophthalmology, and varies widely, according as the work is done in training camp, at the base, or in one of the various parts of the various fields.

One of my first impressions at camp was that it was essential to have in a military hospital unit someone with a special knowledge of ophthalmology. One's first duty, the examination and classification of recruits, very definitely demonstrated this. An examination which consists only of sight testing must prove unsatisfactory. The soldier should always have a good field of vision in each eye, and his eyes should be practically free from disease. Whilst conditions are bound to change, standards of vision that have been latterly adopted seem to me fairly satisfactory. I would certainly recommend no further lowering of the standard.

Much depends upon the individual, whether he is "keen" or not. I consider a soldier who is anxious to do his duty and has only  $\frac{1}{2}$  vision in each eye infinitely more useful and a better soldier in every respect than the disgruntled man with  $\frac{3}{4}$  in each eye. There is also a certain proportion of men with mental amblyopia, among whom the amount of vision is not much of an indication of their usefulness. The military point of view should teach a medical officer "to size up" his patient, and considerable latitude should be allowed to the military ophthalmologist as to who "sees to shoot" and who "sees enough for ordinary purposes." If the standard of vision had been adhered to, I feel sure millions would have been saved to this country. Lowering the standard of vision will increase the number of passed recruits marked "fit for service," but it will not increase the number of bayonets, and it will very materially lower the efficiency of the army.

The Canadian Medical Service has been far in the vanguard in this respect. The appointment of an officer specially qualified in ophthalmology to a position in a field ambulance, to attend to special work in certain areas, marks a big step forward in military medicine. Unfortunately there are still many specially trained medical officers who are enshrouded in that wondrous work "administration."

Unless a soldier's vision is improved considerably by glasses he will not wear them, so that there is only one reason which warrants prescribing glasses for a soldier—namely, that by prescribing glasses you change him from an unfit to a fit soldier. To my mind there is no other excuse which warrants putting glasses on a soldier, for it is to be remembered that if a soldier can get along without glasses he will, especially since gas masks have come in vogue; and it is a grave mistake to prescribe them, for when you do you supply him with an excuse which he always has for lining up on the sick parade. A man who breaks his glasses or a man wearing glasses who complains of headaches is immediately sent away for examination, and avoids a duty which he does not wish to perform. It is to be remembered that in a soldier complaints of headaches or pains of any sort are not reliable symptoms of disease. I opened two mastoid processes in France before I found out that pain was not a reliable symptom of

disease, certainly not in a soldier wishing to get to "Blighty." Again, in the healthy out-of-door life of a soldier errors of refraction should not cause headaches. Pains in the head of all kinds, photophobia, and night blindness are frequently complained of; the actual visual defect seems to be the last complaint thought of. Amongst soldiers there is a tendency to exaggerate a natural defect, so that the estimation of the real error is by no means simple. I consider the wholesale refraction of troops and the supply of glasses to combatant forces a grave mistake. When glasses are ordered they should be as simple as possible. It is a mistake to give a soldier with normal vision lenses correcting small degrees of astigmatism and hyperopia.

During the examination for refraction a variety of defects are found, and prominent among them amblyopia ex anopsia. From observation I feel sure that I have seen cases of men who have had normal vision before proceeding to France, and who from the effects of high explosives are now men with a high degree of myopia. Patients have also been seen of very high amounts of astigmatism (5 or 6 dioptries in each eye) who in civilian life were at such work as engine drivers, where routine examination of their vision was made. They say it would have been impossible for them to have carried on their civilian work with such visual defects. I know of no explanation of this defect, except the effect of high explosives.

I have not seen an epidemic of conjunctivitis amongst soldiers and very few cases of gonorrhoeal ophthalmia. Trachoma (or ophthalmia militaris of the last century) has almost disappeared as a military disease. The importation of labour into our army from the East may, however, alter this. The absence of an epidemic of conjunctivitis and the absence of trachoma is of interest considering the condition of Europe during the Napoleonic wars. Historically it may be of interest to recall to your minds the fact that Hannibal's army was incapacitated for one winter in Italy with ophthalmia. Following the original gas attack in France in April, 1915, there were a large number of cases of conjunctivitis. Conjunctivitis has been seen associated with dysentery often enough to excite notice. Whilst in the East, recovering from dysentery, I myself developed severe conjunctivitis. This was prodromal to an acute rheumatic condition. The appearance of severe metastatic conjunctivitis preceding an acute rheumatism has been noted.

Amongst military symptoms of disease night blindness takes a prominent part. It has been met with frequently, and in a number of cases has been associated with true retinitis pigmentosa. Nyctalopia in soldiers has been put down by some as a symptom of neurasthenia. This, from observation of the cases that have come under my care, is, I think, a mistake. Functional night blindness was well recognized before the war, and nyctalopia has been reported as endemic in certain countries, especially in Russia during the lenten fasts. It seems to me that we may well attribute this complaint or disease in a certain number of cases to the exposure, hard work, and great fatigue consequent on service. There is, however, no doubt in my mind that many soldiers have heard a chum complain of night blindness with the desired result, and have then gone and done likewise. A clever malingerer finds it an easy complaint to simulate, and the simulation is hard to detect.

The result of Wassermann reactions amongst individuals of military age may be of some interest. In 105 cases of iritis the reaction was positive in 33 and negative in 72. These are remarkable figures when one considers the age of the majority of the patients and the relation between venereal disease and active service. In 4 cases of retinitis pigmentosa the reaction was negative; in 11 cases of optic neuritis it was positive in 5, negative in 6; in 7 cases of interstitial keratitis the reaction was positive in all; in 30 cases of retino-choroiditis 15 were positive and 15 negative. To my mind syphilis of the eye reacts better to treatment by inunctions of mercury than to any other.

Among, in round numbers, 3,000 ophthalmic cases admitted to West Cliff Eye and Ear Hospital I have seen two cases of sympathetic ophthalmia.

The concussion following modern explosives leads to a great variety of fundus lesions. The injuries are caused by the violence communicated through the bones of the skull, the bones of the orbit, or by air-vibration—windage. One of the commonest of these lesions I have not seen described;

\* Abstract of a paper read at the Oxford Ophthalmological Congress, July 12th, 1918.



it is a condition of traumatic retino-choroiditis characterized by diffuse cloudiness of the retina, numerous small exudates in the choroid, and fine dust-like opacities of the vitreous. It is identical with retino-choroiditis of secondary syphilis. It varies in degree from a very slight opacity of the vitreous to diffuse thick opacities with changes in the choroid. I have seen a large number of such cases in which I am positive the changes were due to trauma (windage).

Surgery forms one of the most interesting parts of military ophthalmology, though no occasion arises for performing many of the operations of civilian practice. One reason, and one reason alone, should form the basis for all military operative work—necessity. It is most unwise to correct strabismus, for instance, for cosmetic reasons, or to do any operations of a similar nature. If a recruit is accepted for service with a disability of this kind, and an attempt is made to correct it, he first becomes a hospital patient without being ill or wounded (in itself most undesirable), and secondly he is given the starting point for an attempt to obtain a pension. Dacryocystitis is not infrequently met with in military work, and for military purposes, and the same would hold among industrial workers in civilian life. I can very strongly recommend the West operation.

Esser, in his article in the *Annals of Surgery* (March, 1917), forecasts considerable increase in the types in which his method will be useful, and already important progress has been made. Major C. W. Waldron, C.A.M.C., first undertook charge of the face injuries service at West Cliff Canadian Eye and Ear Hospital. This service, in need of greater space, was later moved to a Canadian General Hospital, and later to the Queen's Hospital, Sidcup. Major H. D. Gillies, R.A.M.C., and Major Waldron have improved on Esser's methods, and given us a most valuable means of remedying many of the war distortions of the lids by a method of epidermic outlay as compared with Esser's epidermic inlay. Major Waldron has modified Esser's method by making the incision in the conjunctival sac instead of through the eyelid skin. Major Gillies has made two modifications of the Esser process. The first method consists in burying the graft covered mould in the subcutaneous tissues of the eyelid through an incision in the skin, and removed through that incision. By this method the eyelid skin is increased to the extent of the graft. This is especially useful in contractions following burns. The second method may be termed an epithelial outlay.

The subject of military ophthalmology is so large that I have only been able to touch here and there on some of the essential features. I hope, however, that I have been successful in drawing attention to what an essential part of military medicine ophthalmology really is.

It is to the credit of the Canadian Army Medical Service that at a very early period of the war the necessity for a special hospital was noted, and that in October, 1915, the West Cliff Canadian Eye and Ear Hospital was opened with a capacity of 105 beds. There were 3 administrative and 4 medical officers, 10 nursing sisters, and 27 other ranks. From that beginning the hospital has increased until at the present time it has an establishment of 400 beds, 12 officers, and 40 nursing sisters. There have been admitted to hospital 9,854 cases, and there have been 49,906 consultations in the out-clinic department. Here are prepared the special reports so essential for medical boards, for categorization, for pensions, and for the final disposal of men. Much credit is due to Colonel J. D. Courtenay of Ottawa, who by his initiative had a great deal to do with the establishment of the hospital. By his persistence he saw that it was properly equipped, and by his foresight made the necessary accommodation for its possible growth. The hospital was originally intended to be the head of the Canadian Ophthalmic Service, where civilian ophthalmologists would be sent for military training. Unfortunately, war is a time of changes. We are, however, practising military ophthalmology in as conservative and in as scientific a manner as possible. We have all the equipment, including library and laboratory, necessary for such work, and hope a sufficient number of civilian ophthalmologists are being trained for useful military duty. These officers will later be called on to decide many important questions: What eye injuries and diseases are due to service? What is the relation between wounds of the cranium and defective vision? Is loss of central

vision without macular changes in soldiers due to service, and is it pathological or functional? What injuries are due to "windage"? What is rational treatment for malingering, functional amblyopia, war neuroses? What is the amount of disability due to haemianopsia? All these and many other questions of a professional nature, and many medico-legal questions, must be decided by us with fairness to the individual and to the State.

## A CASE OF FATAL JAUNDICE.

RAWDON A. VEALE, B.A.Oxon., M.D.Lond., M.R.C.P.,

TEMPORARY LIEUT.-COLONEL R.A.M.C.(T.F.),

AND

B. H. WEDD, M.D.Lond.,

CAPTAIN R.A.M.C.

AMONGST the complications and sequelae which attend the administration of salvarsan or allied compounds not the least important is that of jaundice. In his paper on the treatment of syphilis Harrison<sup>1</sup> places jaundice twelfth in his list of clinical side-effects and states that it occurred in 0.6 per cent. of his cases. Deaths due to this cause have been recorded, and consequently we have thought the following case worthy of record.

Pte. P., aged 30, was admitted to a general hospital at 10 p.m. on April 10th, 1918, having been transferred from a casualty clearing station to which he had been admitted on the previous day. His field medical card contained the following entries: "Aching all over for two days. Profuse sweats. Tongue furred. Temperature 101°." The initial diagnosis was influenza. He was obviously gravely ill; his condition, indeed, was such that minute questioning was not feasible. However, he was able to supply the information that he had always been a strong and healthy man, but that he had contracted venereal disease in Italy in the latter part of 1917 and had been subsequently treated with "injections," details of which are given below. He was distinctly but not deeply jaundiced; he was extremely restless and, though conscious, his mind wandered at times during the examination. Vomiting was frequent and distressing, and the vomitus resembled the black vomit of icterus gravis. The lips were cyanosed and the pulse was weak (100). The temperature (97° on admission) remained subnormal throughout. There was tenderness over the liver and spleen, but no obvious alteration in the size of these organs. There were no subcutaneous haemorrhages, and no other physical signs worthy of note. The knee-jerks were present. The urine contained albumin, but no other abnormal constituent. Treatment was begun on the lines of free purgation with salines and the administration of alkalis, but the patient grew rapidly worse. He became noisy and wildly delirious, and death finally occurred on April 12th at 3.30 a.m.

Notes kindly supplied by the medical officer in charge of the patient when under treatment for syphilis provide the following additional information: When admitted to hospital on January 15th, 1918, the man was suffering from a typical hard granulating sore on the corona, which appeared at the end of December, 1917; there was general adenitis, but no other signs or symptoms. He was treated with intravenous injections of 0.6 gram of novarsenobenzol on January 15th, 18th, 21st, February 5th, 8th, 24th, 27th, and March 2nd. No reaction followed on any of these occasions. He also received intramuscular injections of metallic mercury as follows:  $\frac{3}{4}$  gr. on January 15th, and 1 gr. on each of the following dates: January 22nd, 29th, February 5th, 12th, and March 3rd. There was a suppurating bubo on January 22nd, which was reported healed a week later. On February 24th a slight stomatitis was noticed. The patient was discharged to duty on March 4th.

Thus it will be seen that there was an interval of some five weeks between the last intravenous injection and the appearance of symptoms of the fatal illness.

### Post-mortem Examination.

Body well nourished; definitely jaundiced. *Post-mortem* staining present. Larynx and trachea normal, as was the oesophagus but for one small submucous haemorrhage. The bronchi contained blood clot and mucus; there was no fluid in the pleural cavities nor any evidence of pleurisy



seen. The pleural surface of the lungs showed numerous dark convex areas resembling the condition resulting from infarction. On section these were found to be due to recent haemorrhages, the majority immediately beneath the pleura, the rest widely scattered throughout the substance of the organ. Portions excised felt partly consolidated, but floated in water. The heart weighed 10 oz. The muscle was pale, the valves normal. There was no marked alteration in the size of the liver; it weighed 36 oz. On section the liver substance was firm, with a distinct nutmeg appearance. The gall bladder was normal. The spleen weighed  $4\frac{1}{2}$  oz.; its substance was dark purple, moderately firm. The pancreas and suprarenals appeared normal. The kidneys weighed 6 oz. each and were somewhat large and pale. The capsules stripped readily and left a smooth surface. The stomach, duodenum, and intestines were normal, and nothing abnormal was detected in the brain.

#### *Histological Examination.*

We have to express our thanks to Dr. J. A. Murray, of the Imperial Cancer Research Laboratory, who kindly undertook the preparation of these sections, for which we had no facilities, and gave us his opinion upon them.

**Liver.**—Sections show striking changes. The parenchyma cells are shrunken and separated from one another, appearing to have undergone degeneration. There is some overgrowth of the interstitial connective tissue and proliferation in the portal areas. Tissue for the staining and demonstration of fat was not preserved.

**Lung.**—The lung shows recent haemorrhages into the alveoli, probably due to infarction. The walls of the alveoli appear normal.

**Kidney.**—The cells of the tubules show vacuolation, probably due to fatty changes. There is little alteration of the interstitial tissue.

RUTH PENCE.

1 *Quar. Journ. Med.*, June, 1917.

### A CASE OF SUCCESSFUL CAESAREAN SECTION FOR ECLAMPSIA.

BY

E. W. G. MASTERMAN, F.R.C.S., M.D.,

MEDICAL SUPERINTENDENT OF CAMBERWELL INFIRMARY.

In connexion with the article by Dr. Strachan on toxæmias in pregnancy, which appeared in the *BRITISH MEDICAL JOURNAL* of August 3rd, and the letter of Dr. McCann on the same subject on August 10th, it may be of interest to report a case of Caesarean section for eclampsia done a few days before the article appeared. I think most medical men will agree that in this case the result has fully justified this method of treatment.

A. R., aged 31, had enjoyed good health till her marriage. She had first a three months miscarriage and in 1914 had an eight months child, now living. In 1916, when pregnant for the third time, she had severe albuminuria with anasarca. She refused a bed in Guy's Hospital, but was delivered of an eight months child (which lived four months) at home and afterwards went into the Clapham Maternity Hospital for the kidney trouble. The disease cleared up. In 1917 she had another miscarriage (cause unknown) at three months. On June 5th, 1918, she was admitted to Camberwell Infirmary, seven months pregnant, with acute bronchitis and severe albuminuria and haematuria. Under treatment the bronchitis cleared up and the blood disappeared from the urine. When she insisted on discharging herself—against strong advice—on July 4th, there was only a trace of albumin in the urine.

We saw no more of her until July 27th, when she was brought to the infirmary by ambulance in an acutely delirious condition with the history that she had had during the previous twenty-four hours twenty fits of eclampsia, as well as severe vomiting. Within four hours of admission she had four more typical eclamptic fits. The urine proved to be loaded with albumin; there was anasarca of the legs, and the patient's condition appeared to be urgent in the extreme. The temperature was 97°. Labour was not due for another month; the cervix felt hard, and the os only admitted two finger-tips. There seemed to be no labour pains. A careful examination failed to reveal any fetal heart sounds, and I concluded that the child was dead.

I decided that her history and condition justified immediate Caesarean section, and at 10.30 p.m. I performed the operation in the usual way, which I have found advantageous for controlling the haemorrhage by drawing the uterus outside

the abdominal cavity before emptying it. On opening the uterus the child was found to be dead, with the head lying deeply in the pelvis, necessitating some little force in extraction. The placenta and membranes were removed, and the uterus was sewn up with one layer of deeply placed silk-worm-gut sutures and an outer layer of superficial catgut sutures to cover the scar. As the patient was clearly unfit for further pregnancies, I excised 1 in. of the inner part of each Fallopian tube and bound the proximal stumps in the uterine substance, covering the place over with peritoneal flaps. The abdominal wall was closed in layers in the usual way. The patient lost a very moderate amount of blood, and the whole operation took just over half an hour.

The result has been very satisfactory. The patient, who was comatose before the operation, was bright and intelligent the next morning. She knew nothing of what had happened, but was delighted to hear what had been done. The temperature reached 100.4 that day, owing, I think, to a certain degree of bronchitis, but never reached 100 afterwards. Since the operation there have been no more fits, no vomiting, and no headache. The bronchitis has cleared up, and the urine, which has increased in quantity, now has only a trace of albumin. The wound has healed, and the stitches have been removed. The oedema of the legs has quite gone.

The patient is now getting up, and is apparently in normal health (August 30th, 1918).

This brief outline of a case done so recently with such immediately successful results is sufficient, I think, to commend the performance of this straightforward and by no means difficult operation in suitable cases. Had I had reason to believe the child was alive at the time of the patient's admission, the argument in favour of Caesarean section would have been still stronger.

### THE TREATMENT OF IRRITANT GAS POISONING.

BY J. M. LAZENBY, CAPTAIN R.A.M.C.

In the following notes the treatment suggested applies to all cases of irritant gas poisoning when the symptoms are those of acute catarrh of the mucous membranes of the eyes and of the respiratory tract. With various modifications it has been employed on this ship for the past three months, and gives very satisfactory results. My experience is that success depends entirely on the care with which the method is carried out and the frequency of the treatment.

#### INSTRUCTIONS TO ORDERLIES.

1. Before embarkation begin to furnish a dressing table with a throat spray, eye bath, Carrel syringe, vaseline, plain gauze cut to size, cotton-wool, jaconet, bandages, and one pint of a warm solution of sodium bicarbonate—10 grains to the ounce. Cover with a clean towel.
2. After embarkation is complete, select all the severe eye cases whose eyelids are closed through photophobia or dried secretion, and place over the eyes a compress of gauze wet with the solution. When the milder cases have been dealt with the severe ones will be ready for treatment, the compresses having unsealed the eyelids and relieved the acute photophobia.
3. Bathe the margin of the lids till all the crusts can be wiped away with a wet cotton-wool mop.
4. Fill the syringe with solution, and, taking a piece of cotton-wool in the left hand, draw down with it the lower lid. Instil a few drops into the eye from the syringe, and close the lids. Repeat this till all secretion has been washed away—about four times. Dry the skin with cotton-wool.
5. In mild cases leave the eyes uncovered except by the eye shade. In severe cases put on another compress, cover with jaconet, and bandage lightly on.
6. In all cases it is better to smear a little vaseline on the skin to prevent irritation from the discharge.

For the throat and respiratory cases proceed as follows:

1. Fill the spray half full with the solution.
2. The patient sits up and gargles his throat and mouth with the solution. He then opens his mouth wide and breathes in and out. The spray nozzle is held an inch from the mouth and the jet directed to the back of the throat. The patient must sit up and respire during spraying.
3. Cease when the patient wants to spit out, and repeat four times.
4. When patients are numerous, all cases who can see to use the apparatus should be instructed to carry out the treatment for themselves, using an eye bath for the eyes instead of the syringe.
5. Since success depends largely on frequency of treatment, patients must be dealt with every three hours. The last application should be made before lights go out at night, and in all severe eye cases the compress must be placed in position and secured with a bandage.



In a ward containing gas cases and other affections of the respiratory organs the former are kept on one side. When the percentage of gas patients is large the orderlies always suffer from irritation of the throat and cough. The other patients also cough more than they should for the same reason. It is therefore advisable, when possible, to isolate patients suffering from gas poisoning.

As regards results: Photophobia is either completely relieved or markedly diminished, so much so that patients coming on board unable to open their eyes are sometimes found, without their shades, looking at pictures and reading. The catarrh of the eyes still persists, but the pain is much relieved.

In throat cases the immediate result is the expectoration of a large quantity of purulent mucus. The dry cough becomes loose and the pain in the chest lessened. The soreness of the throat usually persists. The chief benefit obtained is relief from the distressing night cough. These patients generally have a good night's sleep, and the whole ward is, in consequence, quieter.

Chronic cases of two or three weeks are not materially relieved by the treatment. Our most successful cases are from three to six days old. The treatment is cheap and simple, and is suitable for all cases in transit from the clearing stations to their destination in England. Since we have them for so short a time on board ship, I cannot say whether it is curative, but from the relief obtained I believe that if these cases were treated continuously from the beginning the period of convalescence would be materially shortened.

## THE ADMINISTRATION OF ANAESTHETICS TO SOLDIERS.

BY

ARTHUR MILLS, M.D., TEMP. CAPTAIN R.A.M.C.,

LECTURER IN ANAESTHETICS, UNIVERSITY OF ST. ANDREWS.

SINCE the beginning of the war I have had considerable experience in the administration of anaesthetics to soldiers in this country—in the first instance, to soldiers in a war hospital suffering from wounds and invalided home from the fronts, and latterly to young soldiers in full training admitted to a camp military hospital to undergo some operation. The two classes really differ considerably as regards type. The large majority of the former have been confined to bed for at least a few days, and are "invalids," and differ very little, as regards my subject, from the usual type of hospital patient in civil life. At the camp military hospital, on the other hand, we are constantly meeting with the young, athletic, well developed man of 18 to 21 years of age engaged in a period of intensive physical training. Frequently the operation is a trivial one, and admission to hospital the day previous to the operation is considered sufficient for the purposes of pre-operative preparation. The nervous system of the young soldier is by no means stable. He is frequently far more "nervous" than a woman. His reflexes are exquisitely sensitive. He is in hard muscular condition. He is nearly always a heavy cigarette smoker. We have thus many factors which go to make up a type difficult to anaesthetize safely and satisfactorily.

It must at once be laid down in the most emphatic manner that for such cases induction of anaesthesia with chloroform is strongly contraindicated. Should the attempt be made to anaesthetize with chloroform, it will be found that the large majority of these men develop excitement and struggling and spasm of the limbs and respiratory muscles. If at the moment of onset of such a state of spasm a strong chloroform vapour has been inhaled, it may be retained in the pulmonary alveoli for a considerable time, the percentage of chloroform in the circulating blood may be raised to a toxic degree, and fatal symptoms may appear while the corneae are still sensitive. The heart, indeed, gives way before breathing can be re-established.

It is exceedingly doubtful, too, whether a mixture of chloroform and ether is safer than pure chloroform during the induction period. The difference in degree of volatility of the two substances forms the difficulty. If any anaesthetic effect whatever is to be obtained from the ether element in the mixture, measures must be adopted to exclude the air to some extent, and exclusion of air is not

permissible if the chloroform element be present in any degree. Again, if the mixture be administered by anything resembling the constant drop method, or if the successive "doses" poured on the mask be too frequently repeated, we must remember that the proportion of chloroform in the vapour inhaled by the patient is rising to an unknown extent. My experience, indeed, goes to show that the result obtained by induction with a chloroform and ether mixture is the same as that obtained with pure chloroform.

Induction with pure ether, again, is attended in these cases with considerable difficulty. A large proportion of them have a certain degree of pharyngitis from excessive cigarette smoking, and coughing and choking are common phenomena.

Nitrous oxide gas produces too light and evanescent an anaesthesia in these robust subjects to form a satisfactory prelude to ether, and any attempt to prolong it by administering more gas results in undesirable cyanosis.

I have come to the conclusion, therefore, that an ethyl chloride-ether sequence is the best method we can adopt for induction, and have devised a method of using this sequence which I should like to bring to the notice of others.

I do not think that the majority of administrators use ethyl chloride in the most satisfactory manner. Although we quite realize that it is not quantity of anaesthetic used, but strength of vapour inhaled, that is the determining factor in producing anaesthesia, I find that in books on the subject, such as Hewitt's and Buxton's, this principle is fully realized when discussing chloroform or ether, but it is thrown aside when treating upon ethyl chloride. We are told, for example, to give so many cubic centimetres to a child and so many to an adult. This method would be all right so far if we could be sure that the quantity of ethyl chloride prescribed could always be vaporized in a desired and known quantity of air. We cannot be sure of this. Again, it is impressed upon us in administering chloroform and ether that the patient should be *gradually* put under with a steadily increasing strength of vapour. With the recognized methods of giving ethyl chloride, on the other hand, there is nothing to prevent the patient getting the full strength of the vapour with his first inhalation, a really dreadful experience for the patient, and associated with considerable danger. For the past five or six years I have constantly used an inhaler for ethyl chloride devised by Mr. C. J. Loosley, anaesthetist, Hospital for Children, Great Ormond Street, and have given many hundreds of administrations, including about 300 to soldiers (early in the war) undergoing dental extractions. To have a stopcock fitted to the foot of the bag and this connected by rubber tubing with an ether bottle and bellows was an easy matter, and this forms the simple apparatus which I now use in giving the ethyl chloride-ether vapour sequence.

To indicate briefly how the apparatus is used, and quoting freely from Mr. Loosley's description of his inhaler, about 3 c.cu.

of ethyl chloride are sprayed into the bag through the valve *v*. This valve opens when the nozzle of the ethyl chloride tube is pressed against it, and closes automatically immediately the nozzle is withdrawn, a tube below carrying the discharge well away from the face-piece. The face-piece is applied to the patient's face and the lever of the two-way cock *L* kept in the down position so that

the first few breaths of the patient are turned into the bag till it is about half full. The lever *L* is now pulled upwards towards the face-piece and the patient breathes a dilute mixture of ethyl chloride vapour and air. Dilute ethyl chloride vapour is quite pleasant to breathe. A vapour sufficiently strong to produce anaesthesia is pungent and produces a sense of suffocation. The vapour is now strengthened by spraying a little more ethyl chloride through the valve, and still a little more until anaesthesia is produced. The patient is now, as a rule,





breathing vigorously, but there is abundance of air in the bag and he can take a full breath without emptying it.

Using ethyl chloride alone we can safely push the anaesthetic till we have the usual signs—fixed eyeballs, dilated pupils, and insensitive corneae—before removing the face-piece, and a good minute and a half or more of satisfactory anaesthesia without trace of cyanosis will be obtained. Using it in sequence with ether a profound ethyl chloride effect is not desirable, and as soon as unconsciousness is produced ether vapour may be pumped into the bag by means of the hand bellows. The strength of ether vapour can be varied within any limits by varying the degree of vigour of pumping and by the admission of more or less air at the face-piece. The apparatus is very economical as regards amount of ether used, a certain amount of rebreathing being involved, and, if desired, a much stronger vapour can be obtained than by using a Clover.

I contend that the method is a safe and highly satisfactory one for the induction of anaesthesia, especially for the difficult type of patient under consideration, and it is also a satisfactory apparatus to use in maintaining anaesthesia in the large majority of operations in a camp hospital.

I think that most administrators will agree that quick inductions and closed inhalers tend to be associated with vigorous respiratory movements. In abdominal cases I therefore prefer a slow induction with chloroform and an open mask, changing to ether and an ether mask and the drop method before the dangerous period of excitement supervenes. Fortunately abdominal cases rarely come to operation while yet in a state of youthful vigour, and thus do not present the difficulties I have been discussing. In conclusion, I am convinced that the previous hypodermic administration of  $\frac{1}{4}$  gr. morphine and  $\frac{1}{100}$  gr. atropine is of considerable value. The hypodermic should be given no matter how trivial the operation may be.

Occasionally the nature of the operation demands the use of chloroform, but after the induction period is over and full narcosis has been produced these young soldiers take chloroform well.

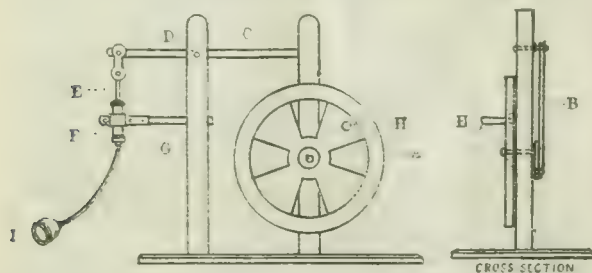
## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### AN APPARATUS TO FACILITATE THOMAS'S SUCTION TREATMENT.

MEMBERS of the profession who use dry cupping as recommended by Hugh Owen Thomas (of Thomas's splint fame), whose ideas have been appropriated and elaborated by the German Dr. Biers (a name we have too long permitted to eclipse that of the originator of the method), may be glad to hear of an apparatus I have invented that not only greatly reduces the physical work entailed in working an air pump in the usual way with both hands, but frees one hand, which can be employed in adjusting the cup to the part operated on.

As seen by the illustration, the apparatus consists of a wheel, A, 18 in. in diameter, moving in a vertical plane with



a crank axle that moves a vertical rod, B, up and down. The latter moves the lever C, which rotates on the pivot D. The piston E of the air pump F (which is fixed rigidly in the clamp G) is attached to the end of the lever C, and is moved up and down by the latter. The wheel is kept in motion by the hand at handle H. A pedal can easily be fixed and the movement maintained by that means. A cup, I, is attached by stout indiarubber tubing to the nozzle

of the air pump. The apparatus (without the pump) may be obtained from Mr. T. Pottinger, Markham Road, Winton, Bournemouth.

Thomas's method used in this powerful way has been found to be of the utmost use in relieving pain due to locally inflamed areas, lumbago, sciatic pain, spinal irritation. Its use is suggested in a great number of ailments, amongst others, those in which the stage for surgical depletion has not been reached.

Bournemouth.

W. JOHNSON SMYTH, M.D.

#### WHOOPIING-COUGH AND LYMPHIAEMIA.

MANY observers have established the fact that in whooping-cough during the convulsive stage a considerable lymphocytosis is practically constant. Dr. Gordon Ward (*Clinical Haematology*, p. 53) states that he has "seen lymphemia follow an attack of whooping-cough, but there is little evidence to suggest that this was more than a coincidence." It seems to me the following cases suggest that it may have been more than a coincidence.

##### CASE I.

A healthy boy, 3½ years old, had whooping-cough for about a week. Examination of films showed 75 per cent. of lymphocytes, 5 of mononuclears, 1.5 of eosinophils, and 18.5 of polymorphs. General survey of a film revealed considerable increase of white cells. No total count was made, but a few days later this was 26,600.

The lymphoid cells were abnormal in four respects: (1) There was a considerable proportion of small forms which were naked nuclei, and some of these were even deformed and dwarf. (2) Cells otherwise like small lymphocytes showed hour-glass, deeply incised, and elongated, bent and twisted nuclei. Rieder forms. (3) A few showed distinctly divided nucleus twin nuclei. (4) Of the total whites, 2 per cent. were in plasma cell form.

##### CASE II.

A fairly healthy girl, aged 2½ months, had moderate whooping-cough for a month. The film had 65 per cent. of lymphocytes, 12 of mononuclears, 1 of eosinophils, and 22 of polymorphs. In the films were seen several lymphocytes and mononuclears and a few large lymphoid cells, each with two nuclei. A general survey revealed a few polychromatic reds but did not suggest great increase of whites.

A week later films were taken, and in counting 200 whites there were seen four mononuclears with twin nuclei. In the same film was seen one in which the nucleus had divided into two equal parts, and then one of these apparently had also divided into two. A large lymphoid cell with a fair envelope of hyaline cytoplasm showed two distinct well stained oval nuclei. The differential count gave 45 per cent. of lymphocytes, 27.5 of mononuclears, 1 of eosinophils, 26 of polymorphs, and 0.5 of myelocytes.

These are not the only cases in which I have seen similar forms.

The points of difference from an established lymphæmia are obvious, but in an early stage of lymphæmia we know little about the blood. We do know, however, that in acute lymphæmia the white count need not exceed 20,000. Pappenheim has said (*Clinical Examination of the Blood*, 1914, p. 36): "There is this further point of difference, never observed in the leucocytoses, that various atypical forms of cell are met with. Further, mitoses are frequently observed in the leukaemias, but never in the leucocytoses. Above all, in addition to amitotic cell division occurring in lymphatic leukaemias, the Rieder type of lymphocyte may be seen." And Dr. Gordon Ward (op. cit., p. 63) writes: "If a cell other than a nucleated red is found in any film to be undergoing mitosis there can be no doubt that a case of leukaemia is being dealt with."

My cases prove that neither mitoses nor atypical cells (naked, dwarf, deformed, plasma cell, Rieder forms), and not even a liberal combination of both, are incompatible with simple lymphocytosis. But my point is that, with 80 per cent. of lymphoid cells and plenty of atypical and mitosing cells, whooping-cough lymphocytosis comes near what is defined as lymphæmic blood; that in such cases the white cell count may exceed 200,000 (Gulland and Goodall, *The Blood*, 1914, p. 280), a count probably unknown except in leukaemia; and, finally, that a haematologist "has seen lymphæmia follow an attack of whooping-cough."

Perhaps I ought to add that Pappenheim (op. cit., p. 26) believes that "since they (plasma cells) make their appearance in the course of a leukaemic leucocytosis, it would seem to suggest an inflammatory cause for the leukaemias in question."

West Ealing.

ROBERT CRAIK, M.D. Glasg.



## A SUGGESTION FOR A NEW SHAPE OF RUBBER DRAIN.

In the drainage of long sinuses the commonly used rubber tubing is not very satisfactory. It acts more like a foreign body in keeping the wound open, and, in most cases, its withdrawal is necessary before the contents of the wound can escape. The lumen of the tube quickly gets blocked with pus or clot, despite the numerous holes that are usually cut before its introduction, and its circular shape allows the tissues to embrace its exterior so tightly that pus can ooze past but with difficulty; also, it is troublesome to introduce owing to the tip of its pen-shaped end hitching in the sides of the wound, and, in the case of long or tortuous sinuses, the help of some instrument is required. The thin rubber cigarette drain is much better, but is also difficult to introduce into deep wounds.

In case the suggestion has not been made before (as it probably has been), I suggest that a more efficient drain for general use would be found in a rubber rod of cruciform or polyradiate section. The cruciform type would have four gutters for drainage purposes, each of which would act like an open drain instead of the closed sewer of the tube. This shape could not be blocked by oedematous tissues, as there would usually be free exit in the angles. Thus less interference would be necessary, for the drain could be left longer *in situ*, and when re-introduction became necessary the central pointing would allow it to be much more easily done than with the pointed periphery of the tube.

In use this shape has proved what I have stated, and in such cases as infected amputations it was surprising how the gutters of the drain became wet with purulent fluid as soon as it was introduced. I would suggest three sizes and three separate shapes of drain; any rubber manufacturer could easily make them at the same prices (or nearly so) as tubing:

1. Small size, triradiate in section, thickness of flanges 1 mm., length of each ray to centre 2.5 mm.
2. Medium size, cruciform in section, thickness of flanges 1 mm., length of each ray to centre 3.5 mm.
3. Large size, penteradiate in section, thickness of flanges 1.5 mm., length of each ray to centre 5 mm. to 6 mm.

A. W. M. SUTHERLAND, M.B., Ch.B., R.A.M.C.

New Military Hospital,  
Rugeley Camp, Cannock Chase, Staffs.

## Reports of Societies.

### PAINFUL NERVE STUMPS.

At an occasional lecture delivered before the Section of Electrotherapeutics of the Royal Society of Medicine, Mr. EDRED M. CORNER showed a number of skiagraphs and drawings illustrating various causes of pain and irritation in amputation stumps, such as osteomyelitis, new bone formations, sequestrum formation, nerve inflammation, nerve strangulation, etc. Afterwards he delivered a lecture on the subject of painful nerve stumps. In the healing of a nerve end there were three stages: the stage of repair and inflammation, the stage of compression, and the stage of regeneration of nerves. The amount and duration of these might be minimized, but they could not be abolished. Compression was the keynote of the causation of pain before the war. At the present time the keynote was inflammation, and that inflammation ascended the nerve trunk—an ascending neuritis. Hence the local end must be excised and a length of nerve with it, so as to divide the nerve above the ascending inflammation within it.

Clinically five types could be recognized: (1) The type of pain immediately following operation and due to the trauma inflicted on that occasion. (2) The type due to compression of nerve fibres, particularly if inflamed. (3) The inflammatory type. (4) The type due to regeneration. The nerve fibres of regeneration were subject to both compression and inflammation, manifold owing to the branching of the regenerating fibres. (5) The type of persistent pain when all the nerve trunks had been removed, and due to the irritation of nerves not running in trunks excited by the presence of unabsorbable ligatures, or stitches, osteomyelitis, or new bone formation. The extensive repair in an amputation wound led to the formation of much irrita-

tive wound callus which sent up each connective tissue plane a tongue of irritation, like smoke from a fire.

The lecturer showed a specimen removed from Hunter's canal in which the femoral artery, femoral vein, the internal saphenous nerve, and the ligatures were ensnared in one process of the scar tissue. To this bundle was attached a part of the adductor magnus muscle which pulled on the nerve at every forward movement of the stump. A cut nerve regenerated, and none could stay that process. Like the flow of a river, it could be directed and controlled, but not stopped. If a river met an obstruction it formed a lake until it flowed over, under, or round that obstruction. Similarly with regeneration: when it met an obstruction it pooled up, forming a mass, a regeneration neuroma, a frequent cause of recurrent pain in a stump. In conclusion Mr. Corner demonstrated the structure of end bulbs, the formation of nerve pencils, the methods of nerve amputation and their results.

Professor MARINESCO showed a beautiful and most instructive series of microscope slides demonstrating:

1. Inflammation in neuroma, showing plasma cells and cells with glycogen.
2. Different types of new nerve formation.
3. Neuroma of amputation. In centre can be seen fibres, probably secreted around are numerous giant cells eating up the fragments of fibre, and a leucocytic infiltration.
4. Fibre in giant cells in median nerve.
5. Nerve plexus, new formation.
6. Fusion of neuroma of median nerve with the tendon of flexor sublimis digitorum. The tendon has been invaded by nerve fibres.
7. Nerve plexus in neuroma.
8. Endoneuritis of a little nerve bundle. The nerve fibres present marked reaction of regeneration.
9. Osteomyelitis at centre of the preparation, above and to the left there are three myelophages, on the right several osteoblasts.
10. Plexiform or plexus formation in neuroma.
11. Recent inflammation in neuroma.
12. Neurotization of coagulum. One sees bundles of new formation and fibres terminating in bulbs.

### PHYSIOLOGY OF CHLOROFORM ANAESTHESIA.

At a meeting of the Section of Anaesthetics of the Royal Society of Medicine Dr. GEORGE A. BUCKMASTER discussed some considerations on the physiology of anaesthesia by chloroform. He said that the experiments carried out a few years ago by J. A. Gardner and himself for the purpose of ascertaining the anaesthetic and lethal quantities of chloroform in the blood of anaesthetized animals, the part played by the red corpuscles in the transport of the drug, and the rates of assumption and elimination of chloroform depended upon the determination of the chlorine in chloroform by the admittedly accurate method of Carius. They found that as much as 94 per cent. of the drug might be carried by the red corpuscles. The vapour and pressure of chloroform in air at the anaesthetizing value lay somewhere about 8 to 10 mm. of mercury. At this pressure they inferred that chloroform was held with some degree of firmness by the corpuscles, but whether this was due to its linkage with haemochrome (haemoglobin in its state within the corpuscles) or other constituent or constituents of the red corpuscles was a matter of dispute. It was probably absorbed by the cell proteins of the corpuscle.

In experimental anaesthetization with known percentages of chloroform, when the inhalation proceeded steadily, they recognized in animals (cats and dogs) a primary and secondary danger point. From their tables the investigators concluded that the body weight was without influence on the percentage by chloroform in the blood necessary to produce anaesthesia. The percentage value of chloroform in the blood was important in anaesthesia, for under conditions in the same animals of (1) normal quantity of blood, (2) diminution of this by haemorrhage, (3) augmentation by transfusion, the percentage remained constant at about 50 mmgr. during complete anaesthesia, though the total quantity rose and fell with the corpuscular richness of the blood.

Curves were shown illustrating the rate of assumption of chloroform by the blood during anaesthesia, and the rate of elimination from the blood after anaesthesia. In their opinion chloroform underwent no change within the body. It was neither decomposed nor oxidized. These



views were in complete disagreement with those held by others, either on theoretical or on experimental grounds.

Ventilation of the lung during chloroform narcosis could be ascertained only by plethysmographic methods with an apparatus similar in principle to that used on man by Haldane and Boycott. Under steady inhalation of chloroform, ventilation of the lung took place at a lower level. During the first three minutes the lung ventilation was diminished by about 50 to 60 per cent. of its original value. From this diminution some recovery generally occurred, but a prolonged anaesthesia always diminished the lung ventilation by a similar amount, 60 per cent. of the original value.

## Reviews.

### MECHANICS OF THE INTERNAL EAR.

It is not without a pang that one who has been brought up in a belief in Helmholtz's "resonance" theory of hearing finds his faith shaken and his fascination subsiding. The thoughtful reader of *An Enquiry into the Analytical Mechanism of the Internal Ear*,<sup>1</sup> by Sir THOMAS WRIGHTSON, is forced to reconsider his views and those of his teachers. He can, indeed, scarcely escape being almost or entirely persuaded to be a convert to the gospel of "displacement" as set forth by Sir Thomas Wrightson, endorsed as it is by Professor KEITH. The former, as a lover of music and student of the violin in particular, as well as a trained engineer, has analysed the mechanical and mathematical principles governing the reception and transmission of vibrations from the tympanic membrane to the hair cells of the auditory nerve. Professor Keith takes up the parable as an anatomist and physiologist. He has carried out minute observations and most careful measurements in the domain of the internal ear for Sir Thomas Wrightson, and he has enriched the book with an appendix in which he presents us with the most illuminating account of the cochlear structures which we have ever met. Ter Kuile has indeed prepared the way, but it has remained for the authors of this book to clear it up and remove much unnecessary and confusing involvement.

All who tried to grasp the mysteries of the cochlea must have felt that the disturbance started in the perilymph at the lower part of the scala vestibuli somehow or other expends itself in the direction of the lower part of the scala tympani, across the cochlear duct, through Reissner's and the basilar membrane, instead of passing up the one scala, then through the helicotrema and down the other, stirring up the accordant fibres and neglecting the non-accordant ones on its way. The charm of the idea of selective resonance generally captivated the mind and led it away from the mechanical facts. Under our authors' guidance we see the four phases of the pendular vibration translated in corresponding depressions and elevations of the basilar membrane as they are transmitted from the stapes, leading in their turn to fourfold displacements of the auditory hairs. The vibrations may form simple or compound waves such as Sir Thomas has graphically constructed in large numbers by means of a special instrument he has devised and named the "obmograph." The wave movement produced in the basilar membrane causes a nodding of the arches of Corti, and a horizontal displacement of the auditory hairs as they project through the reticular membrane and stick into the membrana tectoria. The roots of the hairs are carried forwards by the membrana reticularis and the tips are held back by the tectoria, constituting the first of the four phases of the wave movement. This is the mechanism described as "displacement," and its occurrence is unquestionable in the light of the facts and arguments set forth by Professor Keith and Sir Thomas Wrightson; it certainly seems more probable than the mere sympathetic vibration such as we observe in the strings of a pianoforte, but for the reasons for this statement we must refer the reader to the actual work.

<sup>1</sup> *An Enquiry into the Analytical Mechanism of the Internal Ear*. By Sir Thomas Wrightson, Bt., with an appendix on the Anatomy of the parts concerned by Arthur Keith, M.D., F.R.S. London: Muench and Co., Ltd., St. Martin's Street. 1918. (Pp. 254; 9 plates. 12s. 6d.)

The appreciation of the characters of the tonal stimulus is a function of the central organs, or, as Professor Keith says (p. 160): "The final process of analysis must lie in the brain; all you expect of the cochlea is that it will supply the brain with the requisite data from which an interpretation of sound can be made. In my opinion you (Sir Thomas Wrightson) have succeeded, and have thus established a really satisfactory theory of hearing."

No physiologist or otologist can afford to leave unread this thoroughly objective study of the internal ear.

D. G.

### THE HEARTS OF MAN.

The introduction of graphic methods in the study of cardiac pathology has led to reconsideration of some of the physiological problems involved, more particularly with respect to arterial action. Whether the arteries themselves play a part in the propulsion of the blood stream, other than by elastic recoil, has been many times discussed in the course of the last half-century, but the conclusions arrived at have of necessity been somewhat conjectural, lacking the support of evidence such as can now be obtained by instrumental means. A recent investigator, Dr. R. M. WILSON, who has had the advantage of working as assistant to Sir J. Mackenzie under the Medical Research Committee, has boldly put forward, in a volume entitled *The Hearts of Man*,<sup>2</sup> the view that a definite peristaltic action can be recognized in arteries, and that the stimulus to such action can be traced to the true sympathetic nerve fibres, and its inhibition to nerve influence in direct connexion with the vagus. Further, he contends that drugs, such as adrenalin and pituitrin, whether derived from glandular action or introduced by injection, are capable of inducing the activity of both these sets of nerves.

The train of reasoning by which these views are supported is founded upon elaborate experimental material mainly derived from polygraphic tracings. Regarding the heart itself as a muscular sphincter interposed in the course of the circulatory tube, he would appear to suggest that the peristaltic movements which he describes are systolic and diastolic in their action, and hence, collectively, they form "hearts" in the four regions which he classifies as "blood lakes"—namely, the abdominal, pulmonary, dermal, and muscular. The manner in which this suggested arterial peristalsis is adapted to states of rest and reaction is ingeniously worked out, and will doubtless prove of interest to workers in the same field. Its bearing upon the practical aspect of cardiac therapeutics remains to be seen.

In his preface the author records the opinions of two distinguished cardiologists to whom the proof-sheets of the book were submitted for criticism. Neither of them appears to have been converted to the new views, but Dr. Wilson believes in his case and maintains it, in spite of his preliminary failure to enlist expert sympathy. His work is the outcome of painstaking observation and careful experiment, and the conclusions are not dogmatically asserted but put forward tentatively as suggestions. Hence they are deserving of examination and discussion by those who may have had equal opportunities for special study.

### SLEEPING SICKNESS.

The sixteenth report of the Royal Society Sleeping Sickness Commission<sup>3</sup> deals with the work conducted by Sir DAVID BRUCE and his helpers at their laboratory at Kasu in Nyassaland. More than two years were devoted to studying in great detail the question of trypanosomiasis of domestic and wild animals in the area and its relation to similar diseases in man. The general conclusions that antelopes are the reservoir of trypanosomes pathogenic to man, and that they are not infected outside the circumscribed areas which are inhabited by the "fly," is, of course, not now novel, but it should not on that account be forgotten, for much opposition has been made, both on fanciful and on sentimental grounds, to the reduction or extermination of wild ungulates in certain areas; there appears to be no

<sup>2</sup> *The Hearts of Man*. By R. M. Wilson, M.B. London: H. Frowde, and Holder and Stoughton. 1918. (Pp. 86; pp. xx + 182. 6s. net.)

<sup>3</sup> Reports of the Sleeping Sickness Commission of the Royal Society, No. XVI. Printed for H.M. Stationery Office by Kellner and Co., Ltd. 1915. (Pp. viii + 221. 5 maps, 7 plates, and 10 coloured plates. 8s.)



doubt that this is at present the only feasible way of reducing the incidence of human trypanosomiasis.

The sleeping sickness of Nyasaland was originally described by Stephens and Pantham, who named the parasite *Trypanosoma brucei*. The opinion of the commission is that *T. brucei* is identical with the widely spread *T. brucei* of antelopes, etc. This conclusion rests on the absence of distinctions in morphology, or in infectivity to experimental animals, and on the fact that both are carried by *Glossina morsitans*. The argument against their assumed identity is that *T. brucei* and *G. morsitans* occur together over great tracts of Africa without apparently infecting human beings. It is suggested that this may be due to lack of careful observation, clinical and post mortem.

The report contains a vast mass of experimental evidence in tabular form with graphs, also good plates of trypanosomes and other blood parasites of man and animals in Nyasaland; there are references to the "micronucleus" of trypanosomes, but the small nucleus of these organisms is said to be motor in function; the "micronucleus" in the strict sense of the word is concerned with reproduction.

### NOTES ON BOOKS.

THE third edition of *Diseases of Children*, by G. M. TUTTLE and P. G. H. FORD, remains as satisfactory a presentation of the elements of the subject as is possible in so small a book dealing with so vast a subject. The space at the disposal of the authors is too small to permit of the subject being treated in such a way as to allow the views and tendencies to show themselves; it must remain a bare outline of general accepted facts. The number of such books is a sorry record, and the similarity between them close. In this volume we would have welcomed a fuller consideration of the subject of prevention, a clearer statement of physiological principles in the management of children, and greater insistence upon the dangers of the common and apparently trivial respiratory infections in childhood. Although a group of infant school children suffering from adenoids is shown, the etiology of the condition is dismissed in six lines of perfunctory statements. Again, under the heading "Diseases of the Teeth," under heading "Treatment," we are told "The one preventive is proper care of the teeth," and there the whole question is left with all its vast importance for health. The rarer disorders, as compared to prevention or cure, receive the more detailed attention. There are many excellent photographs.

What should be the dose in the treatment of disease with preparations of the thyroid gland? As a rule several grains of the dried gland substance are given at least once a day. Dr. L. LÉVI contrariwise holds that much smaller doses should be exhibited in many cases, and has used quantities such as one milligram a day with success. He has written a book in which he sets out elaborate rules for fixing the dose in the case of any patient likely to get benefit from thyroid medication. The indications are precise. The patient may suffer from either hypothyroidism, or hyperthyroidism, or finally thyroid instability with its tendency to explosive syndromes which he calls thyrotoxicoses, taken as evidence of a functional hypothyroidism. Judging by the list of symptoms set out in tabular form we must all belong to one or other of these three categories, and therefore be in need of thyroid treatment. However, be this as it may, Dr. Lévi gives the fullest directions for the use of thyroid extracts in all sorts of morbid conditions; in general, minute doses are given at the beginning of the treatment, and the daily dose is augmented week by week up to a grain and a half.

Dr. H. WILLOUGHBY GARDNER has compiled a very useful list of the various pieces of apparatus that should be got ready by sisters or nurses for the performance of most of the minor bedside operations that may be required in the examination or treatment of medical cases.

*Diseases of Children. A Manual for Students and Practitioners.* By George M. Tuttle, M.D., Clinical Professor of Pediatrics, Washington University Medical School, etc., and Phelps G. Ford, M.D., Pediatrician, St. Louis Lutheran Hospital, etc. (Third edition, Philadelphia and New York: Lea and Febiger, 1917. (Post 8vo, pp. 599; 47 figures, 5 plates, 350 text-figs.)

*Les Doses en Thérapie Thyroïdienne.* M. Leopold Lévi. Ancien Interne Lauréat des Hôpitaux, etc. Paris: A. Maloine et Fils, 1918. (Cr. 8vo, pp. 87, Fr. 2.)

*Instruments and Apparatus Required for the Investigation and Treatment of Medical Cases. For the Use of the Nurses of the Royal Salop Infirmary.* By H. Willoughby Gardner. Second edition. Shrewsbury: Widing and Son, Ltd., 1918. (Fcap. 8vo, pp. 50, 1s. net.)

The various pieces of apparatus or appliances that may be required by the physician or his sister or nurse are set in catalogue under such headings as "Exploring chest," "Tapping abdomen for ascites," "Examination of nose," "Venesection," and so forth, and these are supplied in complete. Perhaps the author might be asked to include the items necessary for giving a "general anaesthetic" in a hospital ward, and might also mention venipuncture (whether for bleeding or transfusion) in the next edition of this serviceable little work.

### MEDICAL AND SURGICAL APPLIANCES.

#### *Electric Quilts.*

DR. FRED. E. WYNNE, M.O.H., etc., Wigan, writes: The problem of the electrical heating of beds has so long awaited solution that I think the results attained in the hospitals under my charge may prove of interest to a large number of medical men who are now responsible for the care of wounded and sick in hospitals and similar institutions. The Dux electric quilt is a very simple appliance, consisting of an extremely flexible resistance wire introduced between two layers of fabric so as to form a light and comfortable bed covering which is speedily warmed to the required temperature by a moderate consumption of electricity. Of the two layers of fabric the inner one is made of a heat-conducting substance, so that the heat generated in the quilt is readily transmitted to the patient, while the outer layer is non-conducting, so as to conserve the maximum of heat. The resistance wires are insulated, so as to prevent any possibility of electric shock or burning. With a supply of electricity at 115 volts or less the quilt can be connected directly to a plug or electric light socket. With supplies of higher voltage it is necessary to introduce a small bracket transformer or resistance.

I used these quilts at first in the treatment of supplying warmth to consumptive cases sleeping out of doors or in shelters. The constant and evenly distributed temperature was a great boon to these patients and undoubtedly promoted sleep, while the saving of space and fuel by the elimination of the old hot-water bottle is a tremendous advantage from the administrative point of view. Since then I have used these quilts in a fever ward, and find that by the superposition of one or more blankets, according to the room temperature, a bed temperature of 90° can be attained in less than half an hour and maintained without appreciable fluctuation for an indefinite period. This temperature is sufficient to produce and maintain sweating as long as desired, and has proved most valuable in the treatment of hyperpyrexia, post-scarlatinal nephritis, etc. I have no doubt it will be found to be equally valuable in cases of post-operative shock, severe haemorrhage, and in conditions in which the provision of external heat without disturbance of the patient is indicated. The price of these quilts is moderate and the amount of current used very small. They can, of course, be used in any house which has an electric supply. The Dux electric quilt has been supplied to me by the patentees, Messrs. Hall and Co., Dobbs Fold Works, Wigan.

#### *A Dental Emergency Outfit.*

Mr. Augustus Winterbottom, F.R.C.S., L.D.S., consulting dental surgeon to St. George's Hospital, has designed a dental first-aid outfit which is intended to tide over the difficulties that may arise at the present time, when the shortage of dental surgeons makes it almost impossible for outlying patients to obtain professional aid in emergencies. The instruments and dressings needed for temporary dental treatment of a simple kind are arranged in a tin box, roughly 5 by 4½ by 3 in. in size, and they should prove useful not only to travellers, sailors, and isolated communities, but also to general practitioners in remote districts. The directions, though brief, ought to enable any intelligent person to use the contents without danger. The sedative solution named "Slupam" is for the relief of ordinary toothache due to an exposed pulp, and is prepared from a combination of menthol, carbolic acid, masticine, etc. The disinfectant tablets for making solutions are a mixture of permanganates, with a carbolic acid coefficient of 43. The fluid temporary filling is a combination of a special dentine with carbolic acid and alcohol, which sets hard. There is also a supply of solid silvered gutta-percha stopping, and of dental plasters for the relief of pain when a dental abscess is forming. The whole outfit is certainly very neat and compact, and in careful hands should be the means of relieving much suffering. It will be manufactured by the Dental Manufacturing Co., Ltd., under the registered trade mark "Angwin."



# British Medical Journal.

SATURDAY, SEPTEMBER 28TH, 1918.

## GREAT EXPECTATIONS.

SIR BERTRAND DAWSON'S Cavendish Lectures on the "Future of the Medical Profession," which were printed in full in the JOURNAL on July 13th and 20th, came at an opportune moment. They were addressed primarily to doctors and aroused great interest in the profession, but they at once attracted notice beyond medical circles. The lecturer's personality, and the position he holds as a teacher in a great medical school and as a physician experienced in military as well as civil medicine, have secured for his views a sympathetic hearing both within and without the profession. His bold and comprehensive statement of the problem to which he applies himself with so much energy and goodwill has quickened interest, and we are glad to be able to announce that the lectures have been republished in a pamphlet under the larger title of *The Nation's Welfare*.<sup>1</sup> For it the author has written an introduction wherein he further develops his ideas, while in an appendix there is an architectural sketch plan giving visible shape to a model health centre such as is described in the text.

The introduction is a plea for constructive thought on national health, for an enlightened and informed public opinion, and for professional unity. The argument proceeds somewhat as follows: The first object of statesmanship in dealing with matters of health must be to get the best medical minds together and evolve a sound policy, for the guidance of experts is necessary both to construct and to administer a central department of health. This active participation of medicine is needed also for the efficiency and material advantage of the profession itself, while it is of prime importance to the nation that men of brains and character should be attracted to medicine. The setting up of a Ministry of Health can only be the first step on the road, but the right spirit must pervade it from the beginning. To ensure this the Ministry must from its inception be provided with a strong medical advisory council such as that advocated in the scheme of the British Medical Association—a representative body, meeting regularly, fully informed of all that is being done, with direct access to the Minister, and the right of initiation—the right, that is to say, to offer him advice on any subject which in its opinion is ripe for inquiry or action. With regard to the constitution and method of election of this council the author makes certain proposals which are worthy of study.

As for the Ministry itself, while recognizing that the ideal solution would be a wholly fresh and independent department, free to shape itself unfettered by departmental traditions, Sir Bertrand Dawson finds himself constrained regretfully to admit that administrative difficulties may compel it for a time to be yoked with the Local Government Board and the Insurance Commission. But if this union is to yield the substance of reform and not merely the shadow, he suggests that the Ministry should be divided from the first into three sections—health, housing, and

local government, each with a permanent administrative head. Local reorganization also is desirable, as soon as may be, when the central department is established. The local health authorities should be chosen from the larger units of population, and the principle of medical guidance in medical affairs must be secured by elected medical councils.

Sir Bertrand Dawson hopes much from the awakened sense of responsibility and the growth of a civic conscience in the medical profession. While urging the need for unity and collective action, he does not hesitate to ask us to face the disagreeable truth that important sections of the profession are at present without an organized means of giving voice to their opinions. For this defect the remedy, he holds, is not new or competing organizations, but some modification of the policy of the British Medical Association so as "to draw the great majority of doctors into its fold." He regards the postal vote as a means to this end, and finds an argument in favour of the principle in the fact that it would enable the large numbers of our colleagues now with the various Expeditionary Forces to record their opinions and take their fair share in the shaping of new policy. These views and others—some familiar and some new, but all expressed with persuasive enthusiasm—are put forward, not with an air of finality, but in order to stimulate fresh discussion of a matter upon which the profession as a whole has by no means yet made up its mind.

We recorded last week a statement by the chairman of the London Insurance Committee to the effect that the draft bill for a Ministry of Health, whose terms (we were told) had been agreed upon between the Minister of Reconstruction and the various interests concerned, has now been so altered by the Cabinet Committee on Home Affairs as to make it unacceptable to the friendly societies and the Insurance Committees of the country. No information has been published as to the nature of these changes, but there would seem to be an idea in official circles that enough has been done to side-track the project for the present. Should there be any truth in these rumours great efforts will be needed to get a Ministry of Health bill on to the main line of parliamentary business during the coming session. There is, at any rate, a strong belief that what are vaguely called "influences" are bent on obstructing any such reform; and although, later or sooner, something will no doubt be done to meet the public demand for an effective Ministry of Health, there is always the danger that some half measure may be passed which will satisfy no interest—except, possibly, the underworld of officialdom. This would spell failure, and all who share Sir Bertrand Dawson's ideals, however much they may differ from him on points of detail, will welcome the lead he has given.

## A PHYSICAL CENSUS AND ITS LESSON.

ALMOST exactly a year ago we gave a short account of the lines along which the reorganized Medical Department of the Ministry of National Service would work. It seemed to us then that the plan which we sketched in broad terms had been ably constructed and showed a proper appreciation of the medical position and of the part which medical boards should play in the examination of recruits, and we ventured the opinion that the work of medical examination under the new scheme ought to remove all legitimate causes of grievance. We are now able to give some indication

<sup>1</sup> *The Nation's Welfare: The Future of the Medical Profession*. By Major General Sir Bertrand Dawson, G.C.V.O., C.B., M.D., F.R.C.P., A.M.S. Cassell and Co., Ltd. 1918. Price 6d.



of the results of the physical examinations undertaken during the first eight months of the present year, and of the message that they convey as to the physical fitness of the British stock.

Between January 1st and August 31st, 1918, the number of medical examinations conducted by National Service Medical Boards in Great Britain amounted to 2,080,709. During this period 28,035 applications (that is, 1.34 per cent. of the examinations) were made to appeal tribunals for medical re-examination, and of these applications less than a half were held by the tribunals to rest on grounds sufficiently substantial to justify the granting of leave for re-examination. Further, of the applicants who were granted leave to be examined by the medical assessors of the Local Government Board, the grading of 50 per cent. was unchanged. In other words, in less than 4 per cent. of this enormous number of medical examinations there was reason to believe (so far as the evidence afforded by the organization of appeal tribunals goes) that the grading by the National Service Medical Board did not correctly represent the degree of physical fitness of the individual. This result may be expressed by the general statement that a National Service Medical Board, working full time and examining twenty-five men per session of two and a half hours, graded one man per week incorrectly.

In order to realize the vast amount of work that has been done in this direction by the medical profession since the beginning of this year, it should be remembered that the administrative machinery was not created until November, 1917, and that the examinations have been carried out during a period in which unprecedented strain was thrown upon the profession to meet the heavy and persistent demands of the fighting forces for medical personnel. Moreover, the work has been done in a country to which the whole idea of conscription was novel and distasteful. The working of the administrative machinery of a compulsory Military Service Act in its application to the individual had never been envisaged, and the difficulties arising from the consequent mental attitude of the population were much intensified by the raising of the general military service age to 51 in April, which greatly increased the complexity of the domestic, occupational, and medical problems, and appeared to threaten the whole fabric of the national structure. The problems of grading had never been thought out, while the details of the procedure, and to a less extent the methods of examination, were new and unfamiliar. That in such circumstances the average error should be represented by a fractional percentage constitutes a record of which our profession has every right to be proud, as well as those responsible for the creation and administration of the machinery necessary to perform this work upon an organized basis.

There is another and more important aspect of this work. Of the two million men examined not more than 36 or 37 per cent. were placed in Grade I—that is, approximately only one in every three had attained the normal standard of health and strength and was capable of enduring physical exertion suitable to his age; the remainder—more than a million and a quarter—did not reach this standard. The suggestion has been made that the low proportion of fit men among those examined during this period is due to the fact that only the leavings of the population were under review. Analysis of the records available, however, shows that this is not the case, and that as a fact the men examined constituted a fair sample of the male population between the ages of 18 and

43 and a smaller proportion of the more fit between 43 and 51. We are told further that the experience of the boards medically examining women for national work corresponds broadly to that of the National Service Medical Boards examining men. Such evidence points only too clearly to a deplorably low state of national health.

While it has not yet been possible to work out the details of this great mass of medical examinations, the preliminary results indicate that preventable disease is responsible for the bulk of these physical disabilities, and demonstrate the ravages which industrial life has made upon our real national capital—the health and vigour of the population. Too little food, too long hours of work, too little sleep, too little fresh air, too little play, too little comfort in the home, are evidently the chief factors concerned in producing this mass of physical inefficiency with all its concomitant human misery and direct loss to the country. To take effective measures on the broadest lines to remedy this condition of things is a most urgent duty. It is not necessary to wait for the end of the war. The war has revealed the defect, but it has also led to the suggestion of remedies, as may be read in the reports of the Health of Munition Workers Committee. It was mainly for this reason that it seemed well from time to time to devote a good deal of our scanty space to these reports. They were written to meet an emergency, but contained much of permanent value in relation on the one hand to hours of work and industrial fatigue, and on the other to what is commonly called welfare work, that is to say, the application of sound medical and hygienic principles to the care of the health of workers. The State in the future may do something, especially in relation to the last of the evil influences enumerated above, for it seems to be acknowledged that the capital necessary for proper housing cannot be provided by private enterprise; but the remedy for the other evils must be sought in a closer and more friendly understanding between employers and employed. Dr. Rhoda Adamson's article published last week (p. 309) shows that it is by no means hopeless to expect employers to respond to a reasoned appeal. Although real improvement can hardly be expected for one or two generations, the foundations of a better national physique can be laid at once.

## THE EPIDEMIOLOGY OF PHTHISIS.

THE Medical Research Committee has just issued the first section of a report by Dr. Brownlee upon the epidemiology of phthisis.<sup>1</sup> Dr. Brownlee has analysed the regional statistics of disease contained in the decennial supplements of the Registrar-General, and is led to conclusions of great importance. He found in the first instance that the curves of death-rates at ages were dissimilar in different localities, a fact which suggested the desirability of attempting to analyse them into components. This analysis he has been able to perform with considerable success, it being found that the divergencies are explicable by an admixture in varying proportions of three distinct statistical types, one showing a maximum mortality in early adult life, a second reaching a maximum between the ages of 45 and 55, and a third culminating between the ages of 55 and 65. The next step was to bring into relation the predominance of the several components with measures of general unhealthiness. This part of the investigation, which was carried out

<sup>1</sup> An Investigation into the Epidemiology of Phthisis in Great Britain and Ireland. By John Brownlee, M.D., D.Sc. Medical Research Committee. Special Report Series, No. 13. H.M. Stationery Office. 1s. 3d.



by the method of correlation, led to the conclusion that the second or middle age component was related to the general healthiness or unhealthiness of the locality, the other two components being relatively unaffected by environment.

The later pages of the report are devoted to a study of the historical development of phthisis mortality, especially in London. The author finds no statistical evidence that the "young adult" type of phthisis is affected to any extent by environment. It seems to be as common in better class localities as in poorer ones. He concludes that the epidemiology of the two chief types of phthisis—namely, the "young adult" and "middle age" types—is different. The present epidemic of phthisis among the young had its maximum, he states, somewhere about the middle of last century, while the epidemic of phthisis among the middle aged had its maximum fully one hundred years ago. There is no doubt, he thinks, that a considerable part of the decline of phthisis in recent years is in line with the biological properties of diseases in general, and has little to do with hygienic conditions. The position, in fact, would be much the same with regard to tuberculosis as to pneumonia; it is now recognized that there are at least four strains of pneumococci, so that for any reasonable certainty of successful treatment by antipneumococcal serum a bacteriological diagnosis of the type of pneumococcus present is essential.<sup>2</sup>

Dr. Brownlee's results raise issues of great practical importance, both from the etiological and therapeutic sides. Etiologically, it is evident that if there exist disparate types of phthisis in different geographical areas, and if, as is the case of tin miners who are concentrated in Cornwall, certain occupations predominate in particular localities characterized by the special incidence of a particular type upon both sexes, the student of occupational phthisis must take into consideration a hitherto unsuspected factor. Dr. Brownlee holds that his investigation points "to the conclusion that the disease known as phthisis pulmonalis is not a single disease, as is commonly understood, but rather a group of diseases, coming thus into line with typhoid fever and bacillary dysentery, both of which are now known to consist of groups of diseases of which the causal organisms possess similar properties, and produce fevers which run almost the same course. If this conclusion," he continues, "is found justified, many important consequences must follow. For instance, from analogy with other diseases it would seem that, if any kind of vaccine or serum treatment is adopted, it will be necessary to see that the vaccine or serum is made with the proper organism." From the therapeutic point of view, then, since it is unreasonable to suppose that a vaccine capable of protecting against a paratyphoid infection will be of use in connexion with true typhoid, it is, correspondingly, unlikely that a tuberculin prepared in one locality will necessarily be of value in another. Dr. Brownlee says that he has never seen any demonstrable benefit from the tuberculin treatment in Glasgow, and suggests that this may be because the "middle age" type of phthisis is rare in that city while the vaccines may be prepared from this type which is prevalent in London.

To the bacteriologist there is no novelty in the suggestion of there being distinct strains of human tubercle bacilli, but the apparent demonstration of such differences by a statistician in the first instance is a tribute to the value of the statistical method. Evidently so important a conclusion will need further verification before it meets with general acceptance:

but the method adopted by Dr. Brownlee in tracking down his types, which puts the reader in mind of the manoeuvres of a skilled chess player, cannot fail to interest any one who appreciates the marshalling of numerical data.

#### THE QUATERCENTENARY OF THE ROYAL COLLEGE OF PHYSICIANS.

THE four hundredth anniversary of the foundation of the Royal College of Physicians of London is an event which cannot be allowed to pass without comment. On September 23rd, 1518, Henry VIII granted the charter by which the College was constituted. He did so, moved by the example of similar institutions in Italy and elsewhere, and by the instigation of Thomas Linacre and others of his own physicians, and of Wolsey his Chancellor, with a view to the improvement and more orderly exercise of the art of Physic, and the repression of irregular, unlearned, and incompetent practitioners of that faculty. The College consisted of eight persons known as "elects," with power to elect from amongst themselves a President annually, and to choose the "most cunning and expert men" to fill such vacancies as occurred in their number. At the same time it was enacted that no person except a graduate of Oxford or Cambridge, without dispensation, should be permitted to practise physic throughout England, unless he had previously been examined and approved by the President and three of the Elects. The first meetings of the College were held at Linacre's private house in Knight-rider Street, the front portions of which, comprising a parlour below and a chamber above, used as a council room and library, were given to the College during Linacre's lifetime. These small premises—the ground on which they stood only measuring about twenty-four square feet—continued to be used for nearly a hundred years. But in 1581 they were enlarged, and a capacious theatre added, in which to deliver the lectures founded by Dr. Caldwell and Lord Lumley, in 1583. Dr. Foster was the first Lumleian lecturer. A botanical garden, under the supervision of Gerard, was also secured. Linacre, founder of the College, learned both as physician and scholar, was president until he died in 1524. Of distinguished successors and benefactors of the College during its first hundred years of existence the names of Clement (1544), professor of Greek at Oxford; of Wotton, the zoologist; of Caius (1555), linguist, critic, physician, naturalist, second founder of Gonville and Caius College, Cambridge, antiquarian, and designer of the insignia of office still used by presidents; of William Gilbert (1600), author of *De Magnete*, and first physicist of the College, naturally occur to us. The last meeting in the old college in Knight-rider Street was on June 25th, 1614; the first meeting in the new College, in Amen Corner, Paternoster Row, was on August 23rd, 1614. Here, in April, 1616, Harvey delivered the Lumleian lectures in which he is supposed to have expounded his doctrine of the circulation of the blood; two years later the first *Pharmacopoeia Londinensis* was issued by the College. The civil wars reduced the College to the greatest distress. Unable to pay an assessment by Parliament of five pounds per week, and its rent to St. Paul's, it was in danger of being sold by auction, when Dr. Baldwin Hamer came to the rescue, purchased house and garden himself, and with the utmost generosity presented them to his colleagues two years afterwards. Prosperity followed, for in 1653-4 the munificence of Harvey enriched the College with a museum, a "noble building of Roman architecture," stocked with valuable and curious contents, and a library of medical books, treatises on geometry, geography, astronomy, music, optics, natural history, and travels. But this prosperity was not long continued. After Harvey's death in 1657, the treasury was nearly empty, lectures were suspended, large



numbers of physicians were living and practising without a licence within the liberty of the College, examinations were discontinued. The creation in 1664 by Sir Edward Alston of upwards of seventy honorary Fellows, both brought unlicensed practitioners under the authority of the College and replenished its coffers. But in 1665, during the great plague, most of the Fellows and officers of the College fled the city, and thieves broke in and stole the whole of the contents of the treasury chest. On September 5th, 1666, the great fire consumed the whole of the College buildings; only the charters, annals, insignia, some instruments and portraits, and 140 printed books out of 63400 volumes in the library were saved. The premises in Amen Corner were never rebuilt, and the College remained homeless until its new buildings in Warwick Lane, designed by Sir Christopher Wren, were opened without ceremony on May 13th, 1674. This commodious and stately building occupied four sides of a quadrangle enclosing a large paved court, on the east side of which was erected at Sir John Cutler's expense a spacious anatomical theatre. The other sides of the quadrangle contained the library, cœnaculum, censors' room, and other public apartments. At the back of the college were the botanical garden, and in 1684 a noble library building was presented by the Marquess of Dorchester. Here the college stood for 150 years; all that remains of it now is the beautiful Spanish oak wainscoting, the gift of Hamey, which lines the Censors' Room in Pall Mall, and two colossal statues of Cutler and Charles II, which may be seen in the Guildhall Museum. At the end of 150 years the college buildings had become dilapidated, Warwick Lane was a slum, the population and fashion had moved westwards, and a more convenient situation for the Royal College of Physicians was a necessity. Mainly through the influence of Sir Henry Hallford, a grant of land was obtained from the Crown at a cost of £6,000 in Pall Mall East, and on it the present College building, designed by Sir Robert Smirke, was erected and opened with great ceremony on June 25th, 1825. The premises in Warwick Lane were sold for £9,000. One may regret their disappearance, and that it is no longer possible to people them with the shades of those who have made the history of medicine and of this famous College during 150 years of its life. The names of such are Mayerne, Glisson, and Sydenham, exponents of clinical medicine, followed by Radcliffe, Garth, Arbuthnot, Freind, Sloane, and Meade, and last but not least, William Heberden. All of these have made their mark in the history of medicine, and directly or indirectly have been associated with the history of the College. The quatercentenary of the Royal College of Physicians of London reminds us that, in spite of modern progress, we cannot afford to neglect the learning of past ages.

#### THE ROYAL AIR FORCE MEDICAL SERVICE.

At the beginning of the year we thrice urged upon the authorities the importance of setting up without delay a properly organized and independent Air Medical Service, and pointed out the necessity of giving full weight to the scientific side of this new work. The argument in favour of a separate and complete medical service for the Royal Air Force seemed unassailable, and it was understood that the Air Council intended to translate this principle into action and put the Air Medical Service on a sound footing as a scientific organization. Then it became known that something had happened to hinder the establishment of an independent medical service, contrary to the advice of the committee which had reported. A second committee was then set up and bent its energies to contriving a plan to keep the two older services in touch with the Air Service. Thus a compromise was reached, under which it was claimed, however, that the two essential conditions—that medical officers responsible for the care of the air personnel should specialize in that particular branch of medical science and should

not be changed indiscriminately—would be secured. It was hoped that the compromise scheme would at least allow the Air Service to begin at once to train its medical officers. The suggestion that the vacant seat on the Air Council should be allocated to the director-general of the air medical service was not adopted, but the principle was conceded that the Medical Administrator should have direct access to the Secretary of State for the Air Force. The rest of the story, so far as it has been made public, is to be found in our Parliamentary Notes during the first three months of the year. After the delay which occurred the work of centralizing the medical arrangements of the Air Force has gone ahead under the guidance of the Medical Administrative Committee. In another column we print this week a Memorandum setting out in detail the terms and conditions of service in the Royal Air Force Medical Service, to which many of our readers will no doubt turn with considerable interest. This document lays down the sound principles of promotion by selection, and of continuous merit pay at an increased rate for specially qualified officers who maintain their high standard of work, while the ground is prepared for future directorates "when a permanent Air Force Medical Service is established." For the time being medical officers of the regular naval or military forces, as well as of the Royal Naval Volunteer Reserve and R.A.M.C. Special Reserve and Territorial Force, will be "attached" to the R.A.F. Medical Service; temporary medical officers in the navy or army will be "transferred," their previous temporary commissions being relinquished at the time of transfer. Permanent commissions will not be granted at present. It will be seen that the terms of service are in certain definite respects an improvement upon those in force in the medical branches of the navy and army, while there is an important proviso that no person is to suffer loss of pay, gratuity, or pension by reason of transfer or attachment to the Royal Air Force.

#### THE EXTERMINATOR OF YELLOW FEVER FROM RIO.

RIO DE JANEIRO, the island-studded bay of which the earlier navigators thought was the mouth of the River of January, is perhaps the most beautifully situated city in the world. But for sixty years, since 1849, when yellow fever first laid its hand on this port, it had a most sinister reputation, and was shunned as worse than the plague by the shipping fraternity, who held that "to go to Rio is to commit suicide," and with good reason, for during this period there were over 59,000 deaths from yellow fever in the city proper, without taking into account the suburbs. The population of Rio is much larger than the combined totals of Habana, Santiago, Panama and Colon, and the story of the energetic health administrator who, in the face of these difficulties, freed his native city from its reputation as a hotbed of yellow fever by applying the lessons of the American Yellow Fever Commission in Cuba, was told in a pleasantly-written notice by W. C. Wells,<sup>1</sup> the chief statistician of the Pan-American Union, and may be briefly referred to here, as it is, perhaps, not so well known as it deserves. In 1900 there was an outbreak of plague at Rio, and, on Professor Roux's advice, Oswaldo Cruz, a young Brazilian then engaged in bacteriological and toxicological research at the Pasteur Institute, was appointed to direct an establishment for the preparation of anti-plague serum in Rio. This happy choice was destined to have results much more far-reaching than was anticipated. Cruz, convinced that the successful campaign against yellow fever in Cuba could be repeated in Rio, found a sympathetic supporter in President Rodrigues Alves, to whom this young man, just over 30 and without any special reputation as a yellow fever authority, bravely said, "Give me the proper authority and a sufficient force and means

<sup>1</sup> W. C. Wells, *Under the Sign of the Cross*, Washington, 1918, ix, 521-5.



to work with, and I will rid Rio of yellow fever in three years." The means were provided, and in 1903 Cruz started with seventy-five medical men to exterminate the mosquito *Stegomyia fasciata*, which is the carrier of yellow fever, and to prevent its access to patients; to facilitate this, compulsory notification of the disease was established. This campaign, which covered nearly the whole of Brazil, was the most extensive ever undertaken, and was completely successful. In 1903 there were 584 fatal cases in Rio, and it was finally stamped out in 1908 when Cruz resigned the post of Director-General of Public Health to become the head of the Institute of Tropical Diseases, now known as the Oswaldo Cruz Institute for Experimental Pathology and Serum Therapeutics. He did much in the short span allotted to him, and died on February 11th, 1917, at the early age of 44½ years.

#### GERMAN MEDICAL LITERATURE IN HOLLAND.

A CORRESPONDENT of the *Montpellier Médical* has described the methods adopted by Germany to secure the peaceful penetration of Holland by her medical literature. He found that in the libraries of various Dutch writers all the books dealing with medicine and science were German. The Dutch bookseller who supplies German books gets a big commission. German publishers send all their books "on approval" and take them back even when worn or damaged. Till recently Dutch medical students received directly from Leipzig offers of books at a cheap price and on easy terms of payment. The German bookseller makes use of the lists of students published by the Dutch universities, and often the bedell of the university, for a small consideration, supplies the names and addresses of students. The medical journals published in Germany are for a long time sent gratuitously to students and young graduates. In time these young men become subscribers, or get into the habit of looking through the publications in reading-rooms. Instruments are pushed in the same way. The Dutch medical periodicals are full of advertisements from German firms vaunting their pharmaceutical products and their instruments. By these means Germany has secured a certain hold on Holland whose students have become accustomed to go to the other side of the Rhine to study. Advertisements of the summer semester courses are sent to deans of medical faculties, and to the porters of hospitals. The summer semester in Germany begins towards the end of April and ends in July. The holidays in Holland begin about the end of May or the beginning of June, and end in the latter part of September. This gives Dutch students the opportunity of going to Germany in the interval. There they are welcomed with effusion; rooms are found for them, and they are shepherded in such a way that they generally go home with pleasant memories of their visit. It is natural, therefore, that the young Dutch doctor should return to Germany for post-graduate study, for which he is offered all facilities. The medical exploitation of Holland is only one tentacle of the octopus which is striving to get the world in its grip, but from this example in a comparatively small sphere of commercial enterprise an idea may be formed of the persevering efforts of the Germans.

#### MEDICAL EDUCATION IN THE UNITED STATES.

THE Educational Number of the *Journal of the American Medical Association* gives statistics as to medical education in the United States. After the civil war the number of medical schools increased rapidly until in 1900 they numbered 160, more than there were in the whole of the rest of the world. Most of the schools were dependent on the students' fees for maintenance, and the competition for candidates involved corresponding laxity in the terms of admission. In 1904 only four medical schools required college work as a condition of admission, and only from 20 to 25 per cent. required a four-year high school education.

In these circumstances it is not surprising that in 1904 the number of medical students enrolled in the United States was 28,142, and in that year 5,747 graduated as doctors; nor is there reason to wonder that at the present time the Surgeon-General finds it necessary to reject large numbers of applicants for commissions in the Medical Reserve Corps on account of lack of professional training. The campaign of publicity started by our contemporary in 1900 led in 1904 to the creation of the Council on Medical Education which has been active in promoting improvement. At present, largely through the fusion of medical colleges, the number has been reduced to 90, that of students to 13,630, and of graduates to 2,670. On the other hand, there has been a considerable increase in the number of colleges that enforce higher requirements for admission and in the number of students and of graduates who possess the higher entrance qualifications. Instead of four (2.5 per cent.) medical schools which in 1900 required any college work as a condition of admission, now 83 (92.2 per cent.) require two or three years of such work; instead of only 1,761 (6.2 per cent.) students enrolled in the higher standard colleges in 1904, the number during the past year was 12,999 (95.3 per cent.), while instead of only 369 (6.4 per cent.) graduates coming from these colleges in 1904, at the end of last session 2,412 (90.3 per cent.) graduated from those institutions. In addition to these improvements, greatly increased endowments have been obtained. Most of the schools have erected new buildings, established better equipped laboratories, and secured more extensive clinical facilities. Moreover, they have obtained the services of skilled full-time teachers in both the laboratory and the clinical departments. Instead of being overburdened with lectures the student now gets the greater part of his clinical training at the bedside or in small group clinics. During the last three or four years several of the largest medical schools in the United States and Canada have thrown their doors open to women students. This step was taken in 1914 by the University of Pennsylvania; in 1915 by the Tulane University of Louisiana; in 1916 by the Columbia University College of Physicians and Surgeons; in 1917 by University and Bellevue Hospital Medical Colleges, the University of Maryland, and the Medical College of Virginia; and in 1918 by Harvard and McGill University, Montreal. But the idea had been widely translated into fact long before the war. More than forty years ago the University of Michigan made its medical courses co-educational, and practically all State universities followed its example. From its foundation in 1893 the Johns Hopkins University, Baltimore, has admitted women. The Women's Medical College in New York closed its doors only after Cornell University established its medical school and admitted women in 1893. In 1902 Rush Medical School, which had become affiliated to the University of Chicago, became co-educational. At the present time, of the ninety medical colleges in the United States, sixty admit women.

#### SOME ASPECTS OF THE STATUS LYMPHATICUS.

IN an interesting article embodying much pathological experience at the Bellevue Hospital, New York, Symmers<sup>1</sup> mentions that the credit for establishing the clinical signs of status lymphaticus really belongs to Charles Norris, who, in 1909, after four years' work at Bellevue on the subject, wrote an account of the diagnostic signs to von Neusser, his former teacher in Vienna. Two years later the Viennese professor brought out a paper on the diagnosis of status lymphaticus, which, in spite of graceful acknowledgement to Norris, has received undue credit, especially as Norris had, in 1909, published his observations in America. The "angelic child," described by the elder Gross as possessing the lymphatic constitution and prone to what is now called surgical tuberculosis, is the subject

<sup>1</sup> D. Symmers, *Amer. Journ. Med. Sci.*, Philadelphia, 1913, civi. 40.



of status lymphaticus, as are also some coarse-featured children. After puberty its recognition becomes easier, the delicate velvety skin, the arching and rotund thighs, slender waist, in males a small penis with an acorn-shaped glans, and pubic hair as in the female, and scanty hair on the trunk, mark the existence of this condition, which, generally speaking, is most familiar as the finding of a coroner's inquest. Symmers considers that the dangers of the condition are (1) that the instability of the lymphatic tissues provides a mechanism capable of so sensitizing the body as to produce anaphylactic phenomena varying from simple urticaria to convulsions and sudden death, and also lowers the resistance to infections, especially of the throat and alimentary canal, and (2) that the congenital muscular hypoplasia of the blood vessels renders them unable to withstand ordinary changes in blood pressure. Among 5,652 necropsies at the Bellevue Hospital, 457, or 8 per cent., showed this condition, which was six times commoner in males than in females. In addition to the status lymphaticus in youth, when the lymphoid tissues are active, a recessive form later in life is described. Contrary to von Neusser's statement, the spleen is not enlarged in uncomplicated status lymphaticus, though its lymphoid follicles were hyperplastic in 88 per cent. Necrosis of the germinal areas in the lymphatic glands is common, and in the recessive form is shown by areas of spindle cells. The anaphylactic reactivity of the body depends on the number of these necrotic areas, and sudden death is connected with the discharge of nucleo-proteins from them; sudden death is probably not due to rapid toxæmia caused by the abrupt and simultaneous destruction of numerous follicles, but to anaphylactic shock subsequent to further destruction of the germinal areas—for example, after injection of a vaccine or serum, in an individual already sensitized by a previous discharge of nucleo-proteins from necrosed germinal areas. As epilepsy may be an anaphylactic manifestation in the subjects of the status lymphaticus, it is suggested that the thymus and the spleen should receive *x*-ray exposures. Cerebral hæmorrhage and miliary aneurysms in the brain in young persons are explained by the status lymphaticus; the aorta was found to be hypoplastic in 40 per cent. of 249 cases of status lymphaticus. The condition contraindicates work in a compressed atmosphere, and is commonly seen in those unstable emotionally, in alcoholics, suicides, and criminals. As a result of their hereditary anatomical imperfections the subjects of status lymphaticus are believed to be more susceptible than ordinary persons to the infective, psychical, and other factors that precipitate Graves's disease. Acute infections, such as acute endocarditis and cerebro-spinal fever, are favoured by the status lymphaticus, and the latter of these diseases then runs a remarkably rapid course. Symmers thus accepts the usual view as to the congenital origin of the status lymphaticus, and does not mention or criticize Dr. H. C. Cameron's<sup>1</sup> contention that it is an acquired condition due to chronic irritation of the mucous membranes by a persistent, though perhaps quiescent, catarrhal infection.

#### THE MURDER OF HAMLET'S FATHER.

In a paper with historical, etymological, and pharmacological aspects, Dr. D. I. Macht,<sup>2</sup> of the Johns Hopkins University, brings out several points of interest in connexion with the murder of Hamlet's father by the instillation into his external ears of the "juice of cursed hebenon," or hebona, as it is spelt in some editions. According to the original Hamlet story, the murder was committed with a steel weapon. The pouring of poison into the ears appears for the first time in Shakespeare's account, and was almost certainly adopted by him from the methods of Italian poisoners, as, indeed, is suggested by Hamlet's aside on the re-enactment of the murder by the players

under his direction: "His name's Gonzago; the story is extant and writ in choice Italian." The nature of hebenon or hebona has long exercised Shakespearean scholars, and Dr. Macht analyses the claims of the yew, ebony, henbane or hyoscyamus, hemlock, and belladonna. While there is plenty of evidence that the yew (*Taxus baccata*) is poisonous, there is none to show that the ebony tree is; but the English word "heben," yew tree, is derived from the Hebrew root, "eben," meaning a stone, and really refers to the hardness and not to the colour of the wood, so that in the Middle Ages it was employed for any hard wood. There is also sound evidence in favour of the contention that hebenon is the correct reading and a synonym for henbane. Metathesis of consonants is not an unusual phonetic phenomenon. The toxic properties of henbane were well known at that time, and Holland's translation (1660) of Pliny, in which madness is mentioned as a result of instilling oil of hyoscyamus seeds into the ears, may have been known to Shakespeare. But, after all, it is probably impossible to be certain whether yew or henbane was meant by Shakespeare, and his poetic description of the symptoms does not help much in this respect. Macht has investigated experimentally the absorption of drugs and poisons through the external auditory canal and membrana tympani into the general circulation, and the production of constitutional symptoms. His results, which show that a number of drugs, such as aconite and nicotine, can be thus absorbed, will be published in full in the *Journal of Pharmacology and Experimental Therapeutics*, and provide a scientific justification for the aural administration of drugs, which has long been practised, and an explanation of their homicidal abuse in the past.

We hope that as many members of the medical profession as can find time to do so will attend the meeting which is to be held at Steinway Hall, Wigmore Street, London, W.1, on Tuesday next (October 1st), at 5.30, for the purpose of securing the election of representative medical men to the House of Commons.

News has been received of the death, in his 83rd year, of Sir Philip Sydney Jones, M.D., F.R.C.S., consulting physician to the Royal Prince Alfred and Sydney Hospitals, and a former vice-chancellor of the University of Sidney.

DURING the coming months a course of lectures on public health problems under war and after-war conditions will be delivered on Wednesdays at the Royal Institute of Public Health. The dates and subjects are as follows: October 9th, Anthropometry and national health, by Professor Arthur Keith, M.D., F.R.C.S.; chairman, Major Leonard Darwin. October 16th, Racial reconstruction and the proposed Ministry of Health, by Dr. C. W. Saleeby; chairman, Major the Hon. Waldorf Astor, M.P. October 23rd, The obviation of ship-borne infections, by Dr. W. M. Willoughby; chairman, Professor William R. Smith, M.D., Sheriff of the City of London. October 30th, The prevention and abortive treatment of venereal disease, by Lieut.-Colonel L. W. Harrison, M.B., D.S.O.; chairman, Sir George H. Makins, G.C.M.G., P.R.C.S. November 6th, Infection and disinfection in war time, by Professor J. M. Beattie, M.D.; chairman, Colonel J. G. Adami, M.D., F.R.S., C.A.M.C. November 13th, The tuberculous soldier, by Dr. Jane Walker; chairman, Lady Gough. November 20th, The care of pensioners and disabled combatants in relation to national health and wealth, by Sir John Collie, M.D.; chairman, the Right Hon. John Hodge, M.P. November 27th, National kitchens and the national health, by Alderman C. Spencer; chairman, the Dowager Viscountess Rhonda. December 4th, The rôle of the ports in the protection of the health of the nation, by Professor E. W. Hope, M.D.; chairman, the Lord Mayor of London. December 11th, The organization and administration of child welfare centres, by Dr. Eric Pritchard; chairman, Sir John Kirk. December 18th, The proposed Ministry of Health, by Professor William R. Smith, M.D.; chairman, the Right Hon. W. Hayes Fisher, M.P.

<sup>1</sup> H. C. Cameron, *BRITISH MEDICAL JOURNAL*, 1917, i, 752.

<sup>2</sup> D. I. Macht, *Johns Hopkins Hosp. Bull.*, Baltimore, 1918, xxix, 165-170.



# THE WAR.

## CASUALTIES IN THE MEDICAL SERVICES.

### ROYAL NAVY.

#### *Died on Service.*

STAFF SURGEON C. DEVEREUX MARSHALL, R.N.V.R.

News has been received of the death from cholera at Bombay, on September 14th, of Staff Surgeon Charles Devereux Marshall, F.R.C.S., R.N.V.R., Senior Medical Officer, Persian Gulf and Mesopotamia. An obituary notice appears on p. 361 of this issue.

### ARMY.

#### *Killed in Action.*

CAPTAIN J. STEEL, M.C., R.A.M.C.

Captain J. Steel, M.C., R.A.M.C., killed in action on September 2nd, aged 25, was the only son of Mr. and Mrs. D. F. Steel of Dennistoun, Glasgow. He was educated at Whitehill School, and passed to the University of Glasgow, where he closed a distinguished career by graduating M.B., Ch.B. in 1916. During his final year he acted as resident assistant at Glasgow Eastern District Hospital. On leaving the university he took a commission in the Special Reserve of the R.A.M.C., and was sent to France, where he was promoted captain after a year's service. In March of the present year he was awarded the Military Cross while serving with the Royal Sussex Regiment. A few days before his death he was attached to the Somerset Light Infantry, and it was while advancing with his regiment to the fighting line that he was killed by an enemy shell.

#### *Died on Service.*

LIEUTENANT T. M. BOYD, R.A.M.C.

Lieutenant Thomas Moffatt Boyd, R.A.M.C., was reported as having died on service, in the casualty list published on September 17th. He was educated at Belfast University, where he graduated M.B., B.Ch., and B.A.O. in 1917, after which he took a temporary commission as lieutenant in the R.A.M.C.

#### *Died of Wounds.*

CAPTAIN G. R. COWIE, S.A.M.C.

Captain Graham Robertson Cowie, South African Medical Corps (of whom a brief notice was published in the *BARTSH MEDICAL JOURNAL* of September 21st), died in a casualty clearing station on September 3rd of wounds received the previous day, aged 27. He was the elder son of John Cowie, late of Johannesburg, and was educated at Loretto School and at University College, Oxford, where he graduated B.A. in natural science in 1913. He had been a member of King Edward's Horse, and rejoined that corps on August 8th, 1914. On December 24th, 1914, he was gazetted second lieutenant in the Royal Field Artillery, went to France in May, 1915, and served in the battle of Loos, when he was mentioned in dispatches. In June, 1916, he returned to England to complete his medical course at Middlesex Hospital, and in 1917 graduated M.B. and B.Ch. Oxon., also taking the diplomas of M.R.C.S. and L.R.C.P. Lond. He was then gazetted to the South African Medical Corps, and last November returned to France, where he served first with a South African general hospital, and then as medical officer to a brigade of South African Royal Garrison Artillery.

CAPTAIN J. C. FORSYTH, C.A.M.C.

Captain J. C. Forsyth, Canadian Army Medical Corps, was reported as having died of wounds, in the casualty list published on September 19th.

#### *Wounded.*

Lieut.-Colonel D. Ahern, D.S.O., R.A.M.C.

Lieut.-Colonel E. R. Selby, Canadian A.M.C.

Major H. S. Hollis, R.A.M.C. (T.F.).

Major W. C. Sawers, Australian A.M.C.

Captain A. C. B. Biggs, M.C., R.A.M.C. (temporary).

Captain C. Cairne, R.A.M.C. (temporary).

Captain G. W. Christie, R.A.M.C. (temporary).

Captain A. S. Cockburn, Australian A.M.C.

Captain G. F. Denyes, Canadian A.M.C.

Captain A. H. Donaldson, R.A.M.C. (temporary).

Captain G. R. Hamilton, Australian A.M.C.

Captain J. P. McGreehin, R.A.M.C. (temporary).

Captain R. P. Murphy, Australian A.M.C.

Captain H. B. Sherlock, M.C., R.A.M.C. (S.R.).

Captain E. P. H. Vickery, R.A.M.C. (temporary).

Captain B. Ward, M.C., R.A.M.C. (temporary).

Lieutenant W. F. Kirlchan, R.A.M.C. (temporary).

Lieutenant D. B. Leitch, R.A.M.C. (temporary).

#### *Prisoners of War.*

Major N. A. A. Hughes, R.A.M.C. (temporary).

Lieutenant C. Murray, R.A.M.C. (temporary).

#### DEATHS OF SONS OF MEDICAL MEN.

Andrews, Edward Norman, Second Lieutenant, East Kent Regiment, The Buffs (East Kent), killed in action at Cambrai, where Andrews of Harrogate, died on August 26th, of wounds received the previous day, aged 19. He was educated at Oundle School, where he was a scholar, prefect, and captain of football. Entering Sandhurst in October, 1915, he got his commission in December, 1917, and went to the front last year.

Davies, Edward Stanley, Captain, and Davies, Ernest Owen, Second Lieutenant, both of the North Staffordshire Regiment, sons of the late Dr. Gomer Davies, were killed in action on September 9th. The former received his commission on January 28th, 1915.

Emott, G. Keith, Lieutenant Royal West Kent Regiment, son of Dr. George Emott of Basildon, Essex, died on September 8th, aged 20. He was educated at Stroudbury, where he gained many prizes and two exhibitions, and in 1916 won an open science scholarship at University College, Oxford. He did not go into residence, but joined the University O.T.C., and thence the cadet corps, getting his commission in March, 1917. He served in Egypt and Palestine, and last May, when he went to another front.

Fletcher, C. N. M.C., Second Lieutenant Royal Field Artillery, elder son of Dr. Hugh Lambert of Barnes, Kent, died on September 2nd, aged 21.

Frost, Arthur Douglas, Captain, Regiment, youngest son of the late Dr. Alexander Frost of M. Praeger, Scotland, died on September 2nd.

Summerhayes, J. A., Captain, Labour Corps, attached to 1st Inniskilling Fusiliers, eldest son of Lieut.-Colonel J. O. Summerhayes, D.S.O., R.A.M.C. (T.F.), killed August 27th, aged 19. He was educated at St. Laurence College, Ramsgate, and had recently entered University College, Oxford, as a medical student. He went to the front last year.

Sutton, Vivian Charles W., Second Lieutenant Royal West Kent Regiment, attached to 22nd London Regiment, eldest son of Dr. C. R. Arnold Sutton of Sleaford, Kent, died on September 14th, aged 22. He was educated at Farnham, and afterwards at St. John's, West Ham, and then at University College, Oxford. He joined the R.A.M.C. in September, 1914, was transferred to 15th London Regiment, 1916, with which he served in France, Salonika, Egypt, and Palestine, being killed at the battle of Jerusalem. He was subsequently gazetted to the Royal West Kent Regiment, and had returned to his home, where he was killed.

Wilson, James, New Zealand Field Artillery, second son of the late Dr. Wilson of Wanlockhead, killed August 24th.

Captain Ribbet, one of the most famous of French aviators, has been missing since August 27th. He is a son of Dr. Charles Ribbet, the distinguished professor of physiology in the University of Paris, who has taken a prominent part in the development of aviation in France.

Geoffrey Sebastian Park, whose name appeared in this column last week among the sons of medical men, was the eldest son of Professor Percy Park, M.D., D.Sc., F.R.S., F.R.C.S., F.R.C.P., and F.R.C.S., Surgeon to Westminster Hospital.

[It will be interesting to learn of those who are killed in action or die of wounds, or of prisoners which will enable us to make these lists as complete and accurate as possible.]

### HONOURS.

THE following is a continuation of the list given in our last issue of awards to medical officers in recognition of their conspicuous gallantry and devotion to duty in the field.

#### *Military Cross.*

Temporary Captain acting Major Francis de Sales M. Menamin, R.A.M.C.

He worked day and night, getting into touch with regimental and posts and evacuating their wounded under a heavy shell and machine-gun fire. By his untiring devotion to duty he saved many lives.

Temporary Captain David Gair McRae, R.A.M.C.

While in charge of an aid post during an enemy attack, hearing that a siege battery was being heavily shelled, and had many casualties, he at once proceeded, with a non-commissioned officer to attend to the wounded in the battery position and stayed there, under shell fire for an hour. Throughout he showed fine disregard of his own safety and great devotion to duty.



**Temporary Captain John Pearson McVey, R.A.M.C.**

He organized and established and posts near the front line under heavy shell fire and dealt with a large number of casualties. Though short of dressing, stretchers and bearers, he successfully evacuated many wounded, while ten out of eighteen of his staff were casualties.

**Captain Charles Graham Meade, R.A.M.C.**

While brigade headquarters were being shelled this officer worked unceasingly, attending wounded gunners and infantry. Later, on receiving an urgent message from a battery, he set off by himself through a heavy barrage, and though suffering from the effects of gas, performed his duties in the open, regardless of all danger. He behaved splendidly.

**Captain Harry Middleton, R.A.M.C.**

During an enemy attack though suffering from the effects of gas, he remained at duty dressing wounded for four days until ordered to hospital. He was frequently under shell fire, and had to change his aid post several times.

**Temporary Captain Alexander Dryden Moffatt, R.A.M.C.**

He worked continuously at an advanced dressing station under shell fire for eighteen hours dressing a large number of wounded. The dressing station was hit three times, but he carried on his work in a cellar.

**Temporary Captain Duncan Collingwood Ogilvie, R.A.M.C.**

While in charge of a walking wounded collecting post for sixteen hours he worked single-handed under heavy shell fire, dressing and evacuating wounded. Later, he reopened a dressing station which had been evacuated and worked there for forty-eight hours.

**Temporary Lieutenant James Carter Ogilvie, R.A.M.C.**

As medical officer of the battalion he did excellent work during four days' strenuous fighting. He was continually up and down the firing line, personally attending to wounded men and carried all men known to be wounded to be got away. He set a very fine example to his stretcher bearers.

**Captain George Perkins, R.A.M.C. (S.R.).**

After being in the firing line all day he went out at night with stretcher bearers and saved out most of the night under shell fire.

**Temporary Captain Howard George Pesel, R.A.M.C.**

He evacuated all the wounded under severe and constant shell fire. His three successive collecting posts were destroyed by shell fire, and he himself was wounded, but he remained at duty, declining to be relieved.

**Captain Aubrey Radford, R.A.M.C.**

He established a dressing station, collected a large number of wounded cases, and by his own personal example and initiative arranged for the evacuation of those wounded and so saved them falling into the hands of the enemy. The whole time his work was carried out under heavy shell fire.

**Temporary Captain acting Major Alexander William Rattrie, R.A.M.C.**

He dressed and evacuated wounded in an advanced dressing station under heavy shell fire for many hours. When the station became practically destroyed he then, gassed, succeeded in evacuating all the wounded over open country to another dressing station, where he continued to work until, that, too, became untenable. He showed great pluck and determination.

**Temporary Captain Stanley Alfred Riddett, R.A.M.C.**

This officer was the only medical officer in a village that was being very heavily shelled by the enemy, and where our troops were suffering severe losses. He showed complete and self-sacrificing disregard of danger, dressing the wounded and arranging for their removal, moving about the village, which he would not leave until he had satisfied himself by personal investigation that all the wounded had been evacuated. His gallant behaviour and devotion to duty undoubtedly saved many lives.

**Temporary Captain acting Major John Rolger, R.A.M.C.**

The position of his advanced dressing station had to be moved on four separate occasions, and on each occasion he evacuated the wounded with great skill. It was largely due to the fine example set by him under heavy machine-gun and rifle fire that the wounded were all got away. He has shown a fine spirit, and set a great example throughout.

**Captain acting Major John Rowe, R.A.M.C.**

Although it was known that the enemy had penetrated the line and the area in rear of the advanced dressing station was being organized for defence, this officer never lost touch with the regimental aid posts. He made many journeys throughout the day, at all times under heavy fire, personally superintending the evacuation of the wounded.

**Temporary Captain George Wheldale Stanley, R.A.M.C.**

For conspicuous gallantry and devotion to duty in going to the assistance of four wounded men, dressing their wounds, and getting them removed to a place of safety under heavy shell fire. His disregard of danger not only probably saved their lives, but was an inspiration to others.

**Captain James Steel, R.A.M.C. (S.R.).**

This officer was one of the few regimental medical officers who were with their unit during the whole period of withdrawal. He was indefatigable in dressing the wounded, often under fire, and when he had to move, invariably assisted himself in evacuating the worst cases. Although his own wounds hurt him, he refused to leave his work, except to have his wounds dressed.

**Temporary Captain George Edward Stephenson, R.A.M.C.**

He organized the most advanced dressing station in the area, attending to casualties of all units under heavy fire in the most adverse circumstances, and in the open. His devotion to duty was of the greatest value.

**Temporary Captain John Stevenson, R.A.M.C.**

He attended to wounded under heavy shell fire. Subsequently, he went out into "No Man's Land" under heavy machine-gun fire and brought in a wounded officer. His coolness and devotion to duty saved many lives.

**Temporary Captain acting Major Robert Svensen, R.A.M.C.**

Under heavy bombardment he led motor ambulance wagons to an advanced dressing station, and brought away all helpless cases. Later, he led a convoy of ambulance wagons under shell and

machine-gun fire to aid posts, and continued going backwards and forwards until he had got all wounded away. He saved many wounded from being abandoned to the enemy, and did fine work.

**Captain William Taylor, R.A.M.C.**

In his work amongst the batteries he remained to the very last in each position, attending to the wounded officers and men, and was untiring in his efforts to assist in every way.

**Captain James Eitershauk Gordon Thomson, R.A.M.C.**

When his dressing station was blown up, although suffering from gas, he continued to dress his wounded, and successfully evacuated all his stretchers and cases, working till he was quite exhausted. On another occasion, when a regimental aid post was blown up, he carried on dressing the wounded, and successfully evacuated them. His devotion to duty was an inspiration to all under him.

**Captain William Ernest Tyndall, R.A.M.C. (S.R.).**

For five days this officer dressed wounded under intense fire, and during the withdrawal he many times stayed behind without assistance to look after them, being in imminent danger of capture. His unceasing efforts resulted in the saving of many officers and men. Though by no means physically strong, he never relaxed his efforts, and his cheerfulness greatly heartened the men.

**Lieutenant Douglas James Valentine, R.A.M.C. (S.R.).**

He attended to the wounded in the open under heavy shell fire and superintended their evacuation under most difficult circumstances.

**Captain acting Lieut.-Colonel (Oxford Trail) van der Vijver, R.A.M.C. (S.R.).**

He continued to work at his dressing station under very heavy machine-gun fire until it was no longer tenable, and before evacuating the wounded, organized all casualties in the vicinity and brought them away with all the equipment.

**Temporary Captain John Walker, R.A.M.C.**

In carrying out his work at an aid post which was continually being shelled, organizing stretcher and ambulance movements for the work, were a hundred 120 mortars passed through his hands, all congestion was removed, and the stretcher-bearers which they were collected and evacuated patients saved several lives.

**Temporary Lieutenant Rowland Ward, R.A.M.C.**

Whilst under a very heavy barrage this officer attended to the evacuation of numerous casualties. The aid post, situated in a small quarry, was subjected to prolonged bombardment and heavily gassed; it was crowded with stretcher-cases and there were fifty men lying in the quarry. He went round all the cases, adjusting gas masks. The aid post was not even splinter proof, and received one direct hit, but he continued to nurse his wounded nights attending to the cases without sleep, and eventually got away the last of the casualties.

**Temporary Captain Edward Parker Wadman Wedd, R.A.M.C. (S.R.).**

He traveled shell-swept roads and searched trenches under heavy fire till he found and tended the nearly wounded.

**Captain acting Major Eric Watson Williams, R.A.M.C. (S.R.).**

He maintained advanced dressing stations under heavy shell fire until the last possible moment, and personally superintended the evacuation of the wounded. Through his energy and devotion to duty all cases were cleared without delay.

**Captain acting Major Arthur Lowndes Yates, R.A.M.C.**

He maintained his medical posts under heavy shelling as long as it was possible, and was responsible for the collection and evacuation of several hundred wounded of other divisions, as well as a great many of his own.

**Captain William Clarke Givens, R.A.M.C.**

He organized and maintained for two days under shell and rifle fire a first aid post, rendering aid to a large number of cases. Next day he established a dressing station, where he worked for sixty hours without relief.

**Captain Geoffrey Peurose Arnold, R.A.M.C.**

During a night counter-attack this officer formed his regimental aid post in the open just in front of the pumping-off line, and continued to dress wounded there for twenty-four hours under continuous fire. The medical officers of two other battalions both became casualties early in the attack, and he attended to the wounded of these battalions besides his own. His coolness and splendid work saved scores of lives.

**Captain Ernest Noel Brougham Docker, R.A.M.C.**

During an attack he followed up with his bearers, picked up guides, gained touch with the regimental aid posts, and organized a line of bearer relays. This was done at night under machine-gun and heavy shell fire.

**Captain Frank William Fay, R.A.M.C.**

While in charge of the transport and evacuation of wounded from the divisional main dressing station, the station was twice hit by shells, but he succeeded in clearing all wounded, exposing himself in bringing up ambulance cars and showing great energy and devotion to duty.

**Captain Ewing George Thomson, R.A.M.C.**

This officer tended wounded in the open from 4 a.m. to 11 a.m. one morning. During this period he was under very heavy high explosive and gas bombardment, but, although suffering from the effects of gas, he stuck to his aid post. His rapidity in evacuating wounded from the gassed area no doubt saved many lives.

**Temporary Captain Basil Sampson, R.A.M.C.**

During a counter-attack on the enemy positions this officer, with another, improvised an advanced dressing station and relay posts under the most difficult conditions. They remained at a point considerably forward, under very heavy shell and machine-gun fire, and it was largely due to their efforts and able dispositions that a great many wounded were dressed and evacuated who otherwise might have fallen into the hands of the enemy when later they forced back our line.

**Temporary Captain William Smith, R.A.M.C.**

During a counter-attack on the enemy positions this officer, with another, improvised an advanced dressing station and relay posts under the most difficult conditions. They remained at a point considerably forward, under very heavy shell and machine-gun fire, and it was largely due to their efforts and able dispositions that a



great many wounded were dressed and evacuated who otherwise might have fallen into the hands of the enemy when later they forced back our line.

A special Supplement to the *London Gazette* date 1 September 24th contains a further list of awards "for conspicuous gallantry and devotion to duty in the field." The list includes the following medical officers:

#### D.S.O.

Major (temporary Lieut.-Colonel) Albert Richard Henschley, R.A.M.C.

In two days he succeeded in evacuating some 1,500 patients. He got away his personnel and lorries under shell and machine-gun fire, and proceeded to a hospital elsewhere, from which he evacuated 300 wounded by ambulance trains. His unit was the last to leave the town. His coolness and resource were the means of saving a large number of wounded from falling into the hands of the enemy.

#### Bar to the Military Cross.

Captain (acting Major) Roger Errington, M.C., R.A.M.C.

He remained in his dressing station under machine-gun fire until it was evacuated. He then took another dressing station and again under machine-gun fire evacuated all patients. It was entirely due to his coolness and devotion to duty that these wounded did not fall into the hands of the enemy. (M.C. gazetted January 14th, 1916.)

Temporary Captain Paul MacDonald Little, M.C., R.A.M.C.

In attending to wounded in the front line under heavy shell, machine-gun, and rifle fire. His example of coolness and devotion to duty caused a large number of wounded to be successfully evacuated from the front line. (M.C. gazetted September 26th, 1916.)

Temporary Captain Alan Cowan Mann, M.C., R.A.M.C.

Hearing that a number of wounded had been left in a dressing station, he organized bearer parties and led them through heavy shell fire to the dressing station and evacuated all the wounded. Through his devotion to duty many wounded were cleared who would otherwise have been abandoned. (M.C. gazetted July 26th, 1918.)

Captain (acting Major) Robert Taylor, M.C., R.A.M.C. (S.R.).

While in command of an advanced dressing station he worked with untiring energy, attending to and supervising the loading on to cars of all cases. The dressing station was hit several times, and eventually came under machine-gun fire, but he succeeded in clearing all wounded. He showed fine determination and devotion to duty. (M.C. gazetted August 16th, 1917.)

#### Military Cross.

Captain Alfred Lang Bodley, R.A.M.C.

When a dug-out was heavily shelled and blown in, he rescued a man from the most dangerous place where three men lay buried, and attended to the men affected, assisting to get them away. In one case he tried for hours to save a man who had lost consciousness, and during this time lost consciousness himself, but continued his work on recovering. His personal example of courage was of the utmost assistance.

Captain James Iver McIver Chirnside, A.A.M.C.

For conspicuous gallantry and devotion to duty while attending to wounded men under heavy shell and machine-gun fire. During the retirement of the rearguard squadron he attended to the wounded while the enemy were firing at a distance of 300 yards. He showed great devotion to duty.

Temporary Captain William Cooper, R.A.M.C.

During an enemy attack he was unremitting in his attentions to wounded under fire, and stayed behind in a village with a small salvage party attending to a number of wounded and gassed officers and men who came in. He behaved splendidly.

Temporary Captain Guy de Hoghton Dawson, R.A.M.C.

During an arduous period of retirement, lasting for some days, he worked with unflagging energy in attending to the wounded under heavy fire, evacuating them successfully, on one occasion when the enemy were within forty yards of the Regimental aid post. His example helped and encouraged all those under his command.

Captain (acting Major) Robert Alfred Greenwood, R.A.M.C.

When a bridge was blocked and partly submerged by a fallen tree he supervised the clearing, and helped to carry the wounded across under heavy shell fire on both banks. Though severely shaken by a shell bursting and partially burying him, he carried on until all the wounded were safely across the canal.

Temporary Captain Norman McAlister Gregg, R.A.M.C.

During a raid he untiringly attended to the wounded under heavy enemy fire until the last man was cleared, and showed great coolness and devotion to duty. He worked persistently throughout the raid in the open, and searched for any wounded that might have been overlooked. He behaved splendidly.

Captain Henry Taylor Lamb, R.A.M.C. (S.R.).

When an outpost company were suffering numerous casualties from enemy bombardment he proceeded to the locality at once and under heavy shelling got all the wounded moved to shelter, remaining with the company until the bombardment ceased. During a trying time he showed splendid devotion to duty.

Temporary Captain William Lumsden, R.A.M.C.

While in charge of bearers carrying wounded over an exposed hillside swept by shell and machine-gun fire he saw a bearer fall. He at once ran to him and dressed his wounds, after which he remained with him until dusk, the man being unable to walk. He then assisted him across country to a place of safety. His conduct was splendid.

Captain John Eric McGlashan, A.A.M.C.

While in charge of the evacuation of wounded during an attack, he visited his various posts under heavy shell and machine-gun fire, and was largely responsible for the successful evacuation of the wounded.

Captain (acting Major) Kenneth Arly Porterfield Rynd Murray, R.A.M.C.

While in charge of an advanced dressing station during an enemy attack he worked continuously for two days, often under heavy shell fire, and evacuated over 200 cases. Owing to the constant

change of position he had great difficulty in keeping touch with the medical officers of the regiments he was clearing, and only succeeded in doing so by visiting them all personally on several occasions. His courage and magnificent devotion to duty set a fine example to all his men.

Temporary Lieutenant Thomas Gordon Playford, R.A.M.C.

Assisted by an orderly, he dressed the wounds of several officers on the roadside under heavy shell fire. Later, he established a dressing station in a village which was rapidly being enveloped by the enemy, and succeeded in clearing all his casualties before it was evacuated.

Lieutenant (acting Major) Raymond Stowers, R.A.M.C.

While in command of an advanced dressing station, subjected for hours to heavy shelling, he got all cases away in a most expeditious manner. Subsequently, on the near approach of the enemy, he got his personnel and cars away, and opened a temporary dressing station elsewhere, and continued to evacuate wounded till ordered to retire. He showed fine devotion to duty.

Captain Hugh Compson Trumble, A.A.M.C.

Under heavy enemy barrage he pushed forward some 600 yards with his medical personnel to a ledge, where by his capable organization he successfully evacuated quantities of wounded. He worked for three days and nights, and his quiet courage had an excellent effect on wounded and stretcher-bearers alike.

Captain Cecil McLaren West, R.A.M.C. (S.R.).

On three occasions he went through heavy shell fire to attend casualties in batteries which were under fire, the roads all the time being heavily shelled with high explosives, shrapnel, and gas shells.

Captain (acting Major) Maurice Ulick Wilson, R.A.M.C.

During an attack he continually attended wounded at the advanced dressing station, which was constantly under artillery fire (four shells dropped within a few yards of the operating table). The work was continued without cessation, so that 247 cases were evacuated in thirty-eight hours. He showed fine devotion to duty under very difficult circumstances.

The Military Cross is also awarded to temporary Quartermaster and honorary Lieutenant W. P. C. Thomas, R.A.M.C., for conspicuous gallantry and devotion to duty in evacuating wounded under sustained shell fire.

The Military Medal has been conferred upon one matron and five nursing sisters of the Canadian Army Medical Corps for distinguished service in the field.

The King has granted Miss Jessie Anne Scott, M.D., unrestricted permission to wear the Insignia of the Fourth Class of the Order of St. Sava, conferred upon her by the King of Serbia in recognition of services as the surgeon at the Scottish Women's Hospital at Ostrovo.

The name of Major (temporary Lieut.-Colonel) R. M. Barron, I.M.S., was incorrectly printed as Barrow in the *London Gazette* of March 26th, 1918, in the announcement of his promotion to be Brevet Lieut.-Colonel (BRITISH MEDICAL JOURNAL, April 6th, 1918, p. 411).

## NOTES.

### GASTRO-INTESTINAL DISEASES IN GERMAN SOLDIERS.

KORACH<sup>1</sup> of Hamburg has been impressed, in common with some other German observers, by the frequency among soldiers of an absence of free acid in the stomach or even a complete failure of gastric secretion. At least 25 per cent. of the men so affected had suffered from gastric troubles for years, and had been obliged to adopt a special diet. Some showed evidence of chronic mucous gastritis, but in the majority the secretory disturbance was an isolated phenomenon. Many as the result of the vicarious activity of the intestine escaped any serious nutritional disturbances and only a few developed gastro-genous diarrhoea.

A more important group of patients consisted of those whose gastro-intestinal functions had been perfectly normal until they had been sent to the front. In them the acute disturbance of gastric secretion was due mainly to hasty meals, insufficient mastication, immoderate smoking, and black coffee, milk being unobtainable. Other causes were the dehydration of the system caused by excessive sweating due to long marches and psychical factors such as fear or excitement. Korach considers that soldiers suffering from chronic absence of gastric secretion with gastro-genous diarrhoea are not fit for service at the front or on the lines of communication; they should be employed on home service in munition factories, and should not be kept for long periods in hospital.

The acute cases need treatment in hospital, where a special regimen can be carried out. A purely vegetarian diet has yielded satisfactory results, and spa treatment at warm sodium chloride springs has also been of service. Gastric ulcer occurred only in soldiers who had suffered for years from gastric troubles, which had been kept in check by following a strict regimen impossible in the army. Although a sufferer from gastric ulcer may "carry

<sup>1</sup> *Berl. klin. Woch.*, 1918, iv, 181-185.



on" at the front, as a general rule all cases of gastric ulcer and most cases of duodenal ulcer should, Korach thinks, be discharged as permanently unfit. In determining the fitness for service of sufferers from nervous dyspepsia, the medical officer should be guided by the state of nutrition, weight curve, and general psychical condition. Cases of pronounced neurasthenia or of hysteria with nervous dyspepsia were, it was found, better treated in general wards than special hospitals for gastric disorders. As the general condition improves the gastric symptoms subside, and the patients can unhesitatingly be declared fit for active service.

As regards the influence of war diet on gastric secretions, the reduction of meat, eggs, and fat in the diet, and their replacement by vegetables rich in cellulose, caused considerable changes in the secretions. Cooked vegetables are only feeble stimulants of the gastric secretion, while coffee, meat extract, fish and meat, which possess active stimulant properties, have to a great extent disappeared from the present German diet. The addition of meat to the diet for a short period frequently causes the secretory anomaly to disappear.

#### PHYSICAL RE-EDUCATION IN AMERICA.

Reports compiled at five general hospitals show the progress that is being made by the Reconstruction Division of the Medical Department of the United States Army. Of 537 cases sent to these institutions from Europe and base hospitals in the States, 151 are now able to return to full duty and 212 to partial duty. Only 39 of these men will be unable to follow their former employments. From the time the wounded soldiers have returned home an effort has been made to keep their minds and hands occupied. Curative education has been carried out with satisfactory results. The men have shown interest in "ward occupations," which consist of wood carving, knitting, weaving, block printing, bead work, embroidery, knotted work, typewriting, and educational work. When the men are able to leave the wards they are instructed in shops and schools. Quartermaster repair shops are placed near some of the hospitals, and these are used for instruction in mechanical occupations. Where opportunities for academic studies have been provided, the men have shown genuine desire to improve their minds with the object of enabling themselves better to succeed in civil occupations.

## Ireland.

#### CENTRAL MIDWIVES BOARD.

The following representatives of the medical profession are among the appointed members of the Central Midwives Board for Ireland: Dr. E. C. Bigger, appointed by the Local Government Board for Ireland; Dr. H. T. Warnock, appointed by the Local Government Board for Ireland after consultation with the county councils and county borough councils; and Sir A. J. Horne, Sir W. J. Smyly, Sir John W. Byers, and Professor H. Corby, elected by the registered medical practitioners resident in Ireland.

#### POOR LAW MEDICAL OFFICERS' SALARIES.

At a meeting of the Poor Law medical officers of the Omagh Union, Dr. Edward Thompson, D.L., in the chair, it was unanimously resolved that as the dispensary doctors had continued from a humane point of view to attend to urgent dispensary cases, and as the guardians had made no reasonable effort to meet the doctors' demands, on and after September 21st the doctors would be reluctantly compelled to cease all kinds of dispensary work in order to make their strike more effective. The remarks of the chairman at a recent meeting of the board were strongly condemned, inasmuch as he had drawn a comparison between the medical officers of the union and the assistant road surveyors, the latter only repairing roads, while the doctors were called at all times of the day and night to attend the sick and wounded and to relieve suffering. It was stated that an increase of 1½d. in the £ on the rates would give the doctors the maximum salary they demanded, and this they did not consider unreasonable, as the cost of living had increased by almost 75 per cent., and the cost of locomotion from 4d. to 9d. per mile. The dispensaries will remain closed during the week.

The Baltinglass board of guardians at their last meeting approved the following graded scale of salaries for their medical officers: Initial salary for all Poor Law medical officers in the union to be £175 per annum, with annual increments of £10 until a maximum of £250 is attained.

The scale would be applied retrospectively from the dates of their appointments, and the Local Government Board has been requested to sanction this scheme.

The Trim board of guardians have approved for their Poor Law medical officers initial salaries of £175 per annum, reaching a maximum of £350 after fifteen years, with retrospective application.

## Correspondence.

#### EARLY TREATMENT OF MENTAL DISORDER.

SIR,—Every man engaged in general practice must be glad to see the leading article in the JOURNAL of September 21st on the early treatment of mental disorder, which has been brought to notice by Dr. Easterbrook's interesting report. The same question has also been brought forward in Dr. Lionel Weatherly's recent book *A Plea for the Insane*. There are a few points which I as a general practitioner should like to emphasize. We all of course realize the extreme importance from everybody's point of view of treating mental disease in its very earliest stages, but there are difficulties in the way. First of all, the difficulty of recognizing the disease in its very early stages; and to the general practitioner falls this very difficult and important task. We as family medical attendants have opportunities that no one else can have, but unfortunately for most of us education and teaching in this particular work has been sadly deficient. Now that our system of education, both before qualifying and after, is, we hope, about to be reformed, it is a convenient time to press the claim of this particular branch of our study to greater consideration. Given the opportunity, I am sure that we should all welcome the chance of post-graduate clinics, when we might learn to recognize and to treat properly these patients.

But having found the disease, our next difficulty is to find the means of treatment. The asylum is worse than useless, so is the nursing home; there are practically no institutions where such cases, uncertified, can be taken. The "single house" is not always by any means satisfactory—it is too often run merely as a business concern pure and simple, or it is much too expensive for the majority of one's patients. We want a list of such houses published by some authority so that we might be able to say where they are to be found, and which are suitable for the early cases; but none of these things are possible until the law is altered, and simple notification allowed instead of that unfortunate certification which under the present circumstances too often damns a patient for life. The present state of affairs is often most distressing to every one concerned; at times it practically means having to wait until a case is worse before proper treatment can be obtained, and then it may easily be too late. It is just as if there was a law that a hernia was not to be operated on until it was strangulated, or a consumptive admitted to a sanatorium until the lung tissue was breaking down.

To one who is not a lawyer the required change in the law books is obvious, and so simple that it is astonishing that it has not been made before.—I am, etc.,

Bradford-on-Avon, Sept. 24th.

CHARLES E. S. FLEMMING.

#### ATTENDANCE OF R.A.M.C. OFFICERS AT SCIENTIFIC CONGRESSES.

SIR,—While serving as Surgeon-General of the 2nd Army Corps it was my duty to inspect very many hospitals and meet and consult with many medical officers as to the treatment of sick soldiers in their charge over a large English area. To keep pace with scientific progress I proposed to attend the annual meeting of the British Medical Association as usual, and on my return to give the inspected officers any opinions gathered at the meeting.

As this was a public duty I applied to my military chief, Field Marshal Sir Evelyn Wood, to submit my claim for travelling and personal allowance to the War Office for sanction. In my opinion, as a student of the military history of England, no more generous hearted or more considerate military chief than Sir Evelyn Wood has ever appeared in the British military service at any epoch. He is and ever was a true friend of the soldier.

When the letter reached the War Office the eternal



"No" came back as a reply. It was the rubber-stamp word of that epoch in the War Office.

Of course I went to the annual meeting, attended the conferences, and in due course returned to my command, and, where needed, referred to what I had heard and seen. I paid my own expenses.

I propose now to put a stop for ever to any such refusals to pay the charges of officers attending scientific meetings. Here is the scheme. Five thousand pounds or other agreed on sum to be placed yearly to the credit of the Director-General Army Medical Service. He, and he alone, to have the power of allotment of sums of money to chosen officers to attend meetings, to visit foreign armies and make special technical reports, and also to visit countries liable to be future theatres of war, and to furnish helpful notes as to conditions existing there. This sum will be well invested by the nation if it encourages our able young officers to see the world and make special studies for the public good.

To me personally in the past such grants would have been very acceptable indeed in my scientific visit to Bagdad and Mesopotamia generally in 1873, and to numerous foreign armies of the world after that year. Not only did I receive no grant in aid, but my valuable sanitary and descriptive report on Mesopotamia, compiled after an expensive journey, has not been reprinted for the present war; nor is it even known to exist by average officers. Yet it was compiled after personal investigations made on the spot, and favourably reviewed by the *Times* in 1876.

I would give further power to medical directors of military districts to call up once or twice a year the medical officers of their command to a central place, and to provide lectures and discussions by specialists of standing for a three or four days' session for them. It is a mistake to imagine that we have exhausted the resources of civilization; we are only at the beginning of things in such matters.

What we need is definite power in the hands of the D.G.A.M.S. to foster and develop our scientific personal readiness for any duty in peace or war. If he is a failure then we all fail. I would throw the financial responsibility for the distribution of these scientific grants in aid entirely on the shoulders of our medical Director-General. —I am, etc.,

GEORGE J. H. EVANS, M.D.,

Junior United Service Club,  
London, September, 1918

Major-General (R.P.),

#### THE FUTURE OF THE MEDICAL PROFESSION.

SIR,—I have recently pointed out that the Royal Society of Medicine is in an exceptional position to bring together all important sections of the profession to consider what changes in the organization of medicine are necessary to meet the new needs of the time. May I recur to the subject and state my reasons a little more at length?

We are obviously on the eve of great changes in the organization of medicine and its relations to the State, changes which may profoundly affect the future well-being of the nation. The Government has a measure in hand whose provisions may be exceedingly far-reaching, and this measure it is keeping secret from the profession. We cannot forget that on the last occasion when the Government pursued this subterranean policy the proposals were the worse for it and their amendment was imperfect.

It cannot be too clearly enunciated that we medical men are alone in possession of that completeness of knowledge requisite to the determination of what is or is not wise in the way of medical organization and of the relations of medicine to the State. This knowledge implies a national duty, and we are bound to ask ourselves what has been done to bring together all responsible and capable British medical opinion to prepare for such legislation and advise upon it.

I understand that a very excellent committee of the British Medical Association is considering the matter and that the two London Colleges have also appointed a joint committee; further, that there is a likelihood of these two committees conferring with each other.

Now I should be sorry to say a word which could be construed into disrespect of these committees. It would indeed be absurd to treat them otherwise than with

deference. But can they be regarded as sufficient? I think not, and for these reasons: What is needed is a body of medical opinion, widely representative, collectively non-political, avowedly scientific, and commanding the confidence of both the public and the profession. Moreover, here arises a fundamental question. Is this matter of medicine and the State a question of England, or Britain, or of the British Isles, or of the whole empire? I strongly hold it is an imperial question. Even if public health administration throughout the empire is to be run in geographical water tight compartments, the method of one compartment will presently affect all. I feel sure that what is wanted is an imperial medical council, with representatives from all parts of the empire, to consider the proper directions and limits of medical legislation. The British Medical Association provides, it is true, an empire-wide deliberative body, but it is regarded, and rightly regarded, both by the public and by the profession as a political body entrusted with the special interests of the medical profession; the public therefore cannot be expected to look to it for unbiassed guidance. The two English Colleges, highly distinguished as they are, are only two, and are only English. Furthermore, these two separate committees supply no "unity of command."

The only body we possess which is professionally imperial, obviously non-political and recognizedly scientific, already representing all important scientific medical activities, is the Royal Society of Medicine. It stands out as the one body capable of co-ordinating and unifying throughout the empire medical opinion on this vastly important subject with the requisite prestige and measure of public confidence.

To object that such a function is outside its scope is, I submit, to misunderstand the whole position. If the problem is to be solved safely, it must be solved scientifically. It must not be solved politically.

On such a council the British Medical Association and the two English Colleges would, of course, be represented, and I imagine that these bodies would willingly co-operate in calling the larger council into existence. It seems to me the proposal is one which merits consideration. We have at present excellent representatives available from every part of the empire. I cannot but think that if British medicine, through lethargy, war-tiredness, defect of outlook, or any other misfortune, should fail to rise to the height of this great occasion and to take the lead where its leadership is so clearly called for, it will deserve whatever evil may befall it, and will earn the condemnation of thinking people. "There is a tide in the affairs of men." —I am, etc.,

Exeter, Sept. 19th.

W. GORDON.

#### SEX RATIO AND SEX DETERMINATION.

SIR,—In your issue of September 21st, 1918, I note a short editorial article under the heading of "Determination of Sex," based on the work of Dr. Siegel as analysed by Dr. Ada Nilsson. The paper is apparently published in Swedish, and consequently, as I have no knowledge of that language, the actual material on which the rather sensational deductions are based is denied me. Still I have little hesitancy in saying that even if the observations are accepted, the conclusions drawn must be incorrect. The facts stated are so striking that they must have some reflection in the lower animals. Observation on the period between the pro-oestrus and coition and sex of resulting offspring have been made frequently, and no abnormal sex ratio has been noted. There is evidence to believe that an oestrus exists in the human female; at any rate, it is a matter of common knowledge that coition is more apt to occur during the period to which it corresponds—that is, during the first post-menstrual week than during the seven days preceding the monthly period. Hence the proportion of males to females in our population should be about six to one. It is to be regretted that much confusion arises from the fact that sex determination is only one of many circumstances which contribute towards the sex ratio at birth. If we wish to investigate this interesting problem in man we must retrace the road which nature has already followed before we claim that a factor has been discovered which influences the chances of a male or female being produced. The following circumstances, therefore, would need consideration:



1. The ratio at birth may be considerably modified by a pre-natal differential death-rate. The statistical records of Paris, Hamburg, Copenhagen, and other cities furnish data which show beyond question that more male than female conceptions are lost in the pre-natal period, and from calculations that I have made, based on these and other figures, it seems likely that the sex ratio at conception is approximately three males to two females.

2. It is possible - here of course we have no data - that the female conception may graft itself on to the lining membrane of the uterus more easily than the male.

3. There is reason to believe, though I am unaware of any reliable series of figures, but am basing this statement on the opinion of breeders of animals and also that of some of my medical colleagues, that the gestation period for males is slightly longer than that for females. If we accept that there is anything up to a five-day difference, then I think that the facts narrated in the paper mentioned can be easily explained.

For example, if a group of women are at risk for fourteen days, and to get the exact day at which conception occurred, we take 280 days for all births, and if in fact the females only took 278 days in gestation and the males 282, then our records would show that the majority of boys were conceived during the first portion of the fourteen days, and the majority of the girls during the latter part of that time. Personally, I am inclined to believe that this is the correct explanation of the facts narrated. Whether this is so or not, the contention still remains that the research as it stands concerns sex ratio only; it cannot concern sex determination until all secondary factors have been considered and allowed for. To exemplify this point further, I may quote Hertwig's experiments with the frog, where he showed that if fertilization is delayed for sixty-four hours, the proportion of males to females rises to seven males to one female. Kuschakevitch, extending the period to eighty-nine hours, got a pure male colony. In man, when allowance is made for the secondary factors influencing the sex ratio, a female excess should occur in elderly parturients. In actual fact, we find a slight tendency to a male excess. It is easily conceived that the movements of the female genitalia are not so active at this period as during earlier years, and hence a certain delay in the fertilization of an ovum may occur, and, as in the frog, there is a rise in the male-female ratio. This, of course, is a question of sex determination.

What has been discussed in Dr. Siegel's work would seem to be a question of sex ratio, arising in all probability from the slightly different gestation periods for the male and female. Even if this is so, the work is of considerable importance, as I believe this is the first occasion on which a statistical attempt has been made to estimate accurately the period of gestation in man.—I am, etc.,

R. J. EWART, M.D.,

September 26th.

Medical Officer of Health, Barking.

## THE TREATMENT OF SCARLET FEVER IN THE PATIENT'S HOME.

SIR,—An article was published in the BRITISH MEDICAL JOURNAL of August 13th, 1887, p. 351, in which I advocated the use of carbolized oil in the treatment of scarlet fever. The details are given in the article, "The prophylactic advantages of the early and continued use of carbolized oil in scarlet fever." In a letter by Dr. Watson of Belfast, published in the JOURNAL for September 14th, he strongly urges the adoption of the "Milne method," in which eucalyptus oil is used. Personally, I prefer carbolized oil. Anyhow, my experience confirms all that Dr. Watson says. After over thirty years' experience, I am convinced that scarlet fever can be treated in the home, if the instructions are carefully carried out. In my annual report for Bacup for 1913 I make the following statement *re* scarlet fever: "There were 79 cases notified during the year. All were of a mild character, none fatal. For over twenty seven years we have supplied to all families 'carbolized oil' for rubbing over the body, with excellent results. It is very rarely that a second case occurs in the same family, if the instructions are thoroughly carried out. None of the patients are removed from their homes." Scarlet fever, like some other infectious diseases, is of a much milder

type. I earnestly hope that Dr. Watson's appeal for its more general adoption will find general support. - I am, etc.,

Blackp 61, Sept 23rd.

JOHN BROWN, M.D.

SIR,—The treatment of scarlet fever and its results have always been of interest to me, as the two districts, separated by a railway, into which this practice falls, show different results. On the north side, in eighteen years there has been no death in cases treated at home. On the south side, about sixteen years ago, one death occurred from a bronchopneumonia in a child. Of other two cases, one, of pneumonia, died in seven days. Her sister developed the rash of scarlet fever on the day of burial, a fact that strengthened the diagnosis of scarlet fever in the dead child.

The second case had a pleuropneumonia, with opisthotonos, simulating cerebro-spinal fever. His brother, I think it was, developed the rash of scarlet fever, and was seen by the medical superintendent of the fever hospital before removal.

Beyond these three cases there have been no deaths, in a fairly extensive practice. The sequelæ have been almost *nil*, and the complications as few. The treatment is—an upstairs room, a wooden floor, bed, plain food, and, as medicine, liquor ferri perchloridi in water. No case, *after treatment*, has been followed by a second in the family, except once, during an epidemic. Though not perfect, the results are fairly good.—I am, etc.,

H. Carey, Barrington, Mass., Sept. 17th

JOHN W. DUNN, M.B.

## FACIAL PARALYSIS.

Sir,—Lieut.-Colonel Dennis, writing in the *JOURNAL* of September 21st, rightly insists upon the importance, in Bell's palsy, of antagonizing the pull of the muscles on the sound side of the face. This end can be achieved in a very simple way—namely, by applying a narrow slip of (flesh-coloured) plaster, on the paralysed side, from the angle of the mouth to the lobe of the ear, or thereabouts. By suitable adjustment perfect symmetry can in this way be obtained. The plaster admits of ready removal and application.—I am, etc.,

London, W., Sept 24.11

HARRY CAMPBELL.

THE CENTRAL POOL.

SIR,—I have read with interest the report by the Insurance Acts Committee on the method of calculating the remuneration of doctors under the Insurance Acts (M.3/1918-19). It is a very clear statement of the method by which the Central Pool is made up and distributed. The chief difficulty, I have always felt, is that areas whose index register is kept as accurately as possible are penalized in favour of areas where the register is kept carelessly. Undoubtedly the best and cheapest plan would be for the Government to take over the full working of the Insurance Act and do away with the cumbrous, expensive, and unsatisfactory machinery of approved societies. This must be done if the Act is amended, as it should be, in favour of the dependants of persons at present insured.

The plan suggested by the Government actuary that our basis of payment should be the number of Insurance stamps sold in a year would be disastrous to us. To put 9s. into the pool for medical benefit for each fifty-two stamps presupposes that every insured person is at work every week in the year, and would mean, for instance, that only 4s. 6d. would be put in the pool for a man who was ill and under medical treatment for six months in the year and corresponding amounts for longer or shorter illnesses, or periods of illness through want of work or strikes. This suggestion should therefore be ruled out at once as untenable.—I am, etc.,

North Shields, Sept 24th.

F. C. MEARS.

## THE OPERATION FOR VARICOSE VEINS.

SIR,—In the JOURNAL for September 14th, p. 286, Mr. F. J. Steward describes a method of operating with the technique of which I fully agree, but he omits one point which appears to me an essential feature for permanent success. It is ligation of the saphenous vein at the top of the thigh. I never operate, even on slight cases, without



doing this, for the valves are pretty sure to be inefficient in all cases of varicose veins lower down, whether the saphena itself appears to be dilated or not.

I first saw the operation for varicose veins done by the late Sir Henry Greenaway Howse at Guy's, about the year 1878, and I have certainly done it some 500 times since. Sir Henry Howse used the tourniquet, but he applied no ligature whatever, trusting entirely to a firm bandage. At that time ligature was never used at Guy's. Even in continuity a surgeon would cut an artery and twist both ends. Later, when the value of absorbable ligature was recognized, no doubt he, like the rest of us, made use of it.—I am, etc.,

Liverpool, Sept. 24th.

FRANK T. PAUL, D.Sc., F.R.C.S.

## The Services.

### ROYAL AIR FORCE MEDICAL SERVICE.

#### CONDITIONS OF SERVICE.

WE have received from the Air Ministry, for publication, the following memorandum, which has been issued this week, with regard to the terms and conditions of service in the Royal Air Force Medical Service.

#### General.

1. For the present two main, or special, divisions of the medical work of the Royal Air Force will be recognized, namely—

- (a) Care of the effective personnel, and
- (b) Care of the non-effective personnel.

2. The former may be considered to represent the hygiene and preventive side of the work and to include such special subjects as selection and care of the flying personnel, maintenance and improvement of the physical efficiency of all ranks, sanitation, etc. The latter represents the curative side of the work, and certain subdivisions that Air Force experience has shown to be necessary will be recognized—namely, neurology, surgery of the eye, throat, nose, and ear, and plastic surgery, etc., in addition to general medicine, surgery, and pathology.

3. Subject to the exigencies of the service, a medical officer will be selected for, and eventually allocated to, work in the subdivision for which his ability best suits him. Since, however, the success of any special work in the Air Force will depend upon a sound knowledge of the conditions of life of the effective personnel, medical officers will not be earmarked for one of the special subdivisions of the medical service until selected for the higher or Grade A pay (vide Appendix II).

4. While it would be impossible for the Air Council to give any guarantee that an officer will be employed continuously on a line of work in which he happens to have acquired special knowledge, the endeavour of the Administration will be in this direction.

5. It should also be generally realized by medical officers that the direction, or administration, of the divisions and subdivisions will be entrusted to those whose special knowledge of the subject or subjects will ensure the best technical control.

6. It will be observed (para. 21 and Appendix II) that the system of charge pay as in vogue in the Navy and Army Medical Services has been replaced in the Air Force Medical Service by a system of special merit pay. An officer once selected for Grade A pay will draw such pay for a probationary period of one year, and if then confirmed, will, except in the case of incompetence or misconduct, continue to draw this pay however employed until promoted to the next higher rank, when he will be placed in Grade B until again selected for Grade A.

7. An officer appointed in charge of a hospital or other unit which in the navy or army would carry charge pay, or which previously was held by an officer drawing Grade A pay, is not thereby entitled to Grade A pay; nor will seniority of itself entitle an officer to Grade A pay.

8. A limited number of commissions as administrative officers (medical) will be available, and warrant officers and non-commissioned officers transferring from the R.A.M.C. or entering the R.A.F.M.S. direct will be eligible for promotion to these appointments.

9. Particular attention is drawn to the difference between the terms "transferred" (as applied to temporary officers), and "attached"; the former implies relinquishment of any temporary commission held at the time of transfer; the latter is analogous to seconded service and enables the officer in question to return to his original service at the end of a stated period without loss of seniority or pension in respect of such attachment.

10. Permanent commissions will not be granted at present and the conditions of service and scales of pay set out in this memorandum will be subject to revision at the end of the war, or before that time if the Air Council so decide. When a permanent Air Force Medical Service is established previous experience as medical officer in the R.A.F. will be taken into account in granting such permanent commissions.

#### Duration of Service.

11. No person will by reason of attachment or transfer to the R.A.F. become liable for service with the forces for a longer period than that for which he would have been liable had such attachment or transfer not taken place.

12. Subject to para. 11, permanent officers of the Royal Navy, including officers who have joined the Reserve of Medical Officers from the permanent list, and Royal Naval Volunteer Reserve medical officers, will be attached to the R.A.F. for a period of three years or the duration of the war, whichever is the longer. Regular and Territorial officers or members of the Special Reserve of the R.A.M.C. will be attached to the Royal Air Force for the duration of the war (7070, 18).

[Note.—Officers who are seconded from the navy and army will receive assurance in writing that their prospects of promotion by selection in their own service will not be prejudiced.]

13. Subject to para. 11, temporary medical officers of the Royal Navy or Royal Army Medical Corps, and dental surgeons, will be transferred to the Royal Air Force for the remainder of the period for which they were liable to serve with the Royal Navy or R.A.M.C., as the case may be.

14. Subject to para. 11, R.A.M.C. orderlies will be transferred to the R.A.F. for the remainder of the period for which they were liable to serve with the R.A.M.C.

#### Rank.

15. Promotion to ranks above that of captain in the R.A.F. Medical Service will be by selection to fill vacancies in the establishment.

16. On attachment or transfer to the R.A.F. officers will receive temporary commissions in the R.A.F., with rank corresponding to their rank, substantive or temporary, prior to attachment or transfer, as shown in Appendix I.

17. An officer attached to the R.A.F. receiving promotion in the navy or army during such attachment will receive corresponding rank in the R.A.F. and be held supernumerary to the establishment until a vacancy occurs in such higher rank in the R.A.F. for which he may be selected.

18. Officers lent to the R.A.F. becoming attached or transferred to the R.A.F. will receive seniority in the R.A.F. from April 1st, 1918, and will be placed upon the R.A.F. list in order, based on their seniority in the service from which they are attached or transferred.

19. R.A.M.C. orderlies transferring to the R.A.F. will be graded in ranks corresponding to their rank in the R.A.M.C.

#### Pay, Allowances, and Gratuity.

20. Officers attached to the R.A.F. will be paid at the rates set out in Appendix II (Grade B) subject to reserved rights as in para. 29.

21. A proportion of officers will be selected for pay at the higher rate (Grade A) on the recommendation of the Medical Administrative Committee. The Committee will take into consideration—

- (a) Length of service.
- (b) War or specially meritorious service with the R.N.A.S. or R.F.C.
- (c) Medical qualifications.
- (d) Any other special service or qualification possessed by the officer in question.

The names of all officers transferred or attached will be periodically considered for selection to Grade A.

22. Medical officers attached to the R.A.F. will receive allowances on the scales laid down for corresponding ranks in the R.A.M.C. These allowances may be varied from time to time to meet the conditions prevailing in the R.A.F., but are at present similar to those issued to army officers.

23. Temporary medical officers, both R.N.A.S. and R.A.M.C., transferred to the R.A.F., if not above the rank of captain, will be paid at rates similar to the rates paid to temporary medical officers of the R.A.M.C.—namely, 24s. a day inclusive of all allowances except—

- (a) Ration allowance when rations are not issued in kind.
- (b) Travelling allowances and expenses when travelling on duty.

24. Temporary medical officers with the rank of major (or senior to major) transferred to the R.A.F. will receive pay at the rates for medical officers as shown in Appendix II, Grade B or A, as the case may be. This also applies to promotions after transfer.

25. Dental surgeons transferred to the R.A.F. will receive pay at rates similar to the rates paid to dental surgeons in the army inclusive of all allowances except travelling allowances and lodging, fuel and light allowances when quarters are not found, and they are required to live away from their usual place of residence in civilian life.

26. Temporary medical officers of the R.A.M.C. transferred to the R.A.F. will receive such proportion of their annual gratuity of £60 as has accrued up to the date of transfer, and will hereafter receive a gratuity at the rate of £60 for each year's service in the R.A.F. This gratuity is awarded under the terms of the contract set out in Appendix III.

27. R.A.M.C. orderlies transferred to the R.A.F. will receive pay at the rates they were receiving in the R.A.M.C. as corps pay and basic pay. A special rate of pay for R.A.F. medical orderlies is under consideration.

28. Temporary medical officers of the Royal Navy transferred to the R.A.F. will receive a gratuity of £60 for each year's



satisfactory service (vide Appendix III) with the R.A.F., subject to a minimum of two months' pay at R.N. rates.

29. While it is impossible to pledge the future as to the prospect of individuals, and while reasonable latitude must be allowed to the Air Council to deal with any privilege or emoluments which are not subject to vested rights, it may be taken as a general principle that no person will suffer loss of emolument or pension by reason of attachment or transfer to the R.A.F.

30. In pursuance of this principle, any person becoming attached or transferred to the R.A.F. will continue at the rate of pay he was already receiving where such rate was higher than the rates set out in this memorandum.

31. An outfit allowance of £25 will be granted to officers becoming attached or transferred from the Royal Navy, and £10 in the case of officers becoming attached or transferred from the Army. Officers becoming attached or transferred from the Royal Navy with the rank of field officer in the R.A.F. will receive an outfit allowance of £30.

32. Officers having already received an allowance for khaki uniform in the Royal Navy will receive only £10.

#### APPENDIX I.

Rank in R.N.	Rank in R.A.M.C.	Rank in R.A.F.
—	Lieutenant.	Lieutenant.
Surgeon.	Captain.	Captain.
Staff Surgeon.	Major.	Major.
Fleet Surgeon.	Lieut.-Colonel.	Lieut.-Colonel.

#### APPENDIX II.

*Daily Pay for Medical Officers (excluding Temporary Medical Officers under the Rank of Major).*

Rank.	Grade B.	Grade A.
Lieutenant.	14s.	—
Captain.	16s. and 19s.	22s.
Major.	24s.	27s.
Lieut.-Colonel.	35s.	40s.

#### APPENDIX III.

The form of contract (A.M. Form 161) "for gentlemen subject to the Military Service Acts" is in the following terms:

*To His Majesty's Principal Secretary of State for the Royal Air Force.*

I, ....., being qualified to practise medicine and surgery, and being registered under the Medical Act now in force in the United Kingdom, hereby offer and agree if accepted by you to serve at home or abroad as a Surgeon to His Majesty's Forces with the temporary rank of Lieutenant in the Royal Air Force while so employed, on the following conditions:

1. The period of my service hereunder shall commence as from the day on which I shall commence duty, and shall continue until the termination of the present emergency, or until my services are no longer required, whichever shall first happen.

2. My pay shall (subject as hereinafter appears) be twenty-four shillings a day for the said period, such rate to be inclusive of all money allowances, except the regulated Travelling Allowances and expenses when travelling on duty.

3. In addition to such pay, I shall receive a free passage to any country abroad to which I may be sent, and (subject as hereinafter appears) a similar free passage back to England.

4. I shall receive free rations, or an allowance in lieu thereof, and when considered necessary for the performance of my duties the use of a Government horse and forage.

5. During the said period I will devote my whole time and professional skill to my service hereunder, and will obey all orders given to me by superior Air Force, Naval or Military Officers.

6. In case I shall have completed my service hereunder to your satisfaction in all respects, I shall receive at the end of the said period a gratuity of £50 sterling for each 12 months or part thereof, but in case I shall in any manner misconduct myself, or shall be (otherwise than through illness or unavoidable accident) unfit in any respect for service hereunder, of which misconduct or unfitness you or your authorized representative shall be sole judge, you shall be at liberty from and immediately after such misconduct or unfitness to discharge me from further service hereunder, and thereupon all pay and allowances hereunder shall cease, and I shall not be entitled to any free passage home or gratuity.

DR. ABRAHAM JACOBI has accepted the office of honorary president of the Friends of American Democracy, an association of Americans, mostly of German descent, who are in favour of the overthrow of the Hohenzollern rule. Dr. Jacobi, who is a leading authority on children's diseases, was born at Minden in Westphalia on May 6th, 1830. He took the degree of M.D. at Bonn in 1851, and soon afterwards got into trouble with the Government on account of his political views. After an imprisonment which lasted two years he went to America where he became professor of paediatrics in the New York College of Physicians and Surgeons.

### MEDICAL BENEFIT REGULATIONS, 1918.

The National Health Insurance Joint Committee, acting jointly with the Insurance Commissioners, has made draft regulations providing that the Medical Benefit Regulations, 1914, which relate to the power of Insurance Committees to alter the terms of their agreements with practitioners and persons supplying drugs or appliances, shall continue in force during the year 1919.

It is also provided that where, by reason of his being employed in the medical service of the Naval, Military, or Air Forces of the Crown, or by reason of his having undertaken civil medical practice under arrangements made or sanctioned by the Director-General of National Service, a practitioner on the panel is, during the month of November, 1918, unable personally to practise within the area in which he has undertaken treatment, an insured person on the list of such a practitioner shall not be entitled to select another practitioner or method of treatment at the end of the medical year ending on December 31st, 1918, unless, in addition to giving notice to the Committee in the manner and within the period required by paragraph (1) of Article 30 of the principal regulations, he satisfies the Medical Service Subcommittee of the Committee that he has reasonable grounds for desiring to be removed from the list of such a practitioner, and paragraphs (1) and (3) of Article 30 shall be modified accordingly. But nothing contained in this provision will affect the right of an insured person under Articles 26 and 45 of the principal regulations to be transferred to the list of another practitioner on the panel subject to the conditions contained in those Articles.

### Obituary.

CHARLES DEVEREUX MARSHALL, F.R.C.S.,  
Surgeon to the Royal London Ophthalmic Hospital;  
Staff Surgeon R.N.V.R.

We much regret to record the death from cholera at the Colaba War Hospital, Bombay, on September 14th, of Staff Surgeon Charles Devereux Marshall, R.N.V.R., the well known ophthalmic surgeon. He was born in 1867 at Portsmouth and was the younger son of the late W. Marshall, solicitor of that town. He was educated privately and studied medicine at University College Hospital, obtaining the M.R.C.S. and L.R.C.P. diplomas in 1890 and the F.R.C.S. two years later. After qualifying he held the posts of demonstrator of anatomy in the medical school of University College Hospital and professor of anatomy at the Royal College of Surgeons, house-surgeon to University College Hospital, and ophthalmic house-surgeon and curator of the museum at the Royal London Ophthalmic Hospital, Moorfields. He was later appointed assistant surgeon, and subsequently surgeon, to Moorfields, and ophthalmic surgeon to the Victoria Hospital for Children at Chelsea. During these years he built up a large consulting ophthalmic practice in London. He was a very skilful operator and a good teacher and lecturer. In 1904 he joined the Royal Naval Volunteer Reserve; he was called up for service on August 2nd, 1914, and joined H.M.S. *Euryalus* at Chatham. In this ship he was present at the battle of Heligoland Bight, and served in the defence of home waters for some months afterwards. In 1915 he was present at the historic landing at Suvla Bay and throughout the Gallipoli operations until the evacuation. After this he saw much service in the East Indies, and was present at some of the operations in Mesopotamia, going up the Tigris as far as Bagdad in the river gunboats. At the time of his death he was serving in H.M.S. *Dalhousie*.

Charles Devereux Marshall was a fluent writer, and made many contributions to the literature of ophthalmology. He was a valued contributor to the columns of the BRITISH MEDICAL JOURNAL, and was the English correspondent to various foreign ophthalmic journals. In 1912 he published a work on diseases of the eyes—a thoroughly practical textbook for students. At the annual meeting of the British Medical Association at Ipswich in 1900 he was secretary of the Section of Ophthalmology, and he was vice-president of that Section at the Sheffield



meeting in 1908. He was an enthusiastic yachtsman, and sailed his own yacht for many years.

Dr. F. W. EDRIDGE-GREEN, Chairman of the Ophthalmic Board, Central London Recruiting Boards, writes: It is with the deepest sorrow I have just heard of the death of Mr. Devereux Marshall. I have never met a man for whom I felt more respect. Though I knew him intimately I did not know how extremely brilliant he was as an operating surgeon until I became an ophthalmic surgeon in the National Service, and on several occasions I have shown to various members of the boards cases of his as absolutely perfect results of operation for cataract, etc. He did for me the experiment which demonstrated the diffusion of the visual purple into the fovea—an experiment of such superlative difficulty that nearly every one declared it to be impossible. His small book on diseases of the eye is probably the best that has been written for the general practitioner.

ROBERT JESSOP HAMILTON, F.R.C.S. (Edin.),  
Ophthalmic Surgeon, Royal Southern Hospital, Liverpool.

THE sudden death of Mr. R. J. Hamilton, on September 16th, came as a shock to his professional brethren and his many friends. He passed away in his sleep at Heswall, where he had been residing during the summer months, at the same time carrying out his professional duties. Mr. Hamilton was the son of the late Mr. Robert Hamilton, at one time surgeon to the Royal Southern Hospital. For over twenty-one years he practised ophthalmology, and, in addition to the Royal Southern Hospital appointment, was ophthalmic surgeon to the Victoria Hospital, Liscard, and to the Southport Infirmary. As a member of the Liverpool Medical Institution Mr. Hamilton frequently took part in discussion on eye cases recorded and shown at the meetings of the members. He held the post of vice-president in 1915-1916, and filled the office of treasurer to the institution. Mr. Hamilton was of a quiet disposition, and took no active part in public matters; as a churchman he was much interested in the building of the new cathedral. The funeral took place at Heswall Parish Church. Many of his colleagues of the hospitals to which he was attached and friends were present to pay their last tribute to one who had endeared himself by his kindly thoughts and actions to many who had sought his professional aid. The loss of his only son in March this year in the war was a great blow for him. Mr. R. J. Hamilton was a widower, and leaves two daughters and many friends to mourn his loss and cherish the memory of a life well spent.

WE regret to have to record the death of JOHN MERRITT CHISHOLM, M.A., M.D., on September 12th, from pneumonia, which attacked him on a visit to his relatives in Edinburgh. Dr. Chisholm was one of the oldest practitioners in Woolton, where he settled down in practice thirty-six years ago. He qualified M.R.C.S. in 1878, and took his M.D. degree in 1882. He was visiting medical officer to the Liverpool Convalescent Hospital at Woolton and police surgeon for the district. Dr. Chisholm's extensive practice prevented him from associating himself with medical matters outside purely professional work. By nature of a quiet disposition, he was not as well known to his professional brethren as would have been expected in one who had been so long in practice. A memorial service was held in Woolton Church at the time of his funeral in Edinburgh. Representatives of the institutions with which Dr. Chisholm was identified and many friends were present in Woolton Church to pay their last respect to one whom the Venerable Archdeacon Howson described "a wise doctor, a kind friend, and consistent Christian." Dr. Chisholm was unmarried.

WE regret to announce the death of CLARA HIND, L.R.C.S., L.R.C.P. (Edin.), of Ockley Sanatorium, Surrey. This very active medical woman fulfilled her own ideal by "dying in harness." She was one of the energetic pioneers who trained at the Royal Free Hospital and the London School of Medicine for Women in the latter years of the last century. Earlier in life Miss Clara Hind was a hospital nurse at Nottingham, where she remained for some years after completing her training, and was then

appointed matron of the Clapham Maternity Hospital. For five years she held this post, and her excellent nursing and management did much to win the confidence and love of the patients, while her help in the training of women medical students and midwives in midwifery was invaluable. She never lost her touch with this hospital, and later became a physician to the out-patient department, and also a trusted and valued member of the committee, by whom her loss will be deeply felt. From the date of qualifying as a doctor in 1901 she devoted herself especially to the treatment of tuberculous patients in open-air sanatoriums. She was resident physician for some years at Rudgwick Sanatorium and was for the last fifteen years the resident doctor at her own sanatorium at Ockley. She passed away on September 16th, after a severe operation, deeply regretted by relatives, friends, and patients, many of whom were present at her grave in the quiet country churchyard at Ockley.

Dr. EDWIN HARRY DAVIS, J.P., of West Hartlepool, past president of the North of England Branch of the British Medical Association, died on September 12th, after a long and painful illness. He received his medical education at St. Thomas's Hospital, and obtained the M.R.C.S. diploma in 1873, and the L.S.A. in 1874. He began practice in West Hartlepool thirty-five years ago, and from the first took a leading part in the life of the town. For many years he was a member of the old School Board and its successor the Education Committee, and of the Board of Guardians, and in 1893 he was made a Justice of the Peace for the borough of West Hartlepool. He was consulting surgeon to the Cameron Hospital, and had held the office of president of the Northumberland and Durham Medical Society. Dr. Davis had a large practice, and exercised much influence in the social and religious life of the district.

THE death is announced of Dr. HENRY BEALE COLLINS, for twenty-six years medical officer of health for Kingston-on-Thames and president of the former Thames Valley Branch of the British Medical Association. He was born in 1851. After studying medicine at King's College Hospital he qualified M.R.C.S. and L.S.A. in 1873, and joined the Royal Navy as a surgeon, holding for a time the post of assistant instructor in naval hygiene at Haslar. He served with the Perak expedition in 1875, taking charge of a hospital for invalids, and he was medical officer in the *Cockatrice* at Galatz from 1878 to 1880. After retiring from the navy he devoted himself to public health. He was twice president of the Home Counties Branch of the Incorporated Society of Medical Officers of Health and a member of the council of the Institute of Public Health. Sixteen years ago he published a small work on the hygiene of schools and scholars. He held a commission as major *à la suite* in the sanitary section of the R.A.M.C. (T.F.).

THE death occurred on September 22nd, at a nursing home in Glasgow, of Major ALEXANDER JOHNSTON, M.D., R.A.M.C. He graduated in medicine in the University of Glasgow in 1883, and was for twenty-two years physician-superintendent of the city hospitals of the Glasgow Corporation. He also held the office of deputy medical officer of health for Glasgow, and lecturer on infectious diseases in the University. He published several papers and reports on epidemiology, and was recognized as an authority on infectious diseases. In April, 1915, he placed his services as a specialist at the disposal of the War Office, and was subsequently appointed officer commanding the military isolation hospital at Aldershot, with the temporary rank of major. His widow is the daughter of Dr. Richard Allan, M.O.H. Dumbarton.

Dr. PAUL LUCAS CHAMPIONNIÈRE, editor of the *Journal de médecine et de chirurgie pratiques*, died suddenly a short time ago at La Baule. He was the son of Just Lucas-Championnière, member of the Institute of France and surgeon to the Paris Hôtel-Dieu, who took a leading part in the introduction of Listerism among his fellow countrymen. Dr. Just succeeded his father, who founded the journal in 1830, in the editorial chair, which he



occupied from 1870 till his death in 1913, when his place was taken by the representative of the third generation of the family.

DR. LEOPOLD MEYER of Copenhagen, who died recently at the age of 65, was a distinguished obstetrician and gynaecologist and a recognized authority on abdominal surgery. He was the author of a treatise on the pathology of pregnancy, published in 1906, and a textbook on midwifery, which appeared in 1914.

## Universities and Colleges.

### UNIVERSITY OF CAMBRIDGE.

The Raymond Horton-Smith Prize for the best thesis for the degree of Doctor of Medicine during the academic year has been awarded to Frederick George Chamberlain, M.A., M.D.; subject, *Empyema. Pathogenesis*. William Parr Morgan, M.A., M.D.; subject, *Artificial Pneumothorax in the Treatment of Pulmonary Tuberculosis*.

## Medical News.

"OUR DAY," which is set aside each year for a great effort on behalf of the British Red Cross and Order of St. John, will be held on Thursday, October 24th.

THE opening of the new session at King's College Hospital Medical School, University of London, will take place on Tuesday, October 1st, at 5.15 p.m., under the presidency of Viscount Hambleden, Surgeon-General Sir W. Watson Cheyne, Bt., F.R.S., Emeritus Professor of Clinical Surgery, will receive the scholars and prize-men, and deliver an introductory address. Academic dress will be worn.

THE opening of the winter session of the Middlesex Hospital Medical School will take place on Tuesday, October 1st, at 3 o'clock, when Lieut.-General T. H. J. C. Goodwin, C.B., C.M.G., D.S.O., Director-General Army Medical Service, will occupy the chair. The prizes will be distributed by the Dowager Countess Brassey, and Dr. Browning, director of the pathological laboratories, will deliver an address on the importance of research work in connexion with national health.

THE inaugural address for the ensuing session at the London (Royal Free Hospital) School of Medicine for Women (University of London) will be delivered by Miss A. Maude Royden at 8, Hunter Street, Brunswick Square, W.C.1, on Tuesday, October 1st, at 3.30 p.m. Academic dress will be worn.

A MEETING of the Society for the Study of Inebriety will be held on Tuesday, October 8th, at 4 p.m., in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, W.1, when Major Robert B. Wild, M.D., F.R.C.P., Pro-Vice-Chancellor of the Victoria University of Manchester and Professor of Materia Medica and Therapeutics, will open a discussion on the pharmacology of alcohol. All interested in the subject are invited to be present.

A CREMATION library, consisting of books, periodicals, pamphlets, and articles, formed by the Cremation Association of America, was accepted by the John Crear Library, Chicago, in January, 1915. Since then the library has received from the association, or has acquired in other ways, a large additional number of publications. The titles of these are enumerated in a list which is the fifteenth of the bibliographical publications issued by the library.

THE *Journal of General Physiology* is the title of a new bi-monthly periodical, the first number of which was issued by the Rockefeller Institute for Medical Research, New York, on September 20th. It is intended to serve as an organ for the publication of papers dealing with the investigation of life processes from a physico-chemical point of view. The editors are Dr. Jacques Loeb, of the Institute, and Professor W. J. V. Osterhout, of Harvard.

THE poison of the Manchurian scorpion causes haemolysis, and S. Iwano, by making extracts from the pulped terminal joint of the tail, in which it is contained, finds that two poisonous proteins can be obtained, the one being extracted by distilled water and the other by dilute acetic acid. The toxicity is destroyed by the action of pepsin, trypsin, potassium permanganate, and calcium hypochlorite.

As already announced in the JOURNAL, a meeting of the medical profession will be held at Steinway Hall, Wigmore Street, London, W., on Tuesday, October 1st, at 5.30 o'clock, with the object of furthering the election of representative medical men, of any party, to the House of Commons, so that the considered views of the profession may be voiced in that assembly. Sir Henry Morris will take the chair, and the meeting will be addressed by Dr. Addison, Minister of Reconstruction. All members of the medical profession are invited to attend.

DURING the fiscal year ending June 30th, 1919, the United States Government will expend £200,000 upon the control of venereal diseases. The work will be carried out through the various State Boards of Health. It will include the obtaining of reports of infection, the control of infected persons so as to prevent dissemination of the disease, the establishment of free venereal clinics, the suppression of vicious conditions which favour the spread of infection, and systematic education of the public as well as those affected with the disease. A Division of Venereal Diseases has been established in the Bureau of the Public Health Services. Authority is given to this service to regulate the interstate travel of infected persons.

IT is stated in the *Haver and Herald* of Haverhill that the Ministry for War, having learnt that several deaths have followed the use of the sinusoidal current (Sinusstrom) in the treatment of war neuroses, has forbidden its use in military hospitals. The faradic current may alone be employed in suitable cases. It appears that the fatalities observed were as sudden as chloroform fatalities, and that they occurred quite early—that is, soon after the current was applied. Status lymphaticus has been found at the necropsies on such cases.

A CONFERENCE organized by the National Baby Week Council was held at Bedford College for Women, London, on September 18th, to inaugurate a propaganda campaign in support of the immediate establishment of a Ministry of Health. Dr. Eric Pritchard, Lord Willoughby de Broke, Dr. Saleeby, and others expressed the desire of the council to create a strong public opinion with a view to giving speedy effect to the promised introduction of a Ministry of Health Bill, and insisted that the country would not tolerate the opposition of private or vested interests or departmental jealousies to the immediate realization of its demands and hopes. A resolution was carried unanimously calling upon members and local committees to pursue an active campaign in favour of such a Ministry.

THE Board of Education has issued Regulations (Cd. 9154), under which grants to schools for mothers in England and Wales will be made by the Board during each financial year. A school for mothers is held to be primarily an educational institution providing training and instruction for the mother in the care and management of infants and little children. In determining a grant the Board will take into account the expenditure incurred since April 1st, 1917, on the provision of food for expectant mothers and nursing mothers, and for children under 5 years of age, where such provision is certified by the medical officer of the centre or by the medical officer of health to be necessary and where the case is necessitous. The grant payable in a financial year will be assessed on the basis of work done by the institution during the previous year. In fixing the rate of grant, the scope, character, and efficiency of the work will be taken into consideration. In this connexion the Board will have regard to the provision made (1) for co-ordinating the work with that of a similar institution in the same district, of maternity centres, baby clinics, or infant dispensaries, and of the school medical service and the sanitary authority, and (2) for keeping records of attendances and domiciliary visits.

THROUGH the liberality of a group of New England manufacturers, who appreciate the importance of studying diseases of occupation and improving the conditions of labour, the Harvard Medical School has made arrangements for courses of instruction in industrial hygiene, with facilities for the investigation of problems of industry. Boston offers exceptional opportunities for work of this kind, as a great variety of industries are found in its immediate neighbourhood. The instruction and research work will at first be principally in the domains of chemistry, physiology, and medicine, and in these subjects new departments will be created. Instruction in the pharmacological, sanitary, and social aspects of industry will be given, to supplement the work of the school of public health. Opportunities will be open to three separate groups of workers—those engaged in research, medical officers of large industries, and inspectors of industries.



## Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the *British Medical Journal* are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the British Medical Association and *British Medical Journal* is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the *British Medical Journal*, *Aitiology*, Westrand, London; telephone, 2624, Gerrard.
  2. FINANCIAL SECRETARY and BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2630, Gerrard.
  3. MEDICAL SECRETARY, *Mediscera*, Westrand, London; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.
- The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### LETTERS, NOTES, ETC.

#### MANGANESE A POISON.

DR. JAMES GAIRDNER (M.O.H. Criefth), to whose views we made a brief allusion in this column last week, writes: So long ago as 1894 I certified manganese as the primary cause of a young girl's death. Prior to this I had discovered that manganese fumes were emitted from the chimneys of the blacksmith and the plumber during the process of melting the metals they use. The chimneys of these industries never require sweeping, and the metallic fumes, along with the products from the combustion of coal, such as benzene and naphthalene, go right out to the air. Just as the Gulf Stream is an oceanic current, these fumes form an atmospheric current and travel (especially in the case of the blacksmith) a considerable distance. They are wafted along by prevailing winds and, gathering moisture, ultimately form a green deposit on wooden fences and trees and the slates and stonework of houses. The deposit in the case of the blacksmith is a bright green and that of the plumber a darker green. The vegetable part of the deposit under the microscope is seen to consist of cells of a very simple character. I have not seen moss near it. The opinion I formed at that time was that manganese given by the mouth seemed rather inert, but that when injected subcutaneously or inhaled it became poisonous and was cumulative and the symptoms like lead, zinc, and arsenic.

#### CRÊPE PAPER BANDAGES.

WE have received from the Dennison Manufacturing Co., Ltd. (Kingsway, W.C.), samples of their crêpe paper bandages which have been introduced owing to the necessity for conserving cotton of which the shortage of supply is becoming acute. The bandages have considerable elastic stretch, and will bear a greater strain than would in practice be applied. They are made in the regular widths—1, 2, 2½, 3, and 4 in., but in lengths of 15 yards; each bandage is provided with a strip of gummed paper for fastening, though on slitting up the end of the bandage and knotting the streamers they will tie into a firm bow, and the crêpe paper also lends itself to pinning. Each roll of bandage is wrapped in tissue paper and sealed. It is claimed that the bandages will stand either baking or steam heat without disintegration or appreciable deterioration. The cost is approximately two-fifths that of the cotton. This bandage has been on the American market for some six months, and is in current use in several of the largest American hospitals. A contract for several millions of the bandages has been made with the Surgeon-General's Department of the American army for use overseas, and instructions have been issued to medical officers in charge of base hospitals to the effect that at least 50 per cent. of these crêpe paper bandages must be used in place of cotton bandages.

#### THE SHRIVEAL CHAIN.

MR. UNDER-SHERIFF E. J. TRUSTRAM, M.A., sends us the following description of the shriveal chain and badge which were presented on September 26th at the Apothecaries' Hall to Colonel William R. Smith, M.D., D.L., who will be sworn in as a Sheriff of the City of London at the Guildhall to-day (September 28th): The chain is composed of three rows of links, reproductions of an old design. At intervals are placed Tudor roses, the badge of the Lieutenantcy, encircling shields on which, in correct heraldic blazon, are the Arms of The Apothecaries' Company, The Middle Temple, Aberdeen and Edinburgh Universities, King's College, and the Metropolitan Asylums Board. At the back of the chain appear the Arms of Holborn, with supporters; of this borough the Sheriff is an ex-Mayor. The chain is looped up in front by a badge composed of the City Arms and those of the Sheriff side by side, surmounted by crested helmets and encircled with a richly carved lambrequin enamelled in the tinctures of the shields.

#### OBILITERATION OF THE SUPERIOR VENA CAVA.

THIS rare condition was first recorded in 1808, and in 1855 Oulmont collected nineteen cases, and since then there have been every year on an average one or two communications on obliteration due to compression or destruction of the superior vena cava. Favre in a recent paper records four cases of obliteration due to syphilitic inflammation of the vein walls, and not to primary thrombosis with organization. In the past obliteration of this vein has usually been ascribed mainly to pressure, and in two of Favre's cases there were factors exerting, or capable of exerting, pressure—namely, an aneurysm and syphilitic mediastinitis in one, and periostitis of the sternum in the other, but in these instances microscopic examination of the vein wall showed inflammation. In the other two cases syphilitic inflammation of the vein wall produced secondary thrombosis. None of the cases were absolutely correctly diagnosed, being regarded as mediastinal tumour (two), nephritis, and aortic disease.

#### WINTER QUARTERS.

*The Journal of an Army Surgeon*, by Charles Boutflower, is a record of personal experiences in the Peninsular War. He left England in August, 1809, and joined his regiment at Badajoz a month later; in 1812 he was appointed staff surgeon under Hill. During the three years and a half he served in the Peninsula Boutflower saw much of war; his first notable experience was the retreat to Torres Vedras, but the depressing effect of that strategic manoeuvre was brightened by the victory at Busaco. In 1812 he was present at the capture of Ciudad Rodrigo, the siege of Badajoz, and the battle of Salamanca. Boutflower was strongly opposed to winter operations on the ground that they are certain to make the troops "absolutely inefficient for any active operations in the spring." Though Wellington was held in the highest respect by his officers, his disregard of the traditional rules of warfare in this matter was regarded by many of them with a horror equal to their wonder. They apparently did not know that, before Wellington, Napoleon had broken the tables of the consecrated laws of warfare. An old Austrian general seriously complained of the young man who "carried on" without going into winter quarters at the proper time. What would those old pipeclay doctrinaires have thought of modern campaigning?

#### FEES AND PRICES IN GERMANY.

A GERMAN medical man, writing in the *Aerzliche Mitteilungen*, has complained of the inadequacy of the increase of doctors' remuneration as compared with the increase of prices generally. While fees for private practice have increased by about 50 per cent. and for contract practice about 20 per cent., the cost of instruments, dressings, coal, and fruit has increased by 75 to 175 per cent. The cost of potatoes and paper has increased by 200 per cent., of leather, meat, and chocolate by 300 per cent., of butter and eggs by 600 per cent., of milk by 700 per cent., of clothing, hams, fats, oils, cocoa, and tea by 1,000 to 1,500 per cent., and of wooden articles by 3,000 per cent.

#### THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

##### *Subscriptions to the Second Appeal.*

The following subscriptions have been received up to Monday last, September 23rd:

	£ s. d.		£ s. d.
Dr. G. Vernon Bull	2 2 0	Dr. Alfred Cox (monthly)	1 1 0
Captain J. S. Clarke,		Captain E. L. Lilley,	
R.A.M.C. ...	3 3 0	R.A.M.C. ...	2 2 0

Subscriptions to the Fund should be sent to the Treasurer, Dr. H. A. Des Vœux, at 14, Buckingham Gate, London, S.W.1, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited.

#### FUND FOR THE FAMILY OF THE LATE DR. KITE.

DR. ARTHUR E. GILES asks us to acknowledge an additional contribution received for this fund from "H. C. V.," Karachi, India, £1 ls.

THE appointment of certifying factory surgeon for Clitheroes (Lancs) is vacant.

#### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Seven lines and under	0 6 0
Each additional line	0 0 0
Whole single column	4 0 0
Whole page	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *post restante* letters addressed either in initials or numbers.



## THE STATE AND PRE-NATAL HYGIENE.\*

EDWARD M. CONNELL, M.D.,

FORMERLY CHAIRMAN, COMMITTEE ON HEALTH, CORPORATION  
OF GLASGOW.

Sufficient information is already available to show how important an element in the problem of child welfare is the period when the child is wholly dependent for its continued existence on the health and well-being of the mother. But while ante natal care is not only as important as post-natal, it implies inquiry into conditions which have little similarity with those properly belonging to the later period. The field, indeed, is primarily clinical and pathological, and some indication of the importance of these is afforded by the mortality of the first four weeks of life. It will be useful, therefore, to look at these for a moment.

The infant death-rate is usually stated per 1,000 births in the same year. This rate for Scotland in 1917 was 107, but in the larger burghs it averaged 124 and in the county districts 88. In the same year the highest rate in individual towns was 139 in Aberdeen, 137 in Dundee, 132 in Perth, 128 in Glasgow, Falkirk and Kilmarnock 125, and 123 in Edinburgh.

From this general statement, however, we obtain no indication of the wide difference in the rate between the early and later months of the first year of life, and it is only by considering this that we are led to understand the predominant part played by ante-natal causes.

Suppose, for example, we distribute the deaths according to the period of their occurrence under three months, under six months, and under twelve months, and state them as ratios of the total births, this is what we get (taken from the Glasgow report):

Glasgow Death-rate, under 3, 6, and 12 Months per 1,000 Births.

	3 months.	6 months.	12 months.	1st Year.
1870-2	72	31	67	170
1880-2	65	25	58	148
1890-2	71	25	54	149
1900-2	71	26	47	145
1910-12	63	23	44	130
1915-17	61	22	47	130
Percentage reduction 1870-1917	15	29	36	26

Despite much that has been said to the contrary, the infant death-rate on the whole has been falling during the last forty-five years, but it will be observed from the table that in the second half of the first year the reduction is proceeding at a much greater rate than during the first three months (36 per cent. against 15). More important still is the indication that the fall in the first three months did not become manifest until the present century began. The reasons for this cannot be discussed here, but may be related to the marked improvement in the economic condition of the people in the last quarter of the nineteenth century. In any case this fall has been sudden rather than gradual as in the others. Moreover—and especially in the years from 1890 onwards—about half of the deaths occurring in the first year take place in the first three months.

In relation to our special problem the deaths during this first trimestrium are of most importance, and analysis shows—

1. That two-thirds of the deaths under three months occur during the first month;
2. That in the first week the deaths in both sexes are four times more numerous than in the second week, and about six times more numerous than in the fourth week after birth.

We are thus led backwards from a consideration of the total infant deaths through an increasing monthly number until, as we approach the portal of life, the trap-doors—adopting for the moment Addison's simile in the "Vision of Mirza"—become so numerous that about one-third of the children who are to die before completing their fifty-second week will be already dead ere the fourth week is completed.

In view of this enormous proportion of infant deaths occurring during the first week, let us ask a further question regarding the proportion of those who fall short of the Registrar-General's standard of living and are born dead. We know, for example, that children born dead form fully 4 per cent. of the total births, a proportion in Glasgow representing approximately 1,200 annually.

Here, then, at the threshold of our inquiry, we have 4 per cent. of our births stillborn, a rate which for Scotland means nearly 4,000 a year; and, if we add to them the number of children born alive but dying within four weeks of birth, we have the first illustrations, on a considerable scale, of the work which lies to be done by an organized system of ante-natal care.

The case for ante-natal supervision for these purposes alone is much strengthened by considering the causes to which these deaths during the first month of life are ascribed, for they lead us directly to the period antecedent to birth, and away from the direct influence of environment, as the term is commonly used. This aspect of the question was discussed by the medical officer of health of Glasgow, in a report submitted to the seventeenth International Congress of Medicine held in London in 1913, from which I may quote:

I suggest says Dr. Chalmers, the term "immaturity" as the simplest method of expressing the inability of the child to live apart from its mother, and would include within it all deaths occurring during the first month, and ascribed to premature birth, congenital defects, atelectasis, atrophy, and debility or wasting diseases.

None of the other causes of death in the first month seem to me to have the same significance as those belonging to this group, and it is to the gynaecologist, I think, that we must look for some elucidation of the problems they suggest. Of all the other principal groups of disease which I have quoted, they alone gain more than a relative prevalence during the first month. And I doubt whether even this grouping under the term "immaturity" represents the full volume of what, for want of a more intimate knowledge of the causes, we can regard at the moment only as physiological immaturity.

GLASGOW: Deaths from Several Causes in each of the First Four Weeks, and Under One Year, per 1,000 Births (Three Years October, 1909—September, 1912).

	MALES					Under One Year.
	1.	2.	3.	4.	0-4.	
Total Births	...	...	...	...	...	65,325
1. Immaturity	22.34	4.12	3.78	2.10	32.03	42.84
2. Diseases of the respiratory system	0.54	0.42	1.11	0.87	2.95	30.38
3. Diseases of digestive system	0.48	0.57	0.78	0.72	2.56	22.43
4. Diseases of nervous system	0.63	0.51	0.33	0.21	1.69	8.88
5. Tuberculosis	0.12	—	0.03	0.03	0.09	6.99
6. Accidents at birth	0.60	0.03	0.06	—	0.69	0.69
7. Infectious diseases	0.03	0.03	0.03	0.18	0.30	15.92
8. Syphilis	0.03	0.12	0.21	0.15	0.54	1.96
9. Suffocation	0.21	0.18	0.06	0.09	0.54	1.26
10. Other violence	0.12	—	—	0.03	0.15	0.63
11. All other causes	2.11	0.81	0.51	0.36	3.79	10.90
Reported Births	27.15	6.89	6.53	4.74	45.33	142.88

Stillbirths and deaths from immaturity, although the most tangible sources from which illustrations may be drawn, very inadequately represent the total volume of life lost during ante-natal states. Miscarriage is, in many instances, a perverted habit beginning most probably in disease or injury, but repeating itself in recurring pregnancies. The potential life lost in this way cannot be stated with any approach to accuracy.

Other phases of the ante-natal problems, for example, the occupation of mothers, the effect on mother and child of rapidly following pregnancies, the influence of alcohol, syphilis, and drugs, all require concerted inquiry.

The problem of child life is, however, only one part of the subject of ante-natal care. Puerperal sepsis in Scotland causes over 200 deaths annually; convulsions fully 100; abortions rather less than 100; and all other forms of

\* Read before the Sanitary Congress, Glasgow, September, 1918.



illness during pregnancy frequently ending in the death of the mother about 270 annually—in all, just under 700 deaths of mothers, on the average of three years, 1911–16. Puerperal convulsions, we are assured, are wholly preventable if the antecedent condition is treated in time, and it is likely that were the conditions under which the others arise wholly in view from their onset, we should be able to anticipate a reduction in them also.

It is, in my opinion, the distinct duty of the State to give earnest heed to the whole position of maternity, both pre-natal and post-natal, and this not only in its own interest and the interests of the empire, but also in the interests of the mothers themselves, who, if in straitened circumstances, as too many of them are, should be assured of all the medical skill and nursing facilities that are accorded to their more fortunate sisters in the higher grades of life.

The larger towns have maternity hospitals, and occasionally ante-natal beds are to be found in them; ante-natal dispensaries are just coming into being. But they have not yet fully enlisted the active interest of the general body of medicine, and without the active help of the general practitioner I am of opinion than any scheme will have difficulty in materializing.

But in order to co-ordinate all the functions of medical adviser, nurse, and welfare visitor, welfare centres are an absolute necessity, and they must be numerous enough to be available to every group of the industrial population. The dispensary should lead where necessary directly to a hospital bed, while the dispensary and hospital staff should be drawn from the practitioners and consultants of the district.

All this is the work of local organization, but there is a phase of the question which requires direct State help, not only of a financial character. When we think of ante-natal hygiene each one has in a general way a conception of healthy maternal life, but the point at which changes in physiological processes begin to lay the seeds of definite disease are by no means well understood, even by the general body of medical men, and I believe the State might greatly help in this direction by appointing a commission to inquire into the whole question of ante-natal pathology, with a view to determining in a precise form at least some of the data upon which a doctrine of ante-natal hygiene may be based.

## THE EXERCISE BLOOD PRESSURE TEST OF MYOCARDIAL EFFICIENCY.\*

BY

GORDON LAMBERT, B.A., M.D., B.Ch.CANTAB.,

PHYSICIAN TO OUT-PATIENTS, ROYAL BERNES HOSPITAL, AND MEDICAL OFFICER, READING WAR HOSPITAL.

THE variations of the blood pressure induced by muscular exercise have been recorded in series of cases by many observers, with a view to establishing a reliable index of myocardial efficiency. Conflicting opinions have been expressed as to the value of the test, for reasons upon which I shall presently touch.

Among those who have recorded their observations one may mention Dr. Strickland Goodall of London, Sir Clifford Allbutt and Dr. Michell of Cambridge, and Drs. Graupner and Baur of Naunheim. Michell found that in athletes the blood pressure varied from 95 to 100 mm. Hg in the early morning to 125 to 130 mm. Hg two hours after hard exercise. Baur found that in normal subjects exercise caused a rise of 5 to 10 mm. Hg, followed by a fall of the same degree. The chief difficulty with which all observers have to contend is that the blood pressure cannot be taken at intervals during natural exercise, because no sensitive instrument would stand the wear and tear. It is true that the blood pressure has been estimated under somewhat unnatural conditions, as in Valsalva's experiment and in Baur's observations on men pedalling on a stationary bicycle with loaded brakes. But for the most part observers have contented themselves with making records of blood pressure before exercise, immediately after exercise, and at intervals after exercise. During the present military work one meets with so many cases of disease or disorder of the heart that the opportunity of

comparing the results of the exercise blood pressure test with the results of ordinary clinical examination is one not to be missed.

Accordingly I have applied the test to several cases of "D.A.H." (disordered action of the heart), and I regret that lack of time has prevented me from applying it to a larger number of cases, and more frequently in each individual case. In making my observations I have followed the methods of Dr. Strickland Goodall, with certain modifications. Two grades of exercise have been used: (1) Walking up and down a long corridor several times at a quick pace; (2) running up and down twenty stairs once or twice.

The instrument used was Martin's modification of Riva-Rocci's sphygmomanometer, and the method employed was the combined auditory and tactile—that is, in addition to the usual armlet, a second armlet carrying the chest piece of a stethoscope was applied over the brachial artery. The blood pressure, pulse, and respirations were taken before exercise and at intervals after exercise. The pulse and respirations were counted by Sister Sheridan of my wards while I was estimating the blood pressure.

Dr. Goodall<sup>1</sup> states that for practical purposes the results of his observations may be classified as follows:

1. *Good Reactions.*—Pulse, respirations, and blood pressure all increase and are normal again at the end of three minutes. (From context, "normal" means previous level or rate.) These reactions are characteristic of well trained healthy hearts.

2. *Fair Reactions.*—All cases in which pulse, respirations, and blood pressures go up on exercise, but have not returned to normal at the end of three minutes. Their return is, however, along normal lines.

[Note.—The pulse rate is the one that usually remains raised, and much importance attaches to the time for which the increased frequency is maintained.]

These reactions are characteristic of the physiological but poorly trained or atonic hearts of persons of sedentary occupation. Nicholson, in his book, *Blood Pressure in General Practice*, states: "With cessation of the exercise both blood pressure and pulse will in a short time return to their previous level, the pulse-rate a little before the blood pressure. In myocarditis cases, if mild, there will be an elevation of blood pressure and an acceleration of the pulse-rate, but the blood pressure in a short time will fall below its previous level, while the pulse-rate remains higher longer."

"In some severe cases the blood pressure will fall from the start, the pulse-rate increasing, the blood pressure rising to its previous level only after a long time."

Goodall groups these severe cases of myocarditis under his two remaining types of reaction:

3. *Bad Reactions.*—The blood pressure fails to rise, although the pulse and respiration go up.

4. *Very Bad Reactions.*—Pulse and respirations increase, but the blood pressure actually falls.

He states that "bad" and "very bad" reactions are typical of hearts in which the myocardium has been damaged by inflammation, strain, or degeneration.

I show first on one chart four imaginary observations, illustrating the four types of reaction which have been just mentioned, namely: (1) Good, (2) fair, (3) bad, (4) very bad. If we agree to adopt Goodall's standard, such a chart serves as a rough foot-rule, which can be applied to charts made from our own observations. Goodall does not state the diastolic pressure in his cases, and I infer that he did not employ the auditory method.

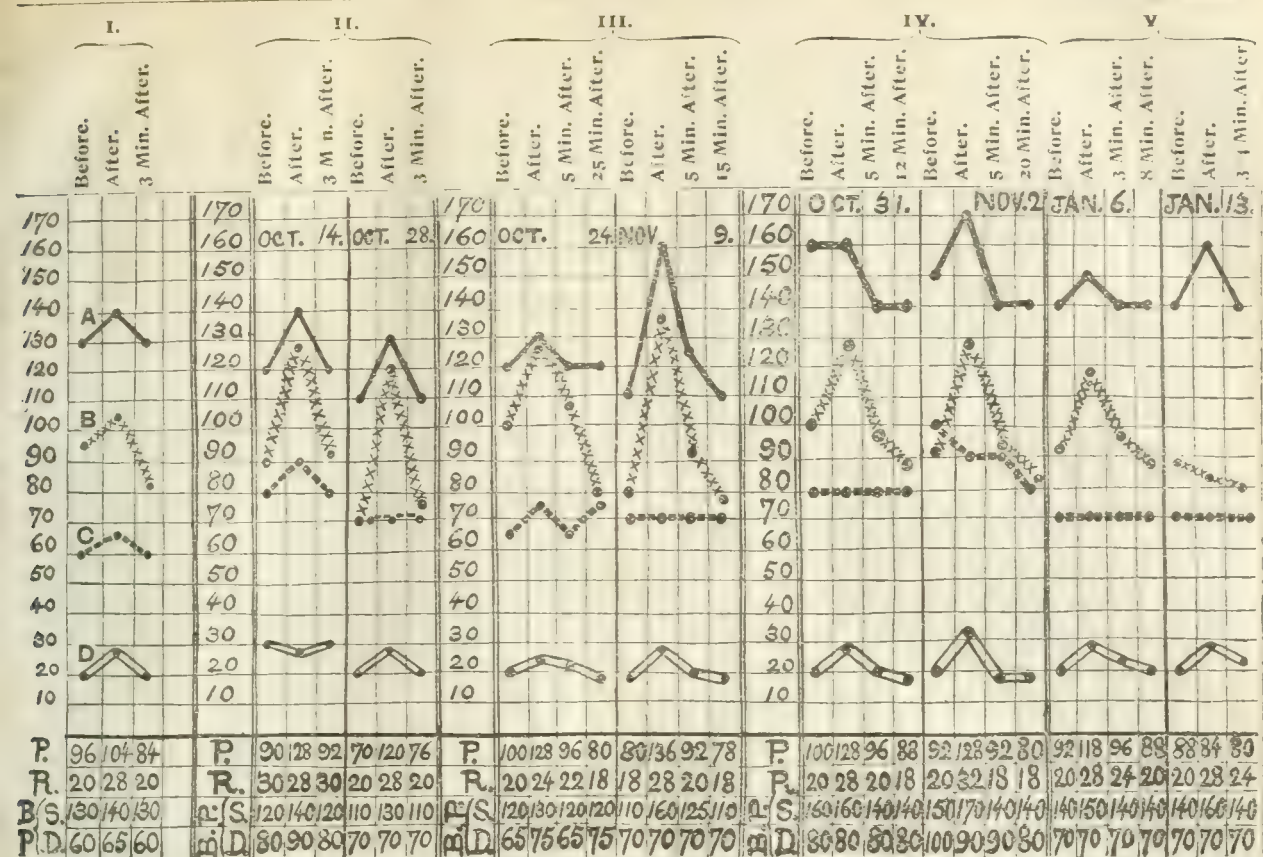
So far as I am aware, no very accurate estimation of the diastolic pressure can be made by tactile or visual methods. In my cases I have included the diastolic pressure as a matter of interest. Since the systolic pressure is approximately the intraventricular pressure and the diastolic pressure is the peripheral resistance, the difference between the two is the pulse pressure, that is, the pressure driving the blood on and through the arterioles.

Strasburger found that after exercise the systolic and diastolic pressures stand in no constant relation to one another. But estimation of diastolic pressure is important in at least two ways: (1) Rise of systolic blood pressure may be due to (a) increase in systolic output and concomitant increase in tonicity; (b) stimulation of vaso-constrictors centre (unfavourable). In the latter case there should be rise of diastolic pressure. (2) When systolic and diastolic pressures approximate, cardiac power is poor.

The great value of the test is obvious, if we can depend upon it to give us accurate, reliable information as to myocardial efficiency. We know that "D.A.H." is a comprehensive term embracing a large variety of disorders of the heart, but I assume that in the main our object is

\* Paper read before the Reading Pathological Society.





The sign at A denotes the systolic blood pressure; that at B the diastolic blood pressure; that at C the pulse; and that at D the respiration.

to draw a dividing line between cases in which the disorder is purely functional in character and cases in which the disorder results from pathological conditions of the myocardium.

Sir Clifford Allbutt has worked at this problem since the year 1870, and as recently as 1909 he modestly stated that he still approached it with diffidence.<sup>3</sup> This attitude of a very eminent authority is in striking contrast to certain very loose but confident opinions as to diseases and disorders of the heart which have been expressed since the war began.

Sir Clifford Allbutt classifies cases into two main groups:

(a) Functional fretfulness of the heart. These are cases in which the action of the heart is disordered by reflex influences from one or more of several organs—the stomach, the brain, the sexual organs, and so forth.

(b) Over-stress of the heart. These are cases in which the heart has been pushed beyond the limits of its capacity, and actual strain or damage of the myocardium has resulted. I shall refer to the question of "strain" again presently.

So much for the objective of the test. Turning to some of the actual cases to which I have applied it:

Chart I: Pte. G., aged 23 years, serves as an example of a good reaction. Both systolic and diastolic pressures rose slightly and returned to the original level within three or four minutes. There was a moderate increase in the pulse-rate and then a fall to a rate below that present before exercise. The rate of respiration did not vary greatly.

In my opinion the test was of distinct value as confirmatory evidence of my diagnosis in this case. The patient was sent in as a "V.D.H." (valvular disease of the heart). Having failed to find any sign of valvular disease of the heart either at rest or after muscular exercise, I applied the blood pressure test. The position of the apex beat was somewhat variable, sometimes in the nipple line, at other times within it. It was not displaced outwards by exercise; there was no sign of cardiac or respiratory embarrassment after the test. There seems no doubt that the patient had a nervous, irritable heart, with moderate tachycardia.

Chart II: Pte. T., aged 40 years, is another example of good reaction.

Chart III: Pte. D., aged 19 years, is a fair reaction.

In the case of T. the blood pressure rose and fell to its original level on both occasions within three or four minutes. At the end of which time the pulse-rate was only a few beats above its original rate.

D's chart is classed as "fair," because, although the reaction was "good" on the first occasion, the return of blood pressure and pulse to their original level was more gradual on the second occasion—that is, a "fair" reaction. Both appeared to be cases of functional nervous disturbance of the heart without evidence of dilatation from strain. In these cases again the test proved itself of value. The patients were twice under my care. On the first occasion they were sent out recommended for graduated exercises.

The exercises were not given, and after some time the men were returned to me. I then applied the test, and, armed with its results, as well as the results of examination of the heart before and after exercise, I had no difficulty in disposing of the cases again.

The results shown in Chart IV, Cpl. M., are not so easily classified; but I should regard the reaction as bad. On both occasions the pulse rate rose and fell as in a good reaction, but the behaviour of the blood pressure was bad. On the first occasion it failed to rise, and indeed fell 20 mm. during the five minutes following exercise. On the second occasion it rose from 150 to 170 mm., and then fell rapidly to 140 mm. Unfortunately, I had not time to follow the progress beyond a period of twenty minutes after exercise. The history of the case was a bad one. The patient, aged 34 years, but looking older, stated that he had suffered from a "dilated heart" in civil life attributed to a sudden physical strain. He was employed in the A.S.C. unloading ships, and was sent home from France complaining of precordial pain, dyspnoea, and palpitation after exertion. The diagnosis on his travelling label was "tachycardia." For some time after admission the position of the apex beat was very variable, at times as much as one inch external to the nipple line. The impulse was diffuse. The pulse-rate was very variable, and at times very frequent. The patient was nervous, restless, and depressed, and complained of a good deal of pain over the precordium. No increase of percussion dullness to the right of the sternum was detected. He had been treated for some time before the tests were applied, and had improved. The apex beat was within the nipple line, and the heart sounds closed both before and after the tests. I regarded the case as one of strain of the heart, and recommended the patient as fit only for S.F. III employments. Possibly physical strain was not the only factor, but the result of the combined factors was apparently definite damage of the myocardium.

Chart V: Pte. J., aged 19 years. This was a D.A.H. case with definite cardiac dilatation. On admission the apex beat was in the fifth left interspace, half an inch external to the nipple line. Impulse was diffuse and forcible. Superficial cardiac dullness extended to the third left interspace in the parasternal line. Transverse cardiac dullness was variable, extending from 3 in. to 1½ in. to right of sternum at level of the fourth rib. The pulse-rate was very variable, but tachycardia always present. Extra-systoles occurred from time to time. There was a systolic



bruit at the apex, conducted to the left for a short distance. The pulmonary second sound was not notably accentuated; there was no cyanosis. When the test was applied he had improved under rest and treatment. The apex beat was  $\frac{1}{2}$  to  $\frac{1}{4}$  in. within the nipple line. The heart sounds were closed, and other physical signs remained the same after as before exercise. There was a very decided nervous element in the case, and I was inclined to regard the dilatation of the heart as caused by persistent irregular tachycardia. The reactions on both occasions would seem to fall into the class of "good" reactions; but one has to remember that the response would probably not have been good to more searching tests. In this case I did not feel justified in applying more severe tests.

#### Heart Strain.

The Leipzig school—De la Camp, Krauss, Moritz, and their followers—maintain that it is quite impossible to push the healthy heart and great arteries beyond the limits of their reserve by any muscular effort. This may or may not be true of the healthy heart, but it would be absurd to contend that it applies to a heart of which the myocardium has been previously damaged. Even Zuntz and Schumberg, of the German school, recognize "march dilatation of the right heart" in soldiers.

Apropos of dilatation of the right heart, one physical sign which I have found present in at least 40 or 50 per cent. of D.A.H. cases seems significant. The superficial cardiac dullness is extended upwards in the left parasternal, often as far upwards as the upper end of the third left intercostal space. Since almost the whole of the anterior surface of the heart is formed by the right auricle and ventricle, and the right ventricle lies behind the third, fourth, and fifth left intercostal spaces, we can hardly resist the conclusion that this physical sign is produced by dilatation of the right ventricle. When we consider with it the fact that murmurs in D.A.H. cases are so frequently heard in the third, fourth, and fifth interspaces between the nipple line and the sternum, usually close to the sternum, we seem bound to give them careful consideration. It is unjustifiable to dismiss them lightly as "accidental" or "haemic" murmurs. "Disordered action of the heart" is not necessarily a harmless transitory condition.

Captain McCarthy, R.A.M.C., who studied the condition in a number of cases, found that the prognosis was not good.<sup>4</sup> In the majority of cases the patients returned to hospital again and again, until they were invalided out of the service. His impression, formed by following up the history of men invalided, was that many cases ended in valvular disease.

In dealing with D.A.H. cases our prime object is to form as shrewd an estimate as possible of the quality of the muscle fibre with which we are dealing in each individual case. The previous history, therefore, is of great importance, and the rôle played by past attacks of the infectious febrile diseases in causing degeneration of the myocardium should not be forgotten.<sup>5</sup> It is well to bear in mind also Niemeyer's dictum that there are probably many forms of degeneration of the myocardium which cannot be detected by the microscope.

Even those with the greatest experience of "heart strain" have to content themselves with hypotheses as to its pathology. Sir Clifford Allbutt suggests that a molecular change, probably not to be detected by the microscope, may occur in the cardiac muscle fibre leading to diminished resilience.

#### Size of Heart during Exercise.

In support of the German school's theory that the healthy heart cannot be dilated by muscular exercise, radiographers now maintain that the heart does not increase in size during exercise; on the contrary, the right ventricle is not dilated, and the left ventricle actually diminishes in size.

After reading pages of controversy on the subject one feels that there is little, if any, ground for contention. Physiologists have never maintained that the heart dilates and remains dilated throughout muscular exercise. They tell us that during the earliest stages, before relaxation of the arterioles occurs, the right heart takes the strain off the left ventricle by accommodating an increased output of venous blood from the muscles. But in a well-trained, "hardened" athlete or soldier this is only a passing phase. The increased volume of blood is dealt with by (a) increased alveolar capacity of the lungs; (b) development of the thoracic muscles; (c) by fall of peripheral resistance,

which enables the blood to flow more easily through the left ventricle. Leonard Hill found that arterial pressures exceed ordinary levels for the first ten or fifteen minutes of exercise; then, as the periphery opened out, they fell.

In short, there is no need to insist on either great hypertrophy of the left ventricle or perilous dilatation of the right ventricle during exercise. Both speed and endurance would seem to depend not more on hypertrophy and increased capacity than on efficient correlation of the many mechanisms devised to assist the heart and to diminish its work. In other words, men do not run with their hearts alone, but with their hearts, lungs, thoracic muscles, and peripheral vessels, especially those of the skin.

#### Evidence Against the Value of the Exercise Blood Pressure Test.

Hirschfelder, after discussing the work of Graupner and Baur, advances the following objections to the test:<sup>6</sup>

1. That the blood pressure in trained athletes falls during mild exercise, exactly as it does in broken compensation; also that it falls when the "second wind" is acquired and while the person's functional power is increasing rather than decreasing.
2. The greatest rises of blood pressure occur in old and feeble persons, whom the exercise brings near to the border line of cardiac overstrain.
3. In persons in whom the blood pressure falls as a result of the test exercise, the general symptoms, respiratory distress, tachycardia, arrhythmia, etc., are more than sufficient evidence that the patient's strength has been overtaxed. These simple signs are more delicate indices and less ambiguous than the changes in blood pressure.

Following De la Camp, Schott, Moritz and others, he concludes:

The only true criterion of cardiac efficiency is whether a given strain causes it, the heart, to diminish in size (increase in tonicity = stimulation) or to dilate (decrease in tonicity = overstrain).

For my part I am already convinced that none of these objections should induce us to abandon the test, which seems distinctly valuable in two directions: (1) as confirmatory evidence of the results of ordinary physical examination in some cases; (2) as an additional test in other cases in which the diagnosis between functional disorder and organic disease of the myocardium is doubtful.

It is noteworthy that even Hirschfelder, after all his destructive criticism, commits himself to the following statement:

This does not mean that the exercise tests are unimportant. On the contrary, they are of the greatest possible value; and no change in the patient's mode of life during convalescence or during after-life should be undertaken without them.

#### REFERENCES.

- <sup>1</sup> Strickland and Hill: Estimation of Myocardial Efficiency, *BRITISH MEDICAL JOURNAL*, October 14th, 1916. <sup>2</sup> Nicholson: *Blood Pressure in General Practice* (a new functional test for myocarditis), pp. 69, 70. <sup>3</sup> Allbutt and Rolleston's *System of Medicine* (1909), vol. vi. Overstrain of the Heart, pp. 123-125. <sup>4</sup> Allbutt and Rolleston (vide Reference 3). <sup>5</sup> G. Lambert, *Medical Chronicle*, May, 1907, Certain Effects of Febrile Diseases upon the Myocardium. <sup>6</sup> Hirschfelder: *Diseases of Heart and Lungs*, pp. 129-136.

## PULMONARY FAT EMBOLISM AND ITS RELATION TO TRAUMATIC SHOCK.

BY

GEORGE E. SUTTON, B.S., M.D. (Minn.),  
CAPTAIN M.R.C.

ON my arrival at a casualty clearing station in France last year I was greatly impressed by the type of cases of so-called shock, which closely resembled cases of pulmonary fat embolism I had seen with Bissell at the Mayo clinic. During the last ten months I have been able to investigate a considerable number of cases whose clinical condition was assimilated to "shock."

It is well known to those who have had experience in the resuscitation work in forward areas that there is a type of wounded admitted characterized by the following features:

- Cyanosis, moderate varying to deep.
- Face blanched, easily compressible, and increased in temperature.
- Breathing sometimes laboured and increased in rate.
- Extremities cold.
- Delirium of varying degree.

It will have been noticed also that there is no appreciable or sustained response to measures of resuscitation—



warmth, elevation, rest, and intravenous or subcutaneous stimulation. Within a few hours the patient succumbs; the diagnosis "shock."

In these cases *post-mortem* examination invariably reveals pulmonary fat emboli which can be demonstrated grossly. If this fails, sections of lung tissue should be stained for fat. A typical and interesting case may be cited:

In the reception room at a casualty clearing station I saw a patient admitted with a gunshot compound fracture of the left femur and a gashing wound of the left abdominal wall. In addition to the symptoms resembling shock he was in a state of mild delirium which could not be accounted for by blood loss.



Typical fat embolism. Section of lung tissue (57) from case of compound fracture of femur.

This was four hours after injury. The patient was sent to the resuscitation ward, where he was treated by elevation of the foot of the bed, warmth, rest, and intravenous injection of sodium bicarbonate solution (2 per cent.). He died eight hours later.

Autopsy revealed no macroscopic fat, but on staining sections of lung tissue the capillaries were found riddled with fat. I suspected this case of having a pulmonary fat embolus because of the otherwise unaccountable delirium.

Examination of a considerable number of battle casualties which have terminated fatally at a casualty clearing station has led me to the conclusion that 10 per cent. have pulmonary fat emboli demonstrable by gross methods. I am convinced that this percentage would be increased (to what extent it is impossible to say) if sections of lung tissue were stained for fat in all cases.

#### Cases in which Fat Emboli have been found.

- I. Fractures.
  1. Compound fracture of long bones. (a) Single. (b) Multiple.
  2. Fracture of skull with destruction of brain tissue.
  3. Fracture of ribs.
- II. Wounds involving fatty tissue.
  1. Penetrating abdomen with maceration of omentum.
  2. Large wounds of buttock and trunk.
- III. Wounds penetrating the abdomen, with laceration of the liver.

In regard to fractures of long bones a good deal may be said. It has been particularly noticed that in compound fractures reaching a casualty clearing station with splints imperfectly applied, and where, consequently, immobility was not complete, symptoms resembling "shock" were invariably present.

I have seen pulmonary fat embolism more often following a compound fracture without comminution than with comminution.

During a recent crisis, when patients had to be evacuated to casualty clearing stations more hurriedly than in ordinary times a number of cases were received, many in a profound state of "shock." The blood loss in some was not great, as evidenced by the condition of their clothing

and stretchers. Amongst these, few showed any response to resuscitation measures. In this series I examined the lung tissue of eight cases, and found pulmonary fat embolism in six. Time would not permit investigation of all.

#### Relation of Pulmonary Fat Embolism to Shock.

Warthin has shown that repeated injections of olive oil into the right auricle of a dog causes a marked fall of carotid pressure and a marked rise in jugular pressure. Fischer has shown that when olive oil is injected into the vein of a rabbit more than 60 per cent. soon lodges in the lung. His explanation of this is based on the elasticity of pulmonary capillaries, decreased tissue pressure surrounding the pulmonary capillaries, and negative alveolar pressure.

Gauss demonstrated that, with constant factors, the addition of 10 per cent. olive oil increased the viscosity of blood 200 per cent.

#### Experiment by Gauss substantiated by Bissell.

Time required for 1 c.cm. of fluid to pass through the capillary tube under constant pressure of 70 mm. of mercury, and constant temperature of 24.5° C.:

	Alone.	Plus Olive Oil.
Salt solution ... ..	37 seconds.	100 seconds.
Ascertic fluid ... ..	45 ..	130 ..
Human blood serum ... ..	57 ..	180 ..
Human blood citrated ... ..	160 ..	480 ..

Bissell states: "It being known that pulmonary fat embolism, both in man and experimentally in animals, causes a decreased arterial pressure and increased venous pressure even to fatal termination, it is reasonable to presume that venous blood rich in fat would offer additional resistance to passage through capillaries due to its increased viscosity. Certainly, it cannot be denied that in the lung capillaries, where fat is accumulated



Typical fat embolism. Section of lung tissue (57) from case of compound fracture of femur.

as by repeated injections, the viscosity of the blood must be greatly increased."

To quote again from Bissell: "The diagnosis of fat embolism, clinically, is based on observations of phenomena produced by distinct, unmistakable lesions grossly demonstrable at necropsy, while the clinical diagnosis of shock is based on observations of signs and symptoms exactly duplicated in pulmonary fat embolism, but, so far as I am aware, not satisfactorily explained in the examination of dead bodies unless haemorrhage or pulmonary fat embolism is found."

To carry the argument one step along, if our unsuccessful cases of shock are due to an acidosis—a prominent opinion to-day—have we not all the factors in pulmonary fat embolism, in varying degree, to produce this acidosis—



namely, a tremendous increase of blood viscosity, high venous pressure, slowing of blood flow, and deficient blood aëration?

By the above statement I do not mean to assert that all fatal cases of shock are due to pulmonary fat embolism, but that the physical and chemical properties of lipaemic blood are such that acidosis cannot be avoided, and it is still to be proven whether the terminal mechanism is not the same.

The occurrence of pulmonary fat embolism in the war area is much more frequent than has been suspected, owing, probably, to lack of thorough examination of lung tissue for evidence of fat.

Associated with pulmonary fat embolism disseminated fat is found in the other tissues of the body, included in the capillaries. This undoubtedly accounts for the delirium so frequently associated with this condition.

#### *Examination of Lungs for Pulmonary Fat Embolism.*

Use a glazed earthenware plate or platter washed thoroughly with soap and water and rinsed; the knife is cleaned in the same manner.

Wipe the surface of the lung clean with a dry towel. With one long sweep cut into the lung, then, free from contamination with fatty tissue, express some of the blood from the cut surface. Allow this blood to flow slowly in a thin stream over the platter. If there is fat present it will appear as little globules on the surface of the expressed blood. Experience will render the detection of small amounts of fat an easy matter.

#### *Treatment.*

1. Prophylactic treatment consists in fixation of fractures with extension where possible; early and efficient surgical interference for fractures; at operation on wounds involving fatty tissue it is imperative to secure careful and complete haemostasis, particularly the ligation of the non-bleeding proximal ends of veins as well as the bleeding distal ends.

2. Active treatment is only symptomatic. Small amounts of sodium bicarbonate (2 per cent.) are helpful. The administration should be regulated by the condition of the right heart. Transfusion of blood in small amounts may be useful.

#### *Conclusions.*

Pulmonary fat embolism is much more frequent in the war zone than was formerly thought.

A reasonably accurate diagnosis of pulmonary fat embolism can be made.

Cases of pulmonary fat embolism do not respond readily to measures of resuscitation.

The ultimate cause of death in pulmonary fat embolism and in shock may be the same—namely, acidosis.

#### REFERENCES.

- Bissell, W. W.: *Surgery, Gynecology, and Obstetrics*, July, 1917.  
Fischer, B.: *Verhandl. d. deutsch. path. Gesellsch.*, 1914, xviii.  
Gause, H.: *Arch. Int. Med.*, 1916, xviii.

## THE SURGICAL CURE OF UTERINE PROLAPSE.

BY

HUGH P. COSTOBADIE, F.R.C.S. EDIN.

THE surgery of the present war is occupying the minds of all, and so rapid has been its progress in many respects that our whole attention is required to keep in touch with its various developments. As yet, however, but little of the new work has found an application to general surgery, and it is doubtful whether, excluding orthopaedics, accidental injuries, and possibly the surgery of the chest, any other branch is likely to benefit at all. On the other hand, there are a few surgical conditions, apart from wounds, which have become somewhat more common during this period, and therefore more experience has been gained in them. Of these, hernia, both in the male and female, and prolapse of the uterus are being more frequently encountered. Alternative operations for the former condition are being published and discussed, and the results are being more readily and carefully followed, so that some improvement is likely to accrue in the surgical treatment of this condition. Unfortunately uterine prolapse has not received so much attention.

The following paper has been written to describe what are probably the best operations for the cure of prolapse practised to-day. Though very much pre-war operations, they are not as well known as they deserve to be, nor is

their reputation likely to spread at a time when pressure of work tends to make men adhere to their own methods, unless their attention is especially called to other measures.

That prolapse should increase can be readily understood, and it may chiefly be accounted for by the following factors:

1. Great increase of women workers.
2. Heavier kinds of employment.
3. Less food, especially fats.
4. Increase of wage, which keeps the woman at work even when she is ill and brings her back to work before she is recovered, especially from her confinements.

In other words, it more frequently happens to-day that increased intra-abdominal pressure through heavy work is enabled to take such effect upon generally weakened uterine supports in a woman whose occupation keeps her standing and whose pelvic floor has either been recently injured and has not had time to recover, or has at some previous date become impaired, that prolapse results.

To treat this, rubber rings can scarcely ever be recommended, and can only occasionally be used, either as a temporary measure, or for a patient upon whom operation is contraindicated. In the woman worker they very soon become irritating because they lack the necessary attention she is unable to give. Operation should therefore be advised in all these cases, whether they are within the child-bearing age or no.

Fixation and suspension of the uterus for prolapse is still practised by many surgeons, but the results with patients on whom I performed this operation some time ago have not been altogether satisfactory, nor have the results been much better in those few cases I have seen where suspension was performed for the same purpose by other surgeons. In combination with some form of colporrhaphy the results are better. Hysterectomy need not be considered, though even recently I heard of hysterectomy alone being performed for prolapse, with, of course, a subsequent complete eversion of the vaginal canal.

Of the vaginal operations still performed for the definite cure of prolapse, the transposition operation largely used in America, and extensive anterior and posterior colporrhaphies, as practised in Manchester and elsewhere, are the only methods by which a cure can be almost definitely promised. The American "transposition" operation consists of freeing the uterus and bladder, and using the former and the cervix, or a necessary portion of them, after the remainders have been excised, to give a firm support to the bladder. A posterior colporrhaphy or perineorrhaphy is then performed. The published results of this operation are good, but it has several obvious drawbacks which I think are not possessed by the method of anterior and posterior colporrhaphy which I am about to describe. I first saw these colporrhaphies performed by Professor Donald and Dr. Fothergill of Manchester, and have since carried them out according to their technique with uniformly good results. The operation in the case of complete prolapse, with the almost always present elongation of the cervix, consists of amputation of the cervix by a circular method, or by means of anterior and posterior flaps, followed by a large anterior and posterior colporrhaphy. Dr. Fothergill carries out the amputation and anterior colporrhaphy by means of one incision. Dr. Donald amputates the cervix by means of anterior and posterior flaps, and then follows the anterior colporrhaphy, a separate step entirely. Either operation may be performed according to the requirements of each individual case. Usually I prefer to amputate by means of flaps when the patient is of child-bearing age, but after that time I use the circular method, where, should stenosis of the canal follow, it would not be of so much importance. I perform this operation as follows, which is, I believe, as nearly as possible the method employed by the Manchester surgeons.

The patient having been prepared, is placed in the lithotomy position; the vagina is freely flushed out with a solution of lysol, followed by perchloride. It is then carefully dried out with swabs and washed with spirit and the surrounding surfaces painted with iodine. The anterior lip of the cervix is grasped with vulsellum forceps and a sound is passed to give an accurate measure of the amount of cervical elongation. The cervix is then dilated sufficiently to admit the flushing curette, and the interior of the uterus is carefully curetted. The posterior lip is now grasped with a second pair of vulsella and drawn down as far as possible, everting the vaginal canal almost completely.



(In the following description the words "above" and "below" refer to the position of the parts as they now are.)

A pair of small Spencer Wells forceps is now used to pick up the mucous membrane, just below the urethral orifice exactly in the middle line, and being held by an assistant, serves to mark the apex of the incision which is about to be made, as well as to put the anterior vaginal wall more on the stretch. Two other pairs of forceps are used to mark two points opposite

to one another on the lateral aspects of the cervix, well below the point at which it is decided to amputate (Fig. 1). The whole anterior vaginal wall is now made tense by means of gentle traction on these forceps and the vulsellum, and from a point immediately below the first pair of forceps to a point immediately in front of and below the forceps on the left of the cervix an incision is made curving somewhat outwards. This incision is then carried circularly around the back of the cervix to a point just below and in front of the forceps on the right of the cervix; from thence to the starting point at the first pair of



FIG. 1.

forceps (Fig. 1). Care must be taken to cut through the mucosa along the whole length of this line, as the incision is apt to become lost where the folds of the mucosa prevent the knife from reaching the underfolds. The denudation should commence at the apex of the triangular area thus mapped out, and is greatly assisted by catching the free edge of the mucosa with artery forceps at short intervals and stretching it over the finger-tips of the left hand. It is carried out by frequent snipping of the underlying connective tissue with the rounded points of a pair of angled or curved scissors. If the proper plane is struck, gauze dissection can sometimes be used and time saved, but rough handling is to be avoided, as the upper two thirds of the dissection is over the bladder, the lower fold of which is usually apparent through the mucosa. When the surface has been denuded as far as the level of the two lateral Spencer Wells forceps, deep snips are made with the scissors straight down upon the firm cervix, these deep cuts being carried round the back of the cervix, following the line of the original incision. The firm cervix having been reached throughout its entire circumference, the loose tissues are easily separated from it by means of a swab and pushed upwards until the selected point is reached for its division. The knife is then taken and the cervix cut through half its extent, when, to retain it, its anterior edge is caught with a pair of stout Kocher's forceps applied in the middle line, the amputation completed (Fig. 2), and the posterior edge caught in the same way.

Haemorrhage, the bladder, and Douglas's pouch require special mention. Bleeding is not brisk until the cervix is reached, when branches of the uterine and vaginal arteries are wounded. The amputation should therefore be carried out fairly quickly, the larger vessels temporarily controlled with pressure forceps, and permanently by suture-ligatures of gut as soon as the amputation is completed. The bladder, which can usually be easily located before the operation is commenced, is not readily wounded during the denudation if reasonable care be taken, and, even if very low, is pushed up out of the way with the loose tissue by means of a pad of gauze, as described during the freeing of the cervix before its amputation. It is at this stage also that the pouch of Douglas, lying behind, is also pushed upwards out of danger. In most cases, however, it lies much lower than the bladder and is therefore more frequently injured. If this happens, it should be closed at once by means of a purse-string suture, for though the danger of a general peritoneal infection is not very great, a local collection of pus may form.

Suturing is now commenced, and as the success of the operation depends greatly upon them, the sutures are most carefully applied. A medium sized cutting needle, preferably Hagedorn's, is threaded with No. 3 chromicized gut. The needle is easily introduced a little way up the dilated cervical canal and driven through, in the middle line, the posterior wall of the cervix, the latter being steadied by means of the Kocher forceps here applied. These are now removed and the free edge of the mucosa behind is picked up with dissecting forceps, its edge brought over the raw surface of the stump of the cervix till it reaches the edge of the cervical canal. Retained in this

position, the needle is made to penetrate it and the suture is tied and the ends are left long. A large "Auvars" self-retaining speculum is now introduced into the vagina, and sutures are applied in the manner described, first on one side and then on the other of the primary suture, until the circuit of the cervix is completed. During their application the cervix is steadied by pulling upon the long ends of those already in place, though the traction must not be so great as to prevent the easy and accurate covering of the cervical stump.

As the suturing from behind gradually approaches the front it will be found that the uterus tends to retract within the vagina, and the two marking forceps originally applied laterally to the mucosa covering the cervix approach one another in the middle line. The final stitch is best applied as a blanket stitch gathering up the loose lateral parametric tissue, approximating the two edges of the mucosa, and at the same time fixing these upon the last bare part of the cervix. The Kocher's forceps, together with the Spencer Wells, are removed before this stitch is tied. Still using with care the sutures as tractors, the uterus is now lightly packed with gauze, the end being left long enough to remain outside the vagina. This packing serves to keep dilated for the time being the new orifice of the cervical canal. The long ends of all the cervical sutures except the last one (that in the middle line in front), are now cut short and the speculum withdrawn, and the uterus is tucked further into the vaginal canal, where, though still readily accessible, the supporting parametric tissues are allowed to become more relaxed. It is in this position that the remaining sutures must be applied. These are of No. 4 or 5 catgut, used with the same needle as before. It is well to remember that a double turn to the first half of each knot, when tying catgut, saves much time and gives more accuracy to the result. It will now be found that the surface to be covered runs from the tip of the cervix to the first pair of "marking" Spencer Wells. It is oval in shape, and its edges can be readily approximated (Fig. 3). Interrupted sutures are used, commencing from the cervix, and the first three or four are the most important. These should be wide and deep, biting well into and gathering up as much more as possible of the loose parametric tissue lying laterally to the cervix. By this means the cervix will be kept back, and a position of anteversion of the uterus obtained.

When applying each successive suture some traction may be made upon the last to steady and approximate the edges of the incision above, but this must be so conducted that the stitching is carried out actually within the vaginal canal; nor must the cervix or any part of the anterior vaginal wall be again drawn outside. Here again the bladder needs special consideration. When, during the denudation of the anterior vaginal wall, the connective tissue which lies between the bladder and vagina is found much thinned and even entirely absent, a row of buried sutures may be placed in the bladder wall folding it inwards from top to bottom of the surface exposed. A second or third row may follow, until the denser connective tissue lying laterally has been so approximated that it can be picked up and drawn together with each stitch that closes the mucosa. By this means the bladder is raised, the so-called "hernial opening" of the cystocele closed, and the urethra straightened. It is advantageous at times to separate the bladder somewhat from the uterus to perform this step the more effectively.

The last suture having been placed and cut short, a small speculum is passed and the suture line inspected for possible bleeding from needle puncture of small vessels, when the flattening or slight incurving of the anterior vaginal wall, together with a marked increase in its length, will be noted—in other words, a complete disappearance of the cystocele, and a backward pointing cervix.

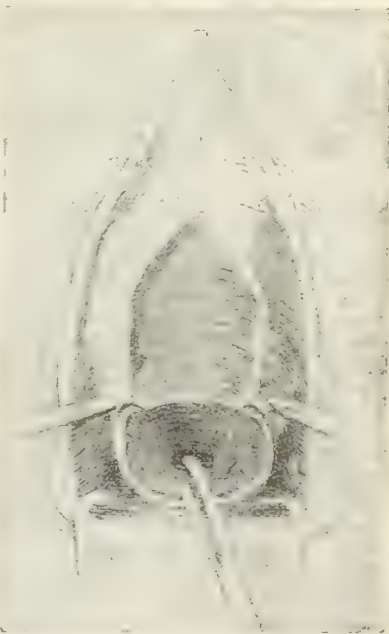


FIG. 2.

So much of the foregoing description applies to the alternative method—that is, that of flap amputation of the cervix followed by an extensive anterior colporrhaphy—that it will not be necessary to do more than indicate the steps of the operation.



The two cervical lips, after dilatation and curettage have been carried out, are seized and held apart by means of vulsellum forceps, while the cervix is split laterally to a height corresponding to the length of cervix it is thought desirable to remove. The posterior half is now amputated, leaving a flap thin enough and of sufficient extent to be turned forward over the cut end of the cervix, where it is fixed by three or four sutures which are carried first through the cervix, entering it

just within the dilated cervical canal, and then through the flap. The ends of these sutures, which are of chromicized gut, are left long and serve to steady the cervix while its anterior portion is removed in the same manner, and the flap fixed. A few more stitches serve to bring the mucosa together over the stump on each side of the cervical canal and to control all the haemorrhage. The uterus is now packed, the end of the gauze being brought out of the vagina and all the stitches, except two or three in the front, are cut short. Having picked up the mucosa in the middle line and just below the urethral orifice with a small pair of Spencer Wells forceps, the anterior vaginal wall is made sufficiently tense by traction upon these and upon the long ends of the sutures.

An incision is now begun just below the forceps and carried downwards with an outward curve in the manner already described. The cervix, however, being already amputated, the incision curves sharply forward across the front of the stump, instead of passing behind, and from here, in a curve corresponding to that of the opposite side, is carried back to the starting point. Denudation is commenced either from above or below. It is carried out in the same manner and with the same precautions as before described, as also is the suturing which is begun at the cervix. Care should again be taken to make the first stitches include as much of the lateral parametric tissue as possible, and before they are applied to push the uterus well within the vaginal orifice.

The introduction of a small speculum and inspection of the anterior vaginal wall and cervix will show that a result has been obtained almost identical with that already described.

The posterior vaginal wall has now to be dealt with. The insufficiency of a simple perineorrhaphy led Professor Donald to devise the operation of posterior colpo-perineorrhaphy. By its means the "bagginess" of the upper vagina is greatly diminished by a colporrhaphy which is commenced high up upon the posterior vaginal wall, which is stripped of its mucosa in stages from above downwards. Each stage is closed before the next is commenced, and the triangular denudation with its broad base reaches the muco-cutaneous junction at the perineum.

The final steps are those of a perineorrhaphy. No speculum is used, but a point in the middle line, and fairly high up the posterior vaginal wall, is picked up with a pair of Spencer Wells forceps. Slight traction upon these brings down much redundant mucosa, so that a second pair of forceps may be applied above the first, but still strictly in the median line. These, when gently pulled upon, should bring the mucosa, at the point held by the forceps, as far down as the vaginal outlet but no further. This is the proper point at which to commence the denudation of the posterior wall. Thus fixed and raised, it will be noted that the mucosa falls sharply away from the forceps in two lateral folds, which eventually become lost in the lateral vaginal walls. At the lowest point at which these folds remain prominent they are again picked up with forceps, one on each side (Fig. 4). In this manner an isosceles triangle of mucosa is formed, about an inch and a quarter upon the sides and an inch across the base, which can be kept on the stretch. The incision runs from the apex to the base upon each side, keeping within the marking forceps. Denudation is carried out from above downwards, and when the base of the triangle is reached the lateral tension is relaxed and suturing is commenced from above. Interrupted sutures of catgut are again used as in the anterior suturing, and the last suture here applied will bring together the lateral marking forceps, which

have not been removed and which, held together, now form a traction point for the apex of a second triangle, which is mapped out, denuded, and sutured in the same manner as the former.

The mapping out of the third and final area will require the placing of the lateral marking forceps on the sides of the vaginal outlet. In estimating the position in which these are to be placed, it is only necessary to remember that the portion of the vaginal outlet in front of the forceps will remain and will correspond to the new vaginal orifice, the size of which can be estimated before the incision is commenced by approximating these two pairs of forceps. An incision is made first on one side, then on the other of this final triangle of mucosa as it is made tense by means of counter-pull upon the forceps at the apex and those last applied at the vaginal orifice. Between these two lateral incisions the area is denuded until the muco-cutaneous junction is reached. Along this line—the base of the large triangle—the separated mucosa is cut free. Within this area much scar tissue is frequently met with, binding the rectum firmly to the posterior vaginal wall, and care should be taken to see that the former is thoroughly freed. Lateral tension is again relaxed and the suturing of the mucosa continued from above downwards. When the proper level is reached the levatores ani are brought together with buried sutures and the suturing of the mucosa afterwards continued to the outlet. Two or three silkworm gut tension sutures are placed deeply through the perineum, which serve also to bring the skin edges together. A further light packing for the vagina is tied to the free end of that which is already within the uterus and the operation is completed.

I have not given a more detailed description of the later stages of the operation because so much has been written upon perineorrhaphy, but I must call attention to one or two points which are sometimes missed in these descriptions. They are: the height at which the denudation should commence, the depth to which it is necessary to carry it out, and the objects to be attained by the suturing.

It has been stated that there is no necessity to carry out denudation beyond the level of the upper border of the levator ani muscle. It should be remembered that the operation is in part a plastic operation upon a tube, and to commence abruptly and yet sufficiently extensively would result in a great bagginess above a narrowed outlet, which would be a hindrance to the future proper drainage of the vagina. The mucosa only need be removed throughout the whole extent of the posterior colpo-perineorrhaphy. There is no necessity whatever to bare the levator ani muscle by removing the sub-

mucous fibrous tissue. This, indeed, must be carefully left, as the muscle can be well defined by touch, and the fibrous tissue gives greater support to the sutures drawing the muscle together than will the muscle fibres themselves; and of course, however carefully these muscle fibres be approximated, the union that follows will be a fibrous one.

The two objects of the suturing, over and above the closing of the raw surfaces, are to approximate as accurately and as

far forwards as possible the separated and stretched levator ani muscles, and to build up at the same time as large and firm a perineal body as is possible. The former object is greatly aided by making as broad a denudation as will not too greatly constrict the vagina so that a maximum of the muscle can be reached. This also will be aided by placing the sutures for approximating the levatores ani before the mucosa of the posterior vaginal wall (opposite the plane on which the muscles lie) has been brought together. It will be found that if the loose fibrous tissue be gathered up with every stitch used to

FIG. 3.

FIG. 4.



coapt the edges of the mucosa there will result a great addition to the remnants of the perineal body.

The operation here described may be looked upon as the most extensive ever found necessary, and therefore has only to be modified to suit lesser degrees of prolapse, when amputation of the cervix nearly always ceases to be necessary. The results are almost invariably excellent, even in very stout women, and the operation can be carried out without fear of preventing pregnancy or interfering with delivery. Retroversion, uterine prolapse, cystocele, and rectocele, which are each in turn dealt with during this operation, are corrected and cured.

#### REFERENCES.

<sup>1</sup> Professor Donald, 1908. <sup>2</sup> Dr. Fothergill, *Transactions of the Edinburgh Obstetric Society*, 1907-8; *BRITISH MEDICAL JOURNAL*, April, 1915; *Amer. Journ. of Surgery*, May, 1915.

## A METHOD FOR THE IMMEDIATE TREATMENT OF FRACTURE OF THE FEMUR ON THE BATTLEFIELD AT THE SITE OF THE CASUALTY.

BY

F. B. CHAVASSE, CAPTAIN R.A.M.C.,  
ATTACHED NO. — CASUALTY CLEARING STATION.

### Scope and Objects of the Method.

THIS method is not a rival to the far more satisfactory Thomas splint; but the first place at which a Thomas splint is available is not at the site of the casualty, but (with fortune) at the regimental aid post, or, if active operations are in progress, not until the advanced dressing station in most cases.

Up to this point the nature of the ground renders constant jolting and severe undulation of the stretcher inevitable. Often covering many thousand yards, and occupying many hours, this preliminary journey to the aid post or advanced dressing station is by far the roughest portion of the patient's transit to a casualty clearing station. It is also by far the longest in time. The most deadly portion of the journey is, therefore, before a Thomas splint can be applied.

At present this journey is undertaken with the aid of the very ineffectual rifle splint, or more generally with no splint at all.

The following method is designed for use by regimental stretcher-bearers at the place where the casualty occurs.

### The Method.

The principle of the method is the application of very powerful extension, followed by fixation in the extended position.

A stretcher and two slings are required. It is the rule for each of the four bearers in a squad of regimental stretcher-bearers to carry a sling. Thus two slings are still available for carrying the stretcher (should this method of carrying be possible or desirable). If there are no slings, puttees can be used. Spare slings should be available at aid posts. The procedure is as follows:

1. Expose and dress the wound.
2. Enlarge the adjustable loop of one sling to its maximum by shifting the grip plate as far as ever it will go. Slip the loop over the foot on the injured side, and pass it up as far as the groin.
3. Tie the ankles and knees firmly together (with narrow fold triangular bandages, or other bandages or makeshifts).
4. Open the stretcher and place on it a small pillow where the knees will be. (A waterproof sheet, doubled from side to side and loosely rolled from end to end makes a suitable pillow.)
5. Place the patient on the stretcher so that his heels project an inch or two beyond the edge of the canvas, or more if he is a tall man. The heel on the injured side should be a little lower than the other if possible.
6. Adjust the loop of the other sling so that it is equal in length to the distance between the poles of the stretcher (1 ft. 7 in.). Slip it over one handle and wind very tightly about the feet, as shown in Figs. 1 and 2. That is to say,

pass it from one handle across the soles of both feet, up across both insteps, behind both ankles, down across both insteps, *then through the loop* (to avoid torsion of the feet), and thence across the soles of both feet to the opposite

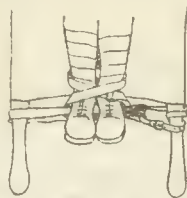


FIG. 1.—Securing the feet. Note small loop end passed through large loop, and small loop itself turned inside out, bringing small strap inside the small loop.

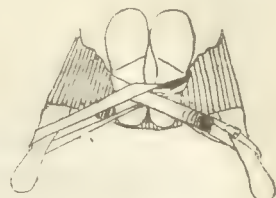


FIG. 2.—Securing the feet. Note end of sling passed through large loop before buckling off. Small loop turned inside out, bringing small strap inside the small loop.

pole. Secure by buckling the small strap round the opposite handle, making all as taut as possible. To avoid the small strap tearing away owing to the strain, the small loop to which it is sewn should be turned inside out, thus causing the strap to pass actually through the small loop.

7. Gently raise the stretcher almost into the perpendicular, so that the patient is hanging by his feet. Draw the patient down head first as far as he will come (Fig. 3). (If the patient continues to have pain he may be



FIG. 3.—Obtaining extension.

left for a few minutes until the muscles are tired. He may then be drawn down a little further.) The stretcher may be propped up against something.

8. See that the back part of the loop is well behind the buttock. Adjust the loop so that the grip plate will almost lie on the surface of the stretcher when the strain is taken. (This position of the grip plate tends to correct the flexion abduction and external rotation of the upper fragment.)

9. Put a very heavy strain on the groin sling and secure by buckling the small strap round the pole handle by the head in such a way that it does not rotate and slip (Fig. 4).

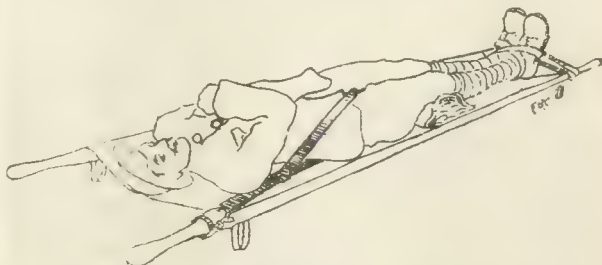


FIG. 4.—Note that the dressing on the wound, the bandages round the ankles and round the knees, and the bandage securing the pelvis to the stretcher are omitted for the sake of clearness. Also the rifle, which may be placed (bolt removed) along the outside of the limb to steady it.

While making fast the strong pull must be kept up in order that everything shall be taut after making fast. (There is no possibility of the groin loop constricting the femoral vessels, as in the rifle splint and a badly applied long



Liston. For the sling loop is so oblique that it does not cross these vessels at all.)

10. Level the stretcher. Tie a bandage round pelvis and stretcher. Lay a rifle, bolt removed, along the outside of the limb to steady it. Bandage it in position. The patient is now ready for his journey.

## A SPLINT FOR FRACTURED SHAFT OF THE FEMUR.

By H. E. GRIFFITHS, M.B., F.R.C.S.,

LATE RESIDENT MEDICAL OFFICER 1ST LONDON GENERAL HOSPITAL.

THE apparatus is designed with the two fold object of keeping the limb at rest—that is, with hip and knee slightly flexed—and of producing an extension which acts in the line of the femur. Such an extension may be brought about by pin transfixion of the lower end of the femur, or preferably of the head of the tibia, for it is to that region that the hamstrings are inserted, the semitendinosus and semimembranosus to the tibia, the biceps to the head of the fibula. These are the muscles which act as the main cause of the shortening, of such frequent occurrence in fractures of the femur.

The apparatus consists of (1) a metal framework (Fig. 1). The limb is slung by flannel bandages, rubber supports,

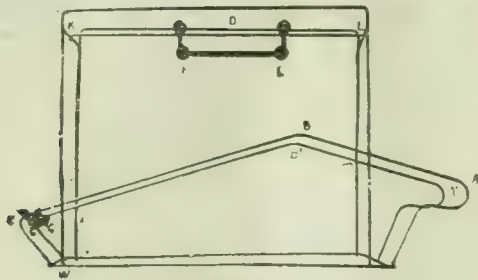


Fig. 1.

or perforated zinc from the bars  $ABC$ ,  $A'B'C'$ , the knee being situated opposite  $B$ , and the line of the femur parallel to  $AB$  and the line of the tibia parallel to  $BC$ . A pulley,  $c$ , is fixed in a bar between  $c$  and  $c'$ . (2) A cradle,  $n$ , travelling along the bar,  $KL$ , and carrying two pulleys,  $r$  and  $e$ . (3) A leather collar, lined with thick felt and strengthened on the outer side by bands of thin steel, acting as springs to prevent lateral pressure on the head of the fibula. The collar fits loosely round the leg at the level of the head of the tibia. A metal ring, from which one of the pulls in the limb is taken, is fixed in the upper surface of the collar.

Represented diagrammatically (Fig. 2) the force desired is one,  $\gamma$ , acting in the line  $ox\gamma$ . By the parallelogram

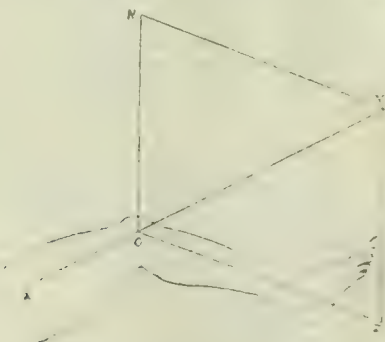


Fig. 2.

of forces  $\gamma$  may be resolved into two forces,  $x$  and  $z$ , acting in the directions  $ox$  and  $oz$ ,  $x$  and  $z$  being proportionate to  $\gamma$  as the length of the lines  $ox$  and  $oz$  are to the lines  $ox$ . The angles are such that, when the resultant force acts in the line  $ox$ ,  $z$  is twice  $x$ . The force  $x$  is produced by a weight pulling over  $r$  and  $e$  (Fig. 1) on to the ring attached to the leather collar. The force  $z$  is obtained by a weight acting over  $c$  on to a stirrup fixed to a strap extension applied along the sides of the leg.

### Method of Application.

A strap extension with stirrup is put on the leg in the usual manner a couple of hours or more before it is proposed to put the limb up in the splint. Gauze and glue are better than adhesive strapping. Care must be taken that the strapping be not prolonged downwards below a point 2 in. above the malleoli or upwards on the outer side of the leg above the neck of the fibula.

If the patient has been in a straight splint for any length of time a general anaesthetic will be necessary. The knee and thigh are semiflexed and slung by flannel bandages. The slings are adjusted until the long axis of the thigh lies parallel to  $AB$ , and the long axis of the leg parallel to  $BC$ , and the knee lies opposite  $B$ . The slings may now be replaced by perforated zinc if thought desirable. The leather collar is buckled round the upper part of the leg, so that the ring lies above the head of the tibia. If the felt be too thin a little wool should first be placed round the leg. The greatest care must be exercised to avoid the slightest pressure on the head of the fibula. A cord is fixed by one end to the ring on the collar, and the other end is passed over the pulleys  $r$  and  $e$ , and attached to a weight. In this way a vertical pull is exercised through the ring. The weight acting over  $c$  is now attached to the extension on the leg.

Until the shortening has been overcome a resultant pull of about 25 lb. should be employed—that is, a vertical pull of 12 lb. acting over  $r$  and  $e$  and a pull of 24 lb. acting over  $c$ . These weights will be necessary for about forty-eight hours, after which they may be reduced by 50 per cent. or more. If it be found undesirable to have so large a weight as 12 lb. hanging at  $r$ , a system of multiplying pulleys can be attached to the collar, and the weight diminished accordingly.

Any tendency that the whole limb may have to ride forwards, or for the apparatus to press into the groin may be counteracted by placing a counter extension of strapping on to the sides of the upper part of the thigh, fixing it to the posterior end of the splint below  $A$  and  $A'$ . The foot is kept in position by a sliding foot-piece or a toecap. When the skin is too tender for strapping, the whole leg up to the knee may be put in plaster-of-Paris and the extension incorporated in this. The slings may be removed for dressings without unduly disturbing the position of the limb. The patient may be propped up in bed or allowed to lie flat as may be desired.

### Advantages of the Apparatus.

1. Ease of application.
2. The limb is kept in the position of rest.
3. A pull is obtained along the line of the femur which is necessary to secure the best position of the fragments.
4. No open operation is required, and the risk of septic infection of fresh tissues is avoided.
5. The ease with which dressings may be performed.
6. Added comfort to the patient.

### Disadvantage.

The possibility of a pressure sore occurring over the head of the fibula. This will not occur if the collar be loose and the springs strong. If the patient makes any complaint, the collar can easily be unbuckled and the part examined, and any readjustment made.

I am indebted to Major L. Bathe Rawling for much helpful criticism. The splints have been made for me by the Kensington War Supply Depot.

P. CARNOT and H. BONDROY (*Compt. Rend. Soc. de Biol.*, 1918, lxxxi, p. 487) have found by observations on man that the caecum possesses a considerable absorptive power for water, sugars, and albuminoids. Some very soluble substances, such as peptones, do not go as far as the caecum, whereas other very readily reabsorbed substances, as sugars and albuminoids, penetrate the caecum, but are not found in the rectal evacuations. They conclude that the caecum plays a far from negligible part in digestion, that the suggestion of certain biologists and surgeons as to the uselessness of the large intestine does not correspond with physiological facts, and that resection or exclusion of the large intestine leads to a great physiological waste of valuable alimentary substances.



## "ACIDOSIS" AND HYDROGEN-ION CONCENTRATION.

BY

W. M. BAYLISS, M.A., D.Sc., F.R.S.,

PROFESSOR OF GENERAL PHYSIOLOGY IN UNIVERSITY COLLEGE,  
LONDON.

IN Professor Moore's second paper<sup>1</sup> he carries on the problem of "buffer salts" to the important practical connexion it has with the state called "acidosis" and with the appropriate treatment thereof. The question is discussed in some detail in a forthcoming memorandum of the "Shock" Committee, which will soon be placed by the Medical Research Committee at the disposal of those interested. But it may serve a good purpose if I attempt, as briefly and simply as I can, to place the main points of the discussion before the judgement of the readers of this JOURNAL. Before doing so I may be permitted to reply to Professor Moore's criticism of my previous statements so far as they refer to the relative importance of the proteins and the bicarbonate in the blood.

When Fernbach and Hubert used the word "tampon," we may surely assume that they were aware of its meaning. Littré's *Dictionnaire de Médecine*, after stating that "tampon" is used for "tamponnement," describes the latter thus:

Introduction de bourdonnets ou de tampons de charpie, secs ou imbibés de liquides hémostatiques, dans une plaie ou dans une cavité naturelle, telles que l'utérus, le vagin, les cavités nasales, pour arrêter une hémorrhagie.

As I remarked before, the word is not altogether satisfactory for the purpose of the authors named, but it is better than "buffer." However, I adhere to my opinion that neither is required in the case of the blood.

Claims of priority in such matters are rather sterile and lead to little profit. It must be admitted that the work of Professor Moore and his colleagues has not received the attention it deserves, but may I point out to him that the titles of the papers scarcely suggest that the method by which the neutrality of the blood is preserved is discussed therein?

The experiment suggested at the top of p. 253 has actually been done. With what result? In the *Journal of Biological Chemistry*, vol. vi (1909), Brailsford Robertson put forward the same view as Professor Moore has done, but without referring to his work. Lawrence Henderson replied in the succeeding volume with calculations showing that the effect of protein must be very small compared to that of the bicarbonates. Robertson then performed the actual experiments, and honourably admitted that he was wrong. He states (p. 356) that between the reaction of normal blood and that of "advanced acid intoxication" "the proteins of the blood are about one-fifth as efficient as the bicarbonates in maintaining its neutrality." These experiments were done by the use of the hydrogen electrode, and their accuracy cannot be denied. Professor Moore, on the contrary, holds that 90 per cent. of the effect is due to the proteins.

There is no doubt that proteins can combine with acids and bases in strength beyond this range; but, as Professor Moore admits, the turning point of methyl-orange is at a reaction incompatible with life. The chemical change to which I referred is merely that of an internal anhydride to an open form, easily reversible by the removal or addition of the elements of water.

The experiment of adding a drop of acid to serum and noting that the change of colour produced returns to its original tint on exposure to air is of interest because it shows that the increase of acidity is due to carbon dioxide set free. If it does not come from bicarbonate, what is its source? No evidence has been given against that quoted as a proof that proteins do not combine with carbon dioxide.

The giving off of carbon dioxide to a vacuum does not really touch the present question, because the blood is not exposed to zero tension of carbon dioxide in the lungs and at the actual alveolar tension no bicarbonate is dissociated. I quite agree that "acidosis" cannot be determined by driving off the carbon dioxide by sulphuric acid in a vacuum, for the reason to be seen presently.

I must ask pardon of Professor Moore for misunderstanding him as to the kind of union he believes to exist

between the salts and colloids of blood serum. It appears that he does not mean chemical combination but physical juxtaposition, in fact, what most people now call "adsorption." Much confusion is caused by the use of the word "combination" for this. But I do not admit that it is an error to say that the sodium and chlorine ions in a solution of sodium chloride are not in "chemical union." If they are, what is the difference between the dissociated and undissociated molecules? The reason why the ions cannot be separated without the expenditure of a great amount of energy was pointed out by Arrhenius to be the physical electrostatic attraction between oppositely charged bodies. The use of the expression "chemical combination" should be restricted to those cases where there is a change in the nature of the atoms concerned, such a change as implies alteration in their internal structure and energy.

However, I cannot agree that the salts are in a state of adsorption on the surface of the proteins. Adsorbed substances take no part either in osmotic pressure or in electrical conductivity. The reason why gum solutions are so much more effective in maintaining blood pressure is not because they hold back the salts from escape, but because they hold back the water. As Scott showed, the wall of the blood vessels is normally permeable to salts and water, not to colloids; hence the osmotic pressure of the latter is effective in holding back the water from leakage to the tissues.

The paragraph with reference to the production of toxins and so forth has nothing to do with the maintenance of neutrality and confuses the issue. The advocates of "acidosis" as an important factor in pathological conditions assert that it is the state itself that is responsible. But what do they mean by it?

The introduction of the names "acidosis" and "acid-aemia" can only be regarded as a misfortune to the interests of clear thinking. If they mean anything, they imply that the blood becomes acid. It does not improve matters when Van Slyke defines acidosis as a state in which the sodium bicarbonate of the blood has become reduced below a certain value. The question is, Does the introduction of acid into the blood, whether by formation in the tissues or by intravenous injection, increase the "acidity" of the blood to any perceptible degree, or is it of itself a matter of any real importance? I regret to notice that Professor Moore himself uses the word "acidity" when he merely means a change in the available alkali of the blood, because Sir Almroth Wright's method of titration determines this and no more.

This property which we call "acidity," common to all acid substances, is the presence in their solutions of hydrogen ions arising from their greater or less electrolytic dissociation. Different acids vary in this, and it is no small advantage of the use of the expression "hydrogen-ion concentration" that it gives us in absolute numerical expression the strength of an acid.

Now, when acid comes into the blood, does it change for more than a brief period of time the hydrogen-ion concentration? This is the crucial test, since all the physiological and pathological effects described as due to acid are effects of hydrogen ions in increased concentration. That none of these effects are produced by the introduction of acid into the blood is shown by the experiments of Dale and Richards, which will be found described in detail in the memorandum to be published. I may merely say here that large quantities of acid were injected into cats intravenously, enough to produce what Van Slyke's method would indicate as a very severe acidosis, since the bicarbonate was reduced to a very low level. On recovery from the anaesthetic, these cats ran about and showed no abnormal signs. Some experiments which I made myself throw light on the reason why this was so. A sample of blood was taken from a cat under urethane, the plasma centrifuged off under liquid paraffin, and a drop of neutral red added. The colour was the orange tint of neutrality. Acid was then introduced into a vein in amount sufficient to neutralize one-third of the bicarbonate. Temporary hyperpnoea resulted, as in Dale and Richards's cats. Another sample of blood was taken a little later and the reaction to neutral red was found *unaltered*. Neutral red is very sensitive to a slight change in hydrogen-ion concentration at the region of the reaction of blood and would easily have indicated it, if present. There was no increase in the hydrogen-ion concentration, although the



bicarbonate was reduced. In other words, there was "acidosis" without any change in the "acidity."

Dale and Richards produced acidosis without any harm, because there was no increase in the hydrogen-ion concentration. The explanation should be obvious. Lawrence Henderson pointed out that the hydrogen-ion concentration of a bicarbonate solution containing dissolved carbonic acid depends on the relative proportion of the bicarbonate itself to the carbonic acid. The bicarbonate is the alkali which balances, as it were, the presence of the acid. If we diminish the bicarbonate, therefore, we can keep the hydrogen ion constant by removing carbon dioxide. When acid obtains entrance into the blood it drives off carbon dioxide from a part of the bicarbonate, forming the sodium salts of the acid. There is a temporary increase in the hydrogen ion from the excess of carbonic dioxide, but this increase is far less than the acid itself would have produced in the absence of bicarbonate, because carbonic acid is an extremely weak acid and very little dissociated. All the same, the respiratory centre is so sensitive to the slightest increase of hydrogen-ion concentration that the increase in carbon dioxide referred to is sufficient to stimulate it. This excess of carbon dioxide is rapidly removed by the respiratory ventilation of the lungs, and as soon as enough has been removed to make up for the decreased bicarbonate the respiratory centre ceases to be stimulated, because the hydrogen ion has become normal. Such experiments show the actual state of affairs in the living organism, whereas methods of determining merely the bicarbonate reserve in the blood after exposure to the air or to a particular tension of carbon dioxide, give no information as to the hydrogen-ion content in the organism, because they take no account of the respiratory compensation. When we remember that acids are produced by deficient supply of oxygen to the tissues, we see how appropriate the increased ventilation is.

It may be said that if the sensibility of the respiratory centre is depressed, such a compensation may be inadequate. To test this, I repeated the previous experiment under a large dose of morphine, so that the respiration was reduced to five or less a minute. The result was a marked fall in the bicarbonate reserve, but the change in hydrogen-ion concentration, although detectable, was very minute. It was far less than necessary to produce any of the pathological results ascribed to acidosis.

Corresponding experiments may be done with serum *in vitro*. Adding acid in quantity sufficient to neutralize one-half of the bicarbonate causes an increase in hydrogen ion if compared with normal serum after bringing both into equilibrium with my own alveolar air. But if the tension of the carbonic acid in the air with which the more acid serum is brought into equilibrium is reduced to one-half that of alveolar air, then the hydrogen ion is brought to the same point as the normal serum in equilibrium with normal alveolar air. This is within the limits of respiratory capacity. Henderson and Haggard have shown that to maintain the hydrogen ion constant when the bicarbonate falls by one-third, 50 per cent. more ventilation only is required.

The capacity of regulation towards alkali is more limited in the living animal. I performed an experiment similar to the acid one, but injecting bicarbonate instead of acid. Neutral red is yellow in bicarbonate solution, which is therefore alkaline to it. A sample of blood taken forty minutes after the end of the injection, which had been given slowly, still gave a yellow colour with the indicator, showing an abnormal degree of alkalinity. This is perhaps to be accounted for by the fact that to compensate the increase in bicarbonate, less carbon dioxide than normal must be given off by the lungs; this would also mean a decreased supply of oxygen to the blood, a mischievous effect. It shows that the injection of alkaline solutions is to be deprecated, unless care is taken that the normal bicarbonate content of the blood is never exceeded. Too low a hydrogen-ion concentration is as bad as, or worse than, too high a concentration, because it is less easily rectified by respiration, and physiological processes are just as sensitive to one as to the other.

Professor Moore states that Cannon found a decrease of bicarbonate reserve in wounded men in France. This I admit, since I was present at some of the determinations, but it does not prove that this was the cause of the low blood pressure in these cases of shock. Indeed, Cannon

was always alive to the possibility that the low blood pressure was the cause of the production of acid, and further investigation has convinced him that this is the correct explanation. It is remarkable that Wright and Colebrook (*Lancet*, June 1st, 1918), although they recognized deficient blood supply as a cause of "acidaemia," instead of recommending methods of improving the circulation by the injection of appropriate liquids which do not leave the blood vessels, should have recommended merely solutions of sodium bicarbonate. This certainly neutralizes acid after its formation, but has no effect in diminishing its further production, except by the raised blood pressure during the short time that it, like any other saline solution, remains in the blood vessels. A positive objection to it is that, by diminishing the hydrogen-ion concentration of the blood, it depresses the respiratory activity and leads to a lower oxygen supply at a time when more is needed. In no form of experimental shock have I found injection of bicarbonate of benefit, whereas a solution of gum in 0.9 per cent. saline, even when slightly acid, is nearly always curative.

Decrease of bicarbonate in the blood is not, then, of importance in itself, and the only practical value of determination of its degree, whether by Van Slyke's or by Wright's method, is to indicate deficient oxidation in the tissues. It shows the necessity to improve the blood flow, and recent experience seems to indicate that what is needed is only a solution which will permanently increase the volume of the blood; there is a reserve of haemoglobin, unless the loss of blood has been exceptionally great. The important practical problem of when transfusion of blood is required, and when gum alone suffices, is still under discussion.

#### REFERENCE.

<sup>1</sup> BRITISH MEDICAL JOURNAL, September 7th, 1918, p. 251.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### CELLULOID SOLUTION FOR TRACTION.

(Abstract.\*)

For the past three months experiments have been made with a 5 per cent. solution of celluloid in acetone, which we have found makes an excellent adhesive material; 7 or 8 per cent. may be used where only small areas of skin are available.

The required amount of celluloid scrap and acetone are placed in a dry, clean, wide-mouth bottle, securely stoppered, and shaken at intervals. The solution is ready for use in forty-eight to seventy-two hours, and when properly made is an almost clear homogeneous, syrupy fluid.

The skin should be absolutely dry. A layer of celluloid solution is rapidly applied by a small brush. The quantity should be sufficient to soak through the strip on which traction is to be applied, and a thin coating is applied externally to get out all the wrinkles and air bubbles. Canton flannel is the best material for strips, but a double layer of gauze or muslin that is neither too hard nor too finely woven, may be used. The application of iodine, picric acid and alcohol to areas to which any type of adhesive is to be applied should be avoided as far as possible. If there is delay in putting on the strip, the skin should be recoated, for it dries out in a thin flexible film in a minute or two. The application of a circular gauze bandage increases the effectiveness of adhesion. The solution is combustible, and it is therefore advisable to label bottles properly.

Twenty-five applications of this solution have been carefully observed and it is believed that the scope of traction is increased by its use.

#### CONCLUSIONS.

The conclusions founded on the cases reported in the full paper are as follows:

1. Six per cent. celluloid in acetone makes an excellent adhesive material.
2. Its rapidly volatilizing quality permits of immediate traction.

\* The full paper has been forwarded for publication in *Surgery, Gynecology, and Obstetrics*.



3. It can be used in higher concentrations when only small areas of skin are available.
4. It is insoluble in water—hence not affected by perspiration or climatic changes.
5. Solutions which are likely to increase desquamation should not be used prior to application of adhesive material.
6. The natural process of exfoliation of epidermis limits the effectiveness of one application to about three weeks.

W. F. CUNNINGHAM, Lieutenant M.R.C.U.S.A.,  
1st (Presbyterian U.S.A.) General Hospital,  
B.E.F., France.

#### A SIMPLE GRIP FOR ADJUSTING SUSPENSION CORDS.

For adjusting the levels of the shoulder straps in Sayre's suspensions my father used a simple self-retaining grip or hitch. I believe that he designed it sometime about the early eighties, and a large-sized model of boxwood has been placed in the museum of the Royal College of Surgeons of England. Now that so many limb splints are suspended it seemed likely that this grip might be usefully applied for adjusting their heights by the lengths of cord. As used on the Sayre suspension, the grips were machined out of bronze castings, and these would be rather too heavy, and moreover difficult to get made in the present days. I have therefore endeavoured to simplify the pattern so as to make a readily obtainable device of light weight.

The principle consists in passing the cord through a fixed loop formed at its end; the loop is placed in a slot in a solid piece, through which a hole at right angles to the slot is made to accommodate the main cord; thus a running noose is formed, on which a ring or hook is threaded; when the fixed loop is pulled upon it jams the running part against the sides of the slot in the grip block. By means of the ring the tension in the two limbs of the running noose is more or less equalized, so that after pulling up a weight attached to the ring by means of the free end of the cord, on ceasing to pull the weight remains suspended at the point to which it was raised. If the friction exercised by the ring is removed, as by replacing it with a pulley, the mechanical conditions are upset and the grip ceases to act; it is important, therefore, to introduce some friction at this point.



FIG. 1.



FIG. 2.

FIG. 1.—Showing construction of wire-made grip. The eyes face one another in parallel.

FIG. 2.—Diagram of disposition of cord. A A, jamming points, properly one diameter length apart. Arrow X, direction of pull to raise; arrow Y, direction of pull to release.

The first modification was made by riveting two triangular brass plates together with distance rivets, leaving a space of about  $\frac{1}{2}$  in. between for service with  $\frac{3}{16}$  in. blind cord, or, rather, the fixed loop of that material, whilst a  $\frac{3}{16}$  in. hole through both plates allowed the passage of the free cord. The uppermost of the three rivets serves for attachment to the fixed support. This makes a neat contrivance but demands too much labour in the making. A further simplification results by forming eyes at the ends of a short piece of wire, which is bent at its middle as a staple. One of the free ends of the wire is left rather long and bent across to form a distance piece, and all the points of contact are fixed by a trifle of spelter; even without any solder a considerable weight can be supported without spreading, and possibly pewter solder might be sufficient, but it is rather better to make things absolutely safe with hard solder. For  $\frac{3}{16}$  in. diameter woven blind cord, galvanized steel wire of imperial standard wire gauge 12 (about 0.1 in. diameter) is sufficiently thick; the eyes may be formed about  $\frac{1}{8}$  in.

internal diameter, which brings the distance piece well above, and so allows plenty of room for threading. The eyes may have about  $\frac{1}{4}$  in. distance between them. For larger cord it would be advisable to use a thicker gauge of wire and dimensions to suit.

The figures will perhaps make matters clear; the points marked A A are in reality the contact points with the pair of eyes, against which the running cord is jammed by the tension of the fixed loop.

HERBERT E. DURHAM, Sc.D., M.B., B.C., F.R.C.S.

Hereford.

#### COLLOSOLO MANGANESE IN FURUNCULOSIS AND SEBORRHOEA.

I WOULD like to add my testimony to the value of collosole manganese in furunculosis and in seborrhoeic eczema. I have used the preparation in the form approved by Sir Malcolm Morris—that is, in two solutions, half a cubic centimetre of each being mixed in the syringe and injected intramuscularly. The result is so good as to convince me that this treatment for the above conditions should have a wider use. The following are short notes of two cases:

Case 1.—Wounded on April 14th, 1913, in France; gunshot wound of left thigh. Following wound infection patient developed seborrhoea of scalp, trunk and limbs, specially marked on extensor surfaces of elbows and knees. For three months salicylic acid and ungt. plumbi were applied without success. On July 27th 1 c.cm. injections collosole manganese were commenced and given in all six times during the next month. Patient is now practically free from the disease.

Case 2.—Wounded on August 1st, 1913, in France; gunshot wound of cranium, and extensive lacerations from mustard gas. Multiple boils developed in both axillae. These had resisted treatment for three weeks during patient's evacuation to England, and were cured in a few days by two injections of collosole manganese.

It would be interesting to know whether extensive general seborrhoea often results from a wound infection as it did in Case 1.

E. W. KIRK, M.B., F.R.C.S.E.,

The Birmingham War Hospital,  
Bangor, West Lothian.

Captain R.A.M.C.

## Reviews.

### MEDICAL OPHTHALMOLOGY.

"It seems to me the best and most hopeful feature of ophthalmology is that it has relations, closer or more remote, with every branch of medicine and surgery; indeed, with almost every branch of science." This saying is taken from a paper by Dr. James Anderson, which appeared in the *Ophthalmic Review* of 1889, and it was adopted by Hughlings Jackson as the conclusion of his presidential address at the annual meeting of the Ophthalmological Society of the United Kingdom in 1890. It now forms the text about which has been shaped the textbook of an American writer, a book written on ophthalmology from the standpoint of general medicine, and one which worthily accomplishes the aim of the author.

*Medical Ophthalmology*, by Dr. ARNOLD KNAPP, of New York, is one of a series of seven volumes of an International System of Ophthalmic Practice, which already include such well known books as Darier's *Ophthalmic Therapeutics* and Collins and Maynard's *Pathology and Bacteriology of the Eye*. This new work is worthy to rank with the best of these, and there can be no doubt that it will have a wide circulation amongst general physicians and ophthalmic surgeons; both parties will learn something to their advantage in the thoughts of the author.

The book is divided into fifteen sections. The first is an admirably written and illustrated section on the anatomy and physiology of the visual paths, the ocular nerves, the pupils, and cerebro-spinal fluid. There follow sections on diseases of the nervous system, and of internal secretions; on poisons and infectious disease; on diseases of the circulation, of the respiratory tract, and the digestive tract; on anaemia; diseases of the kidneys, of the bladder; and diseases of the female generative organs; of the osseous system,

The International System of Ophthalmic Practice, Edited by William Porter and Arnold Knapp. *Medical Ophthalmology*, by Arnold Knapp, M.D. London: William Heinemann, 1913. Pp. 392.



and of the skin; and, finally, on hereditary eye diseases. These sections may be regarded as a series of essays, for the style in which they are written is so easy; to read them is a pleasure rather than a labour, and the like cannot be said of the study of many textbooks on ophthalmology. The sections on anatomy and neurology are particularly well done and fill a large portion of the book; the two are so intimately connected, and relate to so large a part of the more interesting varieties of cases seen by the eye surgeon, that for these, if alone, the book is welcome. The section on chemical and microbic poisons is also of the same absorbing quality. That on infectious diseases is another of great interest; it includes not only an account of the eye affections to be found in the exanthemata, but also of those major infections—tuberculosis, syphilis, and gonorrhoea.

Not the least interesting feature of the work is the frequency of references to the work of British contributors to ophthalmic literature; for the author has drawn largely upon the *Transactions of the Ophthalmological Society of the United Kingdom* for observations on clinical conditions.

### DISORDERS OF THE HEART.

The fact that a fourth edition of Dr. THOMAS LEWIS's book, *Clinical Disorders of the Heart Beat*,<sup>2</sup> has been required shows that it has been generally appreciated. A few new paragraphs have been introduced, but in the main the matter is identical with that contained in the third edition.

The most striking of the new statements concerns heart strain. Dr. Lewis does not believe there is sufficient evidence that a healthy heart is ever damaged by muscular exertion, however severe or prolonged it may be. He holds that the cases relied on to illustrate heart strain are, almost without exception, unrecognized examples of paroxysmal tachycardia, examples of heart poisoning from foci of infection, or examples of undetected structural heart disease. He instances the horse as the most heavily strained beast of which we have intimate knowledge, and states that in that animal heart affections are conspicuous by their rarity. Further, according to him, the commonly held belief that dilatation of the heart accelerates the pulse is erroneous.

In spite of being a fourth edition, this work probably remains the best short exposition of the subject with which it deals.

### THE HUMAN INTESTINAL PROTOZOA.

The differential diagnosis of the various forms of diarrhoea has always been one of the most difficult problems for medicine in the East, and, in order to deal with it efficiently, a thorough practical knowledge of the intestinal protozoa of man is essential. *The Human Intestinal Protozoa in the Near East*<sup>3</sup> is a volume designed to supply the needs of the medical man in this respect. The authors advocate certain rules for diagnosis. Many critics may consider it both wrong and impracticable to work by any rule on a subject of this sort, and no doubt theoretically they will be right. But we believe that the rules here set out approach the practical compromise necessary in dealing with large numbers of cases rapidly, a condition of affairs unfortunately unavoidable under military conditions. One advantage of such rules would be the standardization of the diagnosis and the consequent increase in value of the statistics compiled from army records.

The treatment of all these disorders is discussed at length in the volume before us, and the views expressed must carry great weight, based as they are upon a long series of careful experiments, the details of which are

given in an appendix. Much hastily done and ill considered work has been published lately upon this hotly discussed question; most of it is in marked contrast with the steady and careful investigation of these authors. The experiments conducted with house-flies have an important bearing on the part played by these insects in the spread of amoebic infection. Although these experiments are suggestive, it is perhaps premature to conclude that the fly is a serious danger, from this point of view, until more confirmatory evidence has been produced. Details are also given of experiments designed to test the powers of resistance of the cysts of *E. histolytica* to various reagents. A conclusion of obvious practical importance at the present time is that free chlorine in the proportion of 1 to 10,000 has no effect upon the cysts even after prolonged exposure.

The careful treatment of the carrier question is one of the most useful features of the volume. We are glad to note that the authors conclude that a single laboratory examination is very unreliable—a fact which is being confirmed by other workers, and which cannot be too strongly emphasized.

### THE MEDICAL ANNUAL.

*The Medical Annual*,<sup>4</sup> of which the thirty-sixth volume has now been published, continues to furnish the practitioner with a useful summary of progress in various departments of medicine and surgery, more especially from the point of view of advances in treatment. Part I treats briefly of certain drugs and other remedies reported on during the year, and contains a record by Dr. Thurstan Holland of recent work in radio-activity and electro-therapeutics, including new methods for the more exact localization of missiles. Part II, entitled "The Dictionary of Treatment," occupies the greater part of the volume, and is the work of many contributors; it contains the usual encyclopaedic survey of the various branches of practice. In the introduction an attempt is made this year for the first time to help the reader to facts which may be of special interest to him. It is inevitable in a work of this kind that information on the same subject is often to be found in articles belonging to different departments, and any editorial assistance in correlating them, both in the introduction and in the body of the work, is to be welcomed. Part III gives a short review of public health, including medico-legal and forensic medicine, State medicine, industrial diseases and toxicology, and a note on the school medical service. At the end of the work a classified list is given of the principal medical works and new editions published during the year, and a short directory of medical institutions, homes, and spas.

### NOTES ON BOOKS.

THE revised edition of Dr. R. H. A. PLIMMER's *Practical Organic and Bio-Chemistry*<sup>5</sup> may be described as a book indispensable to the physiologist, to the advanced student of organic chemistry, and to the biologist with chemical leanings. It contains a vast amount of chemical and analytical information, with cuts of the special pieces of apparatus required in many instances, and full details of the way in which the quantitative or qualitative tests recommended should be carried out. The book is admirably got up and printed, and may be strongly recommended to the attention of those for whom it has been written.

M. DE MARTEL has found little or nothing to alter or incorporate in his book on operative treatment of cranial wounds,<sup>6</sup> formerly published as part of a larger volume in the "Horizon" series, and now issued separately. In a new preface he points out that the most recent writer on the subject, Cushing, advocates a technique similar to his own. The similarities are obvious; the details can be learned, not from books, but only in the theatre, and it is just in attention to minute details that Cushing excels—no doubt M. de Martel also. The essence of the matter may

<sup>2</sup> *Clinical Disorders of the Heart Beat*. By Thomas Lewis, M.D., D.Sc., F.R.C.P. Fourth edition. London: Staw and Sons, 1918. (Demy 8vo, pp. 120; 44 figures, 6s. net.)

<sup>3</sup> *Human Intestinal Protozoa in the Near East*. An Inquiry into some of the Problems affecting the Spread and Incidence of Intestinal Protozoal Infections of British Troops and Natives in the Near East, with Special Reference to the Carrier Question. Diagnosis and Treatment of Amoebic Dysentery, and an account of Three New Human Intestinal Protozoa. (Conducted under the auspices of the Medical Advisory Committee, M.E.F., January to August, 1916.) By Temporary Lieut.-Colonel C. M. Wenyon, F.R.C.S., M.B., B.S., R.A.M.C., Member of the Medical Advisory Committee, Director of Research in the Tropics for the Wellcome Bureau of Scientific Research, and Temporary Captain F. W. O'Connor, M.R.C.S., L.R.C.P., R.A.M.C. Published for the Wellcome Bureau of Scientific Research by John Bale, Sons, and Danielsson, Ltd., 83-91, Great Titchfield Street, London, W.1, 1917. (4to, pp. 218; with 5 figures, 4 black and white plates, and appendix. Price 10s. 6d.)

<sup>4</sup> *The Medical Annual*, 1918. Bristol: J. Wright and Sons, Ltd., London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd., 1918. (Pp. 716; illustrated, 10s.)

<sup>5</sup> *Practical Organic and Bio-Chemistry*. By R. H. A. Plimmer. London: Longmans, Green and Co., 1918. (Roy. 8vo, pp. xli + 636; 84 figures, 15s. net.)

<sup>6</sup> *Traitement opératoire des plaies du crâne*. By Dr. Martel. Second edition. Collection Héron. 1918. Paris: Masson et Cie. Crown 8vo, pp. viii + 106; 58 figures. Fr. 4.)



be put thus: Use local anaesthesia, remove the bone surrounding the lesion *en bloc*, cleanse the track; finally, dress all cases with the same care demanded for the original operation. This is a book for use at the front.

The volume on *Edible Oils and Fats*,<sup>7</sup> by Mr. AINSWORTH MITCHELL, is one of the monographs on industrial chemistry Sir Edward Thorpe is editing for Messrs. Longmans. It is written in a severely chemical spirit, but contains a chapter on the manufacture of margarine which is of general interest. In it and in other parts of the book an account is given of the production of solid fats by the hydrogenation of oils, a method which has produced a great change in the manufacture of margarine. The oil industry is one of the oldest in the world, for the extraction of oils from the olive was established in southern Europe in the earliest historical times. Mr. Mitchell describes modern methods of extraction, gives an account of the constituents of oils and fat, and describes the methods of extraction and purification as well as those employed by analysts for the examination of the products. The characteristics of individual edible oils are set out, and there is a chapter on butter and butter-fat. There is a very voluminous list of references, which will undoubtedly add greatly to the value of the book for laboratory use.

The new volume of the medical and surgical *Reports*<sup>8</sup> of the Hospital of the Protestant Episcopal Church in Philadelphia opens with two interesting historical articles. The first, by Dr. E. J. Morris, is a sketch of the history of the hospital, which was first opened in 1852; the other is by Dr. Belk on John Ashhurst, jun., who edited the international *Encyclopaedia of Surgery* in six volumes, was a great surgical teacher, and president of the College of Physicians of Philadelphia in 1898 and 1899. He was one of the founders of the Pathological Society of Philadelphia, and was a man with remarkably wide sympathies and activities. There are thirty-six other articles on professional subjects from the various hospital departments; of these a number are published here for the first time, such as Dr. R. E. Durham's case of pneumococcic meningitis treated by intraspinal injection of formalin with recovery, and Dr. Krauss's report on bilateral choked disc following thyroidectomy. In their article on intravenous protein therapy Drs. Robertson and Paul state that they are approaching the conviction that the reaction is non-specific, since any foreign protein, non-bacterial as well as bacterial, and other colloidal substances suffice. A case of a fish bone lodged in the liver and causing suppuration is reported by Dr. Crossan, who collected twelve other cases of foreign bodies found in the liver, in five of which symptoms were present during life; cases in which the foreign body entered the liver from without and measures for removal were immediately undertaken are not included.

Although the Medical School of Edinburgh has been much in evidence in the press during the last year, and various points of view have been brought out in Sir RICKMAN GODLEE's life of Lord Lister, the late Dr. Margaret Todd's *Life of Sophia Jew-Blake*, and Dr. A. Miles's *Edinburgh School of Surgery before Lister*, the reader, especially if he worked there forty and more years ago, will welcome *The Reminiscences of a Student's Life at Edinburgh in the Seventies*.<sup>9</sup> The author veils his identity, which is a most kindly one, under the name ALISMA, and by providing a list of those graduating with him on August 2nd, 1875, tempts the reader to work out by some cipher the real name of his entertainer. He writes pleasantly of the life he looks back on, and enthusiastically of his teachers, of whom he gives thumb-nail sketches illustrated by old-time photographs. Attractively written, these reminiscences are appropriately introduced by the quotation, "Let us now praise famous men, and our fathers that begat us."

<sup>7</sup> *Edible Oils and Fats*. By C. Ainsworth Mitchell, B.A., F.I.C. London: Longmans, Green and Co. 1918. (Demy 8vo, pp. 159 + xii; 10 figures. 6s. 6d. net.)

<sup>8</sup> *Episcopal Hospital Reports*, vol. iv, 1916. Edited by Astley P. C. Ashhurst, M.D. Philadelphia: W. J. Dorrans. (Med. 8vo, pp. 325; 106 figures.)

<sup>9</sup> *Reminiscences of a Student's Life at Edinburgh in the Seventies*. By Alisma. Edinburgh: Oliver and Boyd. 1918. (Fp. 115; 24 figures. Price 4s.)

## THE NEED FOR MEDICAL ADVICE IN PARLIAMENT.

A MEETING of the medical profession was held at Steinway Hall, London, on October 1st, under the chairmanship of Sir HENRY MORRIS, with the object of securing the election of representative medical men to the House of Commons so that expert advice may be available on vital questions of the national health. Between four and five hundred were present.

The CHAIRMAN, in opening the proceedings, said that, after the establishment of peace, neither the medical profession, nor the constituencies, nor Parliament would be the same as before. The medical profession was threatened with important changes both as to its organization and its social relations; the increased electorate would add to the burden of electioneering; Parliament would no longer be known as the Imperial Parliament but as the Parliament of the United Kingdom, while a Parliament of the Empire in some form or other was sure to be created. The promoters of the meeting had no idea of opposing any organization which might be working with a similar object, nor of impeding the action of any individual medical man who aimed at becoming a member of Parliament. Their first object was to get an executive committee appointed at a general meeting of the whole profession. This committee would seek out suitable members of the profession willing to stand for Parliament, drawn from the ranks of consultants, or general practitioners, metropolitan or provincial; or from specialists, medical officers of health, or from medical scientists. Although an early general election was in prospect this movement had not begun too late, because in any case it was desirable to prepare in good time for by-elections, or any subsequent general election. There had never been so favourable an occasion for the movement as now, when the war had brought home to the public the splendid work of the profession for the army, and to the profession itself the direction in which reorganization was needed. Foremost among the many subjects crying out for the presence of doctors in Parliament were health and education, and the application of scientific discoveries for the betterment of national health and the progress of national prosperity. The progress of science made it impossible for medical research and medical education to be self-supporting or to be properly conducted without State aid or philanthropic endowment or both. He asked whether a House of Commons as at present constituted was the best body for the settlement of such matters. It was high time that the profession made its importance to the State known to the public through the voices of capable and trustworthy medical men in the House of Commons. Medical representatives in Parliament should possess, first of all, the four qualifications which Hippocrates said should belong to every good physician—learning, wisdom, humanity, and probity; they should be familiar with public official life, and able to express themselves clearly and forcibly in public; they should have special experience in applying their knowledge of general medicine or surgery to problems of public health, medical jurisprudence, and medical education; and, lastly, without any indifference to the honour and interests of the profession, they should act, and make others realize their intention strictly to act, for the general welfare. While it would be unreasonable to expect any member of Parliament to ignore all political questions outside the scope of his calling, doctors as far as possible should be national rather than party in their politics. In conclusion the Chairman discussed the difficult question as to how the election of medical men to Parliament could be secured. There ought to be a way of getting the best brains of the profession into Parliament without the need of canvassing ordinary constituencies. If Parliament and the public had been alive to the need for medical legislation provision might have been made in the Franchise Bill for the direct representation of the Conjoint Medical Corporations in each of the three divisions of the United Kingdom, as there was of the universities. Failing this he suggested that the profession should have direct representation in Parliament, as it had on the General Medical Council. In the *Medical Register* there would always be a parliamentary register kept up to date, and the machinery would be easy and not expensive to work. He hoped the suggestion would commend itself to the profession and

THE late Mrs. Charles H. Colburn of Milford, Massachusetts, established by her will a fund of £20,000 in the Harvard Medical School to be applied to research in tuberculosis.



the public, for it there were direct medical representation in Parliament the public would realize that medical men were the opinions of the profession as a whole.

#### ADDRESS BY DR. ADDISON.

MR. CHRISTOPHER ADDISON, Minister of Reconstruction, said that in preparing for the coming changes, and in shaping them, knowledge of the conditions and needs were above all things necessary. In the many matters closely affecting the foundation of national life and strength, matters affecting the homes of the people, their conditions of work, wages, and hours of labour, methods of production, training, education, and research, there would be a growing need for the assistance, experience, and guidance in all public affairs of men who had had the advantage of medical knowledge and practice. He asked his hearers to reject party labels; in Parliament and in public life, as in the home and business, the thing that really mattered was not what a man called himself, but what he could do, and what he would try to do. A medical man in Parliament was there as a representative of his constituents—the people—and if he wisely and honestly tried to promote the public interests, professional interests would be safe enough. Professional axe-grinders, short-sighted people grasping at an occasion to promote a sectional interest at the expense of the rest of the people, might appear to succeed for a time, but the end was failure. It was equally true that the public interest in the long run would suffer if an attempt were made to promote it by exploiting the services of a class. The help of the right stamp of medical man in Parliament and in public life would be increasingly valuable. The House of Commons, while tolerant and sympathetic towards sincerity and earnestness of purpose, if coupled with common sense, would not stand lecturing or dictation. Its customs were tedious and difficult to understand, but no one could be in it long without being conscious of the greatness of its power. The war had been rich in lessons as well as in achievement for those connected with medical and health services; but far beyond the direct prevention and treatment of disease there was need of similar guidance, gathering continuously the results of experience and research, with regard to the events of daily life—physical training, clothing, food, rest, state of the teeth, and so on. The proper working and relations of these many branches of the health services had been aptly described by Sir Bertrand Dawson as "team work." These things, which were being done for the army, should be made available for the mass of the people in order to remedy the grievous physical handicap under which the "C3" population lived. Yet there was no one remedy, and no single road to success; improved national physique would depend on better homes and habits, better work places and conditions of life generally. In this matter the report of the Health of Munition Workers Committee contained a wealth of valuable guidance and information. Dr. Addison urged his hearers—not as individuals only, but as an organized profession—to extend their knowledge, experience, and responsibility to the public work of the country, to its laws, and administrative efforts. He continued:

In a speech which I made in February, 1914, to a company of medical men, I referred to these things, and pointed out that as a first step it was necessary to bring together the assortment of different departmental responsibilities in health matters, and to secure that the thinking out and development of a systematic health policy commensurate with these most urgent national needs should be made the duty and responsibility of a definite body of men. We shall, and must be, the victims of sporadic, disjointed, and often conflicting effort until this is done. The war intervened, but during its progress it became more and more apparent that delay was dangerous, so that during 1917, when I was Minister of Munitions, at the request of Mr. Montagu and the late Lord Rhondda, whose clear mind in this as in other things at once gripped essentials, I presided over a small committee which examined the subject and presented a report on what were regarded as the absolute minimum of such a scheme.

During the past few months it has been my duty as Minister of Reconstruction to discuss the details of this important matter with representative bodies of different kinds, including representatives of a Joint Committee

provided by the Colleges of Surgeons and Physicians and the Society of Medical Officers of Health, as well as with a Committee of the British Medical Association. Lately the whole proposals have been examined with great care by the Home Affairs Committee, and have now been passed by them to the War Cabinet for consideration. I shall be very disappointed, therefore, if proposals for this great reform are not presented to Parliament in the near future.

The Ministry of Health, however, will not itself be a health service. It will be its duty to secure the development and administration throughout the country of adequate health services. I may say that it is an essential part of the project that there shall be connected with the Ministry certain consultative councils, of which one must be medical, whose duty it will be to advise upon proposals, to make suggestions, and to afford the best advice it can give or obtain as to what is needed and how it can best be provided and administered. In this work the Government will hope to receive the help of the best minds of the profession, and what is needed in the central department ought also to be available in the different districts. There is, happily, amongst those who have examined these matters a great measure of agreement as to what is required—at all events, as a beginning.

In the Budget of 1914 Mr. Lloyd George had provided £1,000,000 towards improved health services, and we had in mind at that time improved nursing, midwifery, and laboratory facilities, together with the provision of clinics, where consultations and specialists' services and what has been called "team work" might be promoted. The war interrupted these projects, and it may well be that the advice and assistance which will be available and the experiences of the war will suggest improvements. Developments of adequate health services will need the goodwill and help of medical men, as well as of those familiar with the problems of local government, insurance, and other important services, and, if the subject is approached in a proper spirit, I am confident that they will be obtained. Those who are concerned with the business of government and administration, whether central or local, will have much to learn and will derive much help from such counsel, equally so I believe medical men will learn a good deal on their side. When we are dealing with the manifold traditions, relations, established practices and concerns of communities, those short cuts which seem so easy and so obvious to the arm-chair critic will not be found quite so simple in attainment. It would, I believe, be difficult to pay too high a tribute to the many public-spirited men up and down the country who have given of their time and of their best to assist in public administration, and who have achieved so much. It is no fault of theirs if means have not been devised whereby they might have the benefit of the suggestions and advice which the medical profession might make available for them. But the C3 class and all that it implies means that the nation's responsibilities cannot end with water supply, drainage, the prevention of the spread of infectious diseases, the adulteration of food, and the like. With the advance of knowledge, science, and experience, we know that much can be done to safeguard the personal well-being of our people beyond what we have hitherto attempted, and in devoting its minds to this purpose, I believe that the medical profession has a great duty and an unexampled opportunity before it.

You will not, I know, take it amiss if, in conclusion, I add that success in public work and administration is not easy to obtain. It requires for most of us, at all events, labour, reading, preparation, and thought. The preparation for action at the right time and for meeting difficulties often entails much drudgery and painstaking examination of the case. When a project is successfully executed, it is seldom a matter of "its just happening so," or "a piece of luck." It is because the plan was right and the right means had been provided. A man who is not prepared to accept less than he would like to get is ill adapted for public work—commonly he gets nothing, for constantly things must be adjusted to interests and opinions contrary to but as legitimate as his own. With all that is needed, however, of fact, patience, and industry, nothing substantial will be carried through without courage and resolution—obstinate, persistent resolution—a resolution that knows how to wait without being weakened. Without it, lack of knowledge of the purpose and the obstructions of interest and prejudice cannot be overcome.



In the end also we must all rely upon the good sense and fair judgement of the mass of our fellow citizens to whom we are responsible. The claims of the community for the considered experience, good judgement, and help of medical men in the time before us are real and manifest.

Dr. Addison moved—

That in the interest of the national health it is essential that the considered views of the medical profession should be voiced by representative medical men in the House of Commons.

#### DISCUSSION.

Dr. ARTHUR LATHAM, in seconding, said that medical men, who were the trustees of the health of the nation, had not been able in the past to make their views heard, much less to make them prevail. This was the result of absence of political power and of disunity among themselves. They had no organization capable of representing the considered opinions of the profession as a whole, nor had they been adequately represented in the House of Commons by men who were in touch with the problems of preventive and clinical medicine. The committee which called the meeting had had no desire to send men to the House of Commons merely to air the grievances of a class, but, on the other hand, they did not intend to tolerate the age-long exploitation of the profession. They recognized that the public interest must come first, but also that no scheme for the betterment of public health could be other than sterile which had not the goodwill of the doctors behind it.

Mr. E. B. TURNER said that the right men for the House of Commons would go there, not purely as consultants nor purely as general practitioners; they must be politicians, of course, in order to be elected at all, but this would not be incompatible with the carrying out of their trust as members of a learned and scientific profession. They wanted men who could catch the attention of the House, as Sir Watson Cheyne did in his maiden speech, and who, although their voting power might be small, would carry the House with them to a sensible conclusion. As a result of his own experience of audiences of all kinds in connexion with the campaign for combating venereal disease, Mr. Turner believed that the doctor who went before the public with a well-defined health programme would have a very good chance of success in any evenly-balanced constituency.

Sir WATSON CHEYNE pointed out that they could not hope to get sufficient medical men into Parliament to form a party and influence the Government by their votes; they must influence the Government by their judicious utterance. In the forthcoming election, indeed, it would hardly be possible for many more medical men to be returned; and therefore the best policy (he added amid laughter) would be to help those who were in already. He thought also that it was very necessary that such medical men as were in Parliament should get together and try to be unanimous as to any line of action affecting health.

Colonel JOHN KYNASTON appealed to Dr. Addison to put the resolution on a more democratic basis by removing the word "representative." What were wanted were not representative medical men but medical men as representatives of the people in Parliament. This suggestion was adopted, and in the form in which it was carried the resolution ran:

That in the interest of the national health it is essential that the considered views of the medical profession should be voiced by medical men to represent constituencies in the House of Commons.

Dr. E. F. WHITE moved, and Mr. LOCKHART-MUMMERY seconded:

That a representative committee be appointed for the purpose of (1) nominating medical men as being suitable to voice the opinion of the profession in the House of Commons on matters affecting the national health; (2) taking such steps as may be possible to further the election of those nominated to the House of Commons; and that this committee report to a subsequent general meeting of the profession.

Colonel KYNASTON objected to the procedure outlined in this resolution, and urged that if a medical man was properly brought forward by any party in any constituency steps should be taken for the furtherance of his election to the House of Commons.

Dr. CAMAC WILKINSON said that to proceed on the lines suggested in the resolution would be to end in a cul-de-sac.

The tone of such a meeting was not exactly that with which elections were won. What they wanted to find out was whether there were any medical men ready to go into the constituencies, and possessed of general political ideas and principles.

Dr. H. B. BRACKENBURY also criticized the resolution. He thought it a pity to multiply committees. For six months a committee of the British Medical Association had been engaged upon this subject, and to establish rival or alternative committees would only reflect the disunity of the profession. Not only did they want unity, but also money for meeting election expenses if not for maintaining representatives, and finance would condition the committee's work. He pleaded for a more tentative procedure.

Mr. BISHOP HARMAN also referred to the work of the British Medical Association's committee, and his statement that it represented 23,000 medical men was received with some dissent.

A number of speakers expressed disagreement with the resolution, and ultimately an amendment by Mr. Sheriff W. R. SMITH of the City of London was adopted; this had the effect of altering the resolution into the following:

That a representative committee be appointed for the purpose of taking such steps as may be possible to further the election of medical men as members of Parliament; and that this committee report to a subsequent general meeting of the profession.

In this form the resolution was carried by a large majority.

Sir THOMAS HORDER, in moving a resolution defining the composition of the committee, pleaded that the committee might be trusted to work with any other body and in any promising direction. It was proposed that the committee should consist in part of representatives nominated by the Royal Colleges of Physicians and Surgeons, the Royal Society of Medicine, the British Medical Association, the Incorporated Society of Medical Officers of Health, the Medical Society of London, the Medico-Political Union, the Medical Women's Federation, the Poor Law Medical Officers' Association, and the State Medical Service Association. In response to suggestions, the Royal Army Medical Corps, the British Dental Association, the Royal Institute of Public Health, and the National Medical Union were included, and with these additions the proposal was carried without dissent. It was also agreed to include the editors of the *BRITISH MEDICAL JOURNAL*, the *Lancet*, and the *Medical World*.

Sir Thomas Horder then moved that eighteen unofficial representatives should be elected by the meeting, and this was carried with a few dissentients. The names, which appeared on a ballot paper already distributed, were as follows:

Mr. Ernest Clarke, Dr. Coke (Ashford), Dr. R. C. Gibbons, Dr. W. Hodgson (Cewes), Sir Thomas Horder, Mr. Lockhart-Mummery, Dr. Arthur Latham, Dr. Logan Ashby-de-la-Zouche, Dr. Lyth (York), Dr. H. M. McCrea, Dr. J. A. Macdonald, Dr. Howard Marshall, Sir Henry Morris, Dr. E. H. M. Stancomb, Dr. Barbara Tchaykovsky, Mr. E. B. Turner, Dr. Jane Walker, and Colonel Woodward.

Some discussion took place with regard to a statement on the ballot paper that those who had left the meeting without handing in their papers should be counted as having voted in favour of the names as they stood. Major HENRY CHAPPLE, M.P., vigorously protested against this procedure, and the Chairman withdrew the offending clause. Scrutineers were appointed, but the result was not determined before the meeting separated.

According to Dr. Avendaño, professor of forensic medicine at the University of Lima, a tribunal for the adjudication of medico-legal questions was established in 1570 by a decree of Philip II, and continued in existence till 1851. In the sixteenth century it concerned itself mainly with burial and embalming; in the seventeenth, cases of sudden death were investigated; in the eighteenth, Caesarean section *post mortem* was carried out on the bodies of women who had died in childbirth. In the nineteenth century a special institute was founded with a toxicological laboratory and a *post-mortem* room. The institution is under the combined authority of the Government, the police, and the medical faculty. It is a fine and well-equipped building. Professor Avendaño calls for the establishment of a medical and juridical institute, with a staff of chemists, psychiatrists, and jurists supplied by the faculty of law.



# British Medical Journal.

SATURDAY, OCTOBER 5TH, 1918.

## MEDICINE AND THE STATE.

THE meeting held in London on October 1st to consider the means which could be taken to secure the election of medical men to the House of Commons was interesting from several points of view. In the first place, it was evidence that the Gallios of the profession were beginning to realize that their attitude was mistaken, and that of the British Medical Association in giving early attention to this matter far-sighted. Another interesting incident of the meeting was the very plain speaking of the Minister of Reconstruction. On the one hand he declared that there was a growing need in Parliament for the assistance, experience, and guidance in all public affairs of men who had the advantage of medical knowledge and experience. On the other hand, while asking medical candidates to reject party labels, he maintained the constitutional principle that any man who entered the House of Commons did so as a representative of his constituents, that is of the people, and not of any sectional interest. In this way he seemed to put aside the suggestion of the chairman that there should be some special representation of the medical profession in the House of Commons, either through the conjoint medical corporations in each of the three divisions of the United Kingdom or by direct election, as in the case of its direct representatives on the General Medical Council. Whatever value there may be in Sir Henry Morris's proposal it is clearly not within the sphere of practical politics at the present time, when the task before the country is the election of a new House of Commons in accordance with the provisions of the Reform Act of this year. The upshot of Dr. Addison's advice is that any medical man who enters Parliament must do so with the object of wisely and honestly promoting the public interests, for then, he said, professional interests would be safe. At the same time he admitted that the public interest, in the long run, would suffer if attempts were made to exploit the services of any class, such as the medical profession. The medical profession labours under the well-founded apprehension that Parliament may be induced to exploit it in the supposed interests of the public, and it is this feeling which has given force to the movement within the profession, of which the meeting on October 1st was additional evidence, in favour of making a serious effort to obtain a considerable number of medical representatives. Mr. Turner put the matter in a few words when he said that medical members of the House of Commons, though they must be politicians in order to be elected at all, would still be able to carry out their trust as members of a learned and scientific profession.

The case for an increased number of medical members of the House of Commons rests in the final resort on the need of that House of the assistance, experience, and guidance it would thereby receive in dealing with the many questions affecting the health of the people which are pressing for solution. In this connexion thought will immediately turn to the question of a Ministry of Health, and Dr. Addison was able to say that proposals for its constitution had been examined

by the Home Affairs Committee, and had been passed on by it to the War Cabinet for consideration. It appears probable, therefore, that a bill for the establishment of a Ministry of Health will be presented to Parliament in the near future, but Dr. Addison went on to point out that its scope would be limited. The Ministry will not itself constitute a health service, though it will be its duty to secure the development and administration of adequate health services throughout the country. What is in mind may be gathered from the list of purposes to which the million Mr. Lloyd George had intended to provide in the Budget of 1914 would have been devoted; they were improved nursing, laboratory and midwifery facilities, and the provision of clinics where consultations and specialist services, with team work, might be promoted. A further point of importance is that the Government recognizes that an essential part of its project for a Ministry of Health must be the institution of certain consultative councils, of which one will be medical, to make suggestions and to afford the best advice that can be given or obtained as to what is needed, and how it can best be provided and administered. Dr. Addison's statement agrees with information previously obtainable, to the effect that the bill contemplated is a relatively small bill, in which no attempt will be made to establish a state medical service.

The final result of the meeting was a resolution to the effect that in the interests of national health the considered views of the medical profession should be expressed by medical men representing constituencies in the House of Commons. It was decided to appoint a committee to further this object. The list of this committee is not available, but, judging from the rather confused proceedings at the end of the meeting, it would appear that the intention is to make it very comprehensive and to ask the British Medical Association to nominate representatives. The Association has already taken steps to gather information and opinions from meetings held in the Divisions throughout the country; it is also seeking to establish a fund for the support of the parliamentary candidature of medical men whose past work and experience have proved their knowledge and loyalty to the interests of the medical profession.

## MENINGOCOCCIC CARRIERS AND MENINGITIS.

A VALUABLE report upon the seasonal outbreak of cerebro-spinal fever in the navy at Portsmouth, 1916-17, has recently been made to the Medical Research Committee by Honorary Staff Surgeon Paul Fildes, R.N.V.R., and Temporary Surgeon S. L. Baker, R.N.<sup>1</sup> Their well-reasoned conclusions as to the epidemiology of the disease, based on an enormous number of routine examinations, modify in some respects the current views on the subject, and, though partially published elsewhere, deserve careful consideration. With the object of minimizing the incidence of cerebro-spinal fever in the service, Surgeon-General Sir Arthur May, the late Director-General of the Medical Department of the Royal Navy, ordered that the throats of all new entries should be examined so as to detect meningococcic carriers. In accordance

<sup>1</sup> Medical Research Committee, National Health Insurance, Special Report Series, No. 17. I. A Report upon the Seasonal Outbreak of Cerebro-spinal Fever in the Navy at Portsmouth, 1916-17. By Honorary Staff Surgeon Paul Fildes, M.B., B.C. Cantab., R.N.V.R., and Temporary Surgeon S. L. Baker, R.N. II. The Treatment of Cerebro-spinal Meningitis by Antimeningococcus Serum at the Royal Naval Hospital, Haslar, 1915-16-17. By Staff Surgeon G. P. Ashhead, M.B., Ch.B., R.N. Published by His Majesty's Stationery Office. 1918. (Pp. 14. Price 2s. 6d.)



with this regulation, an average of 270 new entries were examined weekly at Portsmouth during 1916 and 1917, and an opportunity was thus provided, and utilized to the full, of throwing fresh light on problems associated with the disease. The probably unique experience of examining swabs from the throats of twenty-six cerebro-spinal fever patients, at intervals of from two to seventy-five days before the onset of symptoms, gave a negative result in every instance, and among 485 known carriers no case of the disease, or of slight meningeal symptoms suggesting a mild meningococcic meningitis, occurred. These observations are important in controverting the rather widespread assumption that a carrier stage precedes the onset of the disease, and in proving that the interval between infection of the throat and systemic generalization, or the incubation period, may be very short. Further, the throats of the patients a few days after the onset of symptoms were as often as not free from meningococci, and were seldom so heavily or persistently infected as ordinary carriers; for this and other reasons it is highly probable that a patient is not responsible for the presence of carriers among his contacts. No direct evidence was forthcoming of infection of an individual from a patient, and it appears that a case is more unlikely than a carrier to spread the disease. A close relation is shown to exist between the frequency of meningococci in the throats of the general population and the incidence of cerebro-spinal fever; both are high in the winter and spring, and low in the summer. During a transient epidemic of carriers an individual occasionally develops cerebro-spinal fever, which is therefore a more or less accidental by-product of the throat epidemic, and here it may be recalled that the special Advisory Committee of the Medical Research Committee "upon bacteriological studies of cerebro-spinal fever during the epidemic of 1915" stated that "the epidemic is not one of cerebro-spinal fever as such, but what may be termed a 'saprophytic epidemic' of the meningococcus in the throats of the population at large." Drs. Fildes and Baker conclude that when a case of cerebro-spinal fever occurs, it is because a susceptible person is in contact with a high proportion of carriers. New entries are especially prone to the disease; thus out of 46 cases 36 were in new entries, and the authors consider that this etiological factor is more important than youth. The average duration of the positive state among 360 carriers was 1.3 months, there being 212 mild carriers with an average duration of 0.45 month and 148 chronic carriers with an average duration of 2.6 months.

The authors confirm Lieut.-Colonel M. H. Gordon's contention that practically all meningococci found capable of causing the disease belong to one of four types, and from this it follows that practically all cocci which cannot be shown to conform to one of these four types are incapable of causing the disease, and that Gordon's four types are of great importance in practical diagnosis. But for general epidemiological purposes they consider that pathogenic meningococci consist of two groups, thus agreeing with Andrewes and others, containing Types I and III and Types II and IV respectively, corresponding to the meningococci and parameningococci of other authors. Of the 46 cases 29 belonged to Types I and III and 16 to Types II and IV, but among their contacts the carriers of Types II and IV were very much commoner than the carriers of Types I and III, which must therefore be considered to be more pathogenic.

The great bulk of the epidemic and sporadic carriers were due to the less pathogenic Types IV

and II meningococci, the more pathogenic Types I and III meningococci only appearing in epidemic numbers during the winter. The results of treating carriers by antiseptic sprays were disappointing, as it appears that 33 per cent. of the carriers recover without any treatment, while 40 to 50 per cent. are cured by any form of treatment; the difference between these two recovery rates it is considered is due not to the efficacy of treatment, but to the fact that the two figures are calculated from two different series of men. It would be interesting to hear what practical measures in dealing with the whole carrier problem appear most advisable in the light of these various observations.

A study of 106 out of 500 strains of meningococci isolated from the nasopharynx shows that while Flexner's serum practically always agglutinates true meningococci, a positive result cannot be regarded as absolutely diagnostic of epidemic strains, because a considerable proportion of the throat strains so agglutinated cannot be classified by Gordon's absorption tests—in other words, it gives too many carriers. As a means of diagnosis agglutination tests with the patient's blood serum appear to be valueless. Staff Surgeon Adshead gives a good clinical account of 71 cases treated almost entirely by Flexner's serum with a mortality of 19, or 26.7 per cent., but an attempt to discover if there was any conformity between the type of meningococcus found in the 46 cases mentioned above and the clinical symptoms and mortality did not lead to any conclusion.

#### THE GRAND OLD MAN OF FRANCE.

THE French Prime Minister, or President of the Council, to give him his proper style and title, entered on his 78th year on September 28th. As he is a doctor of medicine, we venture to offer our congratulations, in which we are sure the whole profession of the allied nations will join, on the magnificent work he has been spared to do for his own country and her allies. Georges Benjamin Clemenceau was born at Monlleron en Parès in La Vendée in 1841. He comes of a Protestant and bourgeois family, not of peasant stock, as has sometimes been asserted. He began the study of medicine at Nantes, and went to Paris in 1860, where, after holding the post of hospital interne, he graduated in 1865. He had been a pupil of Robin, and not unnaturally therefore chose as the subject of his thesis the genesis of the anatomical elements. Man was described as a federation of anatomical elements, and the view was put forward that disease is not an entity distinct from the human body, but an alteration in physiological processes. This essay was the foundation of a work entitled *La milie sociale*, which appeared in 1894. Clemenceau practised for a short time in Montmartre, and then went to America, where he remained five years. Being indifferently successful as a doctor, he became a teacher of French in a college, and married an American lady. On his return to France in 1869 he again practised at Montmartre, where at the age of 19 he had been in prison for shouting "Vive la République" in the street, and on the fall of the Empire he was elected mayor of Montmartre, and in 1871 was returned to the National Assembly as member for the Seine department, sitting on the Extreme Left. In the same year he was elected a member of the Paris Municipal Council, a body which he had taken a leading part in bringing into existence. In 1876 he was returned to the Chamber of Deputies for the 18th arrondissement of Paris (Montmartre), and in 1885 became member for the Var department. In 1893 he was defeated after sitting in that Chamber continuously since 1876, but was again returned in 1903. In 1906 he was Minister of the Interior, and in the same year he



became Premier, resigning in 1907 on a question of naval efficiency. On the resignation of Briand in 1917 he again became Prime Minister. Clemenceau for many years preferred to remain in opposition, and his success in overthrowing cabinets earned for him the name of *Tombeur de Ministres*. His war belt was decorated with the political scalps of Gambetta and Freycinet (1882), Jules Ferry (1883), Brisson (1885), and Goblet and Grévy (1886). He drove Cavaignac from office and broke Boulanger, whom he had helped to make for a brief period a national idol. Clemenceau owes a great deal of his influence to his strength and brilliancy as a journalist, which made him a mighty force in a country where journalism leads to the topmost heights of fame and power. In 1888 he founded *La Justice*, which he continued to direct till 1900. From 1900 till 1902 he was editor of *Le Bloc*. In 1903 he started *L'Aurore*, in which appeared Zola's famous "j'accuse" letters in vindication of Dreyfus. In 1914 he founded *L'Homme Libre*, which in the early days of the war was suppressed by the Government, but immediately came to life again as *L'Homme Enchaîné*. When he became Prime Minister *L'Homme Libre* was revived, but Clemenceau now appears in it not as a contributor, but as "Fondateur." His style has the quality of precision and terseness, and his arguments are always telling and logically marshalled. Outside journalism he has written, among other literary works, *Le Grand Pan*, *Le Voile du Bonheur*, *Aux Embuscades de la Vie*, and a play entitled *Les Requins*. In his fiery youth he was a formidable duellist, and among many others he fought Deschanel, Drumont, and Déroulède; he is a left-handed swordsman, whom even Paul de Cassagnac, the great swashbuckler of the Second Empire, did not care to meet. His knowledge of English and the acquaintance with the temper and working of the Anglo-Saxon mind gained in America helped to form the strong bond of friendship with this country which has done so much to maintain mutual confidence among the Allies. Besides this, he is one of the few public men who understood the aims of Germany, and was not frightened by the stagey threatnings of the mailed fist. Clemenceau wrote before the war: "What is quite intolerable is the pretension to make the whole world tremble when the Kaiser knits his brows, and to expect us to rejoice effusively when His Imperial Majesty condescends to favour us with a smile. The peace of Europe cannot be based upon the changeable disposition of this sovereign. To-day he is in a good humour; so much the better. To-morrow he will be in a bad humour; that is his own affair. For our part, we need a guarantee for our speculations as to the future which is independent of one man." At the time of the Casablanca difficulties nearly ten years ago Germany blustered in her customary way. Bülow, then German Chancellor, summoned the French Ambassador at Berlin and said to him: "Monsieur, a German consular agent has been maltreated by your people in Morocco. Our honour demands that your Government should apologize. If you do not, we shall recall our ambassador in Paris. Go and tell that to your chief." The French Ambassador at once took train for Paris and told Clemenceau what had occurred. The French Premier in turn summoned the German Ambassador, Prince Radolin, to whom he repeated what the French Ambassador had said. Then, after a slight pause, he exclaimed: "Apologize! Never, sir! No apologies! And if you wish to leave Paris nothing shall stop you. Leave at once! Go to-night, before they recall you. France makes no apology." Some hours later Radolin returned with the explanation that he had exceeded his instructions. Clemenceau goes to bed at 8, gets up at 2, and works till 8, when he receives visitors. He lunches at 11, and after an hour in the Bois, devotes the rest of the working day to his duties, including frequent visits to the front. Surely one of the greatest of "grand old men"! It is well indeed for France and for the world that such a man

is directing the tremendous destructive power, of which his whole career gives abundant proof, to the smashing of the system of autocratic militarism which has been for many years a standing menace to the peace and happiness of mankind.

#### RATS AND MICE.

IN an article in the *JOURNAL* of July 6th last on plague in Suffolk we drew attention to a useful leaflet that had just been issued by the Board of Agriculture and Fisheries on the destruction of rats.<sup>1</sup> We have now received from the trustees of the British Museum a larger pamphlet upon somewhat the same lines entitled *Rats and Mice as Enemies of Mankind*,<sup>2</sup> by Mr. M. A. C. Hinton. It should bring home to everybody the enormous damage done to essential food supplies by these destructive creatures, as well as the part they play in the dispersal of some of the most serious diseases that affect the human race. A short but clear account is given of the habits and breeding capacity of rats and mice; their relation to disease is explained, and the possibility of their extermination is discussed in the light of the most recent knowledge. Although the war has not been allowed to interfere with the catching of rats at our chief ports, it has very seriously interrupted and discouraged such work in ordinary towns and rural districts. Labour which was formerly employed in rat extermination has been diverted into other channels, while the food economy campaign has given rise to a series of regulations which in effect prohibit the use of all food for bait. The result, says the author, is deplorable. "From all parts of the country come complaints of a great increase in the numbers of rats present, and of the great damage they are doing to ordinary agriculture as well as to the produce of the allotment holder." The great national effort to develop the internal sources of food for mankind has, unfortunately, in like proportion increased the capability of the country to support rats. Hence it is imperative for our safety that steps should be taken to destroy rats. Mr. Hinton maintains that despite their enormous fertility we possess ample means for exterminating them if we have a mind to do so; but these means will not avail until every one is convinced of the necessity for using them whenever and wherever possible. Above all things organization, co-operation, and persistence are essential. Spasmodic, individual, or purely local attempts can bring no real relief; the work of systematic destruction must be undertaken simultaneously all over the country, and must be continued as long as a breeding stock of rats remains in this island. The various measures for prevention and extermination are described, and it is to be noted that the author has no enthusiasm for any kind of virus now on the market. The Board of Agriculture leaflet expresses much the same opinion, thus: "The uncertainty with which this method is attended is due partly to the difficulty of securing a successful infection in all cases and partly to the fact that, if only slightly infected, rats recover and thereafter become more or less immune to the disease." Mr. Hinton, indeed, characterizes viruses as costly, variable in their virulence, requiring considerable skill in their use, possibly harmful to other animals, and in short not to be recommended as a safe and thoroughly reliable means of destruction. Of the many other methods it would seem that reliance must not be placed on any one, but all should be employed as far as possible in a combined effort, methodically undertaken throughout the country. Mr. Hinton recommends that the men engaged on this work should be paid by settled wages and not by a capitation fee, because if a premium is paid for each rat, the rat-catcher will leave a farm as soon as rats become scarce, and before he has finished his work, for another which promises a bigger bag.

<sup>1</sup> Leaflet No. 244, free of charge and post free on application to the Secretary, Board of Agriculture and Fisheries, 3, St. James's Square, S.W.1.

<sup>2</sup> *Rats and Mice as Enemies of Mankind*. By M. A. C. Hinton. London: Printed by order of the Trustees of the British Museum, 1918. Price 1s.



As for the mouse, while less repulsive than the rat, this prolific little rodent is immensely destructive, as countries which have been visited by periodical "mouse plagues" know to their cost; while from the public health standpoint much of what is laid to the score of rats applies equally to mice. It must also be remembered that if we should succeed in exterminating or greatly reducing our vast rat infestation (estimated at more than forty million), it is more than likely that this disturbance of the balance of nature would operate in favour of the house mouse and its cousins the other small muridae. Accordingly, mouse destruction must be undertaken at an early stage in any general campaign against rats.

#### BRITISH SPAS.

BEFORE the war the habit of visiting Continental spas was very firmly established among certain classes in this country. The habit has been broken by the war. German and Austrian spas are closed and the Permit Office will with difficulty grant authorizations to visit those French and Italian spas which are still maintained in their usual efficiency.<sup>1</sup> In consequence, attention is more and more directed towards an appreciation of the advantages offered by British spas. Harrogate, Buxton, Woodhall Spa, Cheltenham, and Bath are able to offer different types of waters and treatments, and also a variety of climates to meet the various requirements of invalids. The climate of Buxton and Harrogate is tonic and dry, and there is protection from cold winds. Woodhall Spa has an agreeable climate at this season and the value of Cheltenham and Bath as winter resorts is well known. All these spas have taken advantage of the opportunity afforded to them during the past four years to make further provision for the comfort, convenience, and assistance of patients. Harrogate boasts that it possesses over eighty curative waters, and it has been enterprising in introducing any new treatment that has received medical recognition. Among the latest methods so introduced are aerated baths and whirlpool baths, the Harrogate-Bergonie treatment and special forms of electrical treatment; the paraffin wax bath is now to be installed. The advantage of putting a spa under the advisory direction of a committee of medical men has been recognized at Cheltenham, and the principle is gaining ground. Sir Bertrand Dawson, in his Cavendish Lectures, laid down the proposition that technical matters must be decided by medical men, and the practice of putting the skilled under the control of the unskilled must cease. In the same address, when discussing his scheme for preventive sanatoriums, he said that the spa was an example of its application on a larger scale, with the patients resting from their ordinary avocations. He insisted that the natural waters, while a useful adjunct, were subsidiary to climate, position, and the careful organization of regimen and environment, physical and mental. The management of a spa, he said, presupposed guidance and control by the doctors, acting in conjunction with a far-sighted municipality, ready to spend adequate capital in laying out its resort on generous and comprehensive lines, and it presupposed also hotels designed and administered for those in search of health. His ideal spa would be in a good natural position, planned so as to present the various treatments efficiently, though pleasantly, and in an environment of beauty and repose. It should provide physical culture in various forms, including ample accommodation for games, baths and all forms of hydrotherapy, electrical treatments, music and other entertainments, and suitable dietaries so arranged as to be attractive and not irksome. We are afraid that it is especially in this last respect that British spas had dropped behind their German and Austrian competitors. We suspect that Sir Bertrand Dawson is right when he says that so far no resort in this country fulfils

the conditions he lays down, although many of them possess the natural advantages. We believe that the public will be disposed in the future to frequent British in place of foreign spas, many of which will be closed to them, but that the road to success must lie through a plan which places the whole machinery for the good of the patient under medical control. It is not sufficient to provide powerful waters and many sorts of baths unless attention is given to the whole course of the visitor's life in the spa, including his diet. The entire machinery must be adjusted to restore the sick to health.

#### THE NEW MEDICAL SESSION.

THE opening of a new winter session was marked this year again by few public gatherings at the metropolitan medical schools. The Director-General of the Army Medical Service, Lieut.-General Goodwin, presided at the distribution of prizes to successful students at the Middlesex Hospital on October 1st, when Dr. C. H. Browning, Director of the Bland-Sutton Institute of Pathology, gave an address on the significance of research work in connexion with national health, in which he argued that until recently the fundamental importance of laboratories as a weapon of offence against disease had received only sporadic recognition, and their pioneer work had not been fostered by any firmly directed policy of encouragement. The necessity for safeguarding a gigantic army against epidemic disease had, however, brought into prominence the indispensable functions of the laboratory. Lister's application of Pasteur's principle marked the advent of the laboratory epoch in the prevention and cure of disease. The routine work of the hospital laboratory, which had become to a large extent fixed and accepted, was of inestimable value to the individual patient and to the medical man, but it was misleading and harmful to progress to describe it as clinical research, for it was of very little value in furthering the progress of medicine. The proper function of the research laboratory was to co-operate with the clinical staff of the hospital in planning and carrying out massed attacks on disease. At King's College Hospital the chairman, Viscount Hambleden, referred to the proposed amalgamation of that hospital with Westminster Hospital, which was discussed in the JOURNAL of August 17th, and said that before any steps were taken the decision of the Westminster Hospital authorities would have to be made known. The inaugural address was delivered by Surgeon-General Sir Watson Cheyne, who in welcoming the new and old students announced that women were now for the first time to be admitted to the medical school. Institution after institution, he said, had thrown open its degrees and diplomas to women medical students, and the war had now given medical women their opportunity; they were being called upon not only to replace medical men who had gone on active service, but to assist in carrying on the work of base hospitals. King's College Hospital had thrown open its doors to women without restriction, and both teaching appointments and scholarships would be open to them in equal competition with men. He was quite sure that this innovation would be repaid to the institution many times over. At the annual prize distribution at Charing Cross Hospital Medical School Mr. G. Verity, chairman of the governors, announced that the hospital would celebrate its centenary in 1919, and expressed the hope that the establishment of a great pathological and bacteriological laboratory would signalize this landmark in its history. Messages appreciative of the voluntary hospitals and their medical schools were read from the President of the Local Government Board and the Minister of Reconstruction, and Dr. W. J. Fenton, Dean of the College, reported that all the male students who qualified during the past year had gone on military service. At the opening ceremony at the London (Royal Free Hospital) School of Medicine for Women, the Dean,

<sup>1</sup> BRITISH MEDICAL JOURNAL, September 21st, 1918, p. 324.



Dr. Louisa Aldrich-Blake, offered a warm welcome to the hundred new students who have entered the school this session, and Dr. Flora Murray, physician-in-charge of the Military Hospital, Endell Street, gave a short address on the character and inspiring lifework of Elizabeth Garrett Anderson.

#### RAYNAUD'S DISEASE AND SECONDARY SYPHILIS.

The well recognized association of Raynaud's disease with syphilis—congenital or acquired—rests on a positive Wassermann reaction, the history of a former infection, or on the coexistence of angina pectoris, aortic disease, tabes, or paroxysmal haemoglobinuria. In very rare instances Raynaud's syndrome has occurred during the active stage of syphilis. For example, Lévy-Bing and Gerbay<sup>1</sup> reported last year a case in which a chancre was noticed on February 10th, generalized roseola on March 10th, and Raynaud's syndrome on March 15th. The main manifestation was cyanosis of the hands, and the patient was completely cured by injections of gyl and nov-arseno-benzol. The authors were able to find records of only two other cases of Raynaud's disease occurring in the course of secondary syphilis—that of Druelle six months after infection, and that of Gancher, Claude, and Croissant three months after infection; both also cured by anti-syphilitic treatment. Lévy-Bing and Gerbay suggested that Raynaud's disease is due to endarteritis obliterans and not to vasomotor spasm; but it might also be urged that cases such as theirs, regarded as Raynaud's disease in secondary syphilis, are merely due to luetic endarteritis obliterans.

#### PHARMACY AND THE FUTURE.

THE opening meeting of the 77th session of the School of Pharmacy of the Pharmaceutical Society took place in the Examination Hall, 17, Bloomsbury Square, on October 2nd. The President, Mr. W. L. Currie, was supported by Dr. Addison, Minister of Reconstruction, Colonel Lord Gorell, Surgeon-General Sir W. H. Norman, Director-General of the Medical Department of the Navy, Lieut.-General T. H. J. C. Goodwin, Director-General of Army Medical Service, Professor H. G. Greenish, Dean of the School, Mr. W. S. Glyn-Jones, M.P., Secretary, and the members of the Council of the Society. The Dean reported on the work of the School, and the prizes were presented by the President. Dr. Addison acknowledged the services that had been rendered by the Pharmaceutical Society to the Government during the war. He remarked that the greatest danger to much of our trade and industry had been German organization, training, and method, especially in the application of physical science. Without being original themselves, they took hold of the ideas of others, often British in their origin, and applied and developed them with painstaking thoroughness, so that in many British industries they had been gradually acquiring a greater power than they would ever have gained by force of arms. The British nation needed a far more thorough and comprehensive application of science to industry and production in an organized form than they had hitherto sought to obtain. Dr. Addison spoke also of the rude awakening we had had soon after we went to war because of our dependency on Germany for many drugs and fine chemicals, and of the efforts—in which the Insurance Commissioners, with the assistance of bodies like the Pharmaceutical Society, had played a leading part—which had been successfully taken to cope with the difficulties arising from this cause. The result was that to-day there were none of those medicinal preparations of great importance that were not being made in amply sufficient quantities in this country. The story of our combat with the drugs supply would provide a most interesting and attractive example

of many of our national achievements during the war. The particular lesson standing out therefrom was that we must have a much better supply of trained chemists, and he was disposed to think that industry in future would offer wide and well paid opportunities to highly trained chemists. But science in industry was not to be bottled up in laboratories; it needed a wider range and a freer field, so as to be able to survey in full detail methods of production and manufacturing processes in all their ramifications. The remedies which those in charge of such matters in the naval and military services had called for as of special importance were for the most part complicated synthetic bodies—the work of the laboratory, rather than the old-fashioned traditional drugs and concoctions which cumbered the dispensary shelves and filled out the *Pharmacopoeia* in times past. For the nature of remedies tended to become more complex and their numbers fewer, and as the advance of science brought changes in the methods, appliances, and medicaments used by the physician and surgeon, so as a corollary would there be changes in the demands made upon the pharmacist. The whole field of medical science had so enlarged that, despite the increasing length of the curriculum imposed on medical students, the time spent on learning anything about pharmacy was very small. And this was as it should be, for the modern medical man had so much to learn and such increasing possibility of utilizing that knowledge in performing the functions strictly pertaining to his own vocation, that the need for ridding himself of all extraneous duties would be more and more felt. It should be our aim to secure the best direction of the efforts of all those engaged in one or other of the many units forming part of the army whose duty was the fighting of disease. The history of legislation and public effort upon these subjects was a long story of compromise and muddle. The physicians, the surgeons, the general practitioners, the dentists, the pharmacists, the midwives, the nurses, were all allied armies fighting the enemies death and disease. Once bring them under a unified command, and their power for conquering the common foe would be enormously strengthened. In the future there must be more community of counsel and direction as to what should be the scope of the technical training, the standard of qualification, and the functions allotted to those engaged in the different branches of the service.

#### THE QUATERCENTENARY OF THE ROYAL COLLEGE OF PHYSICIANS.

A DINNER to celebrate the quatercentenary of the granting of its charter to the Royal College of Physicians of London by King Henry VIII was held in France on September 23rd, and was attended by almost all of the Fellows of the College now serving in that country, to the number of something less than a score. The toast to the College was proposed by the chairman, Major-General Sir Wilmot Herringham, C.B., A.M.S., and a congratulatory address to the College was signed by those present. Unfortunately the night was clear, and the proceedings were cut short by enemy activity. There was an obvious misprint in the paragraph on the quatercentenary published last week. It was intended to state that the library at the time it was consumed in the great fire of 1666, along with all the College buildings, contained three or four thousand volumes. According to Merrett's catalogue, dated 1660, the number was 1,300 only, but in the catalogue of 1664 the number of books entered was 3,200, of which Merrett only succeeded in saving some 140 volumes.

THE Harveian Oration, by Dr. Percy Kidd, before the Royal College of Physicians of London, will be delivered at the College on Friday, October 18th, at 4 p.m.

<sup>1</sup> *Ann. des mal. vén.*, Paris, 1917, xii, 547-554.



# THE WAR.

## THE WESTERN FRONT.

### I.

#### THE NEW PHASE.

THE resources of medicine are not inexhaustible. Science works by method, not by miracle. If the army has been freed from disease, the task has been accomplished not by some brazen serpent lifted up, but by an obscure investigation which led to the discovery of principles, and then by patient attention to infinitely little things. The laws governing immunity were first disclosed. The millions of men who compose the army were inoculated one by one, and typhoid was at an end. The mosquito, the flea, the louse, the bed-bug, in turn came under the penetrating eye of science—and malaria, plague, trench fever, and typhus were mastered.

The rescue and care of the wounded and the treatment of wounds is merely another department of medicine which is managed by taking infinite pains. The process by which a soldier is lifted where he falls, and is returned whole to his duty or assigned to his place in civil life, is the peculiar task of the medical services; but the task may be hard or easy, and there may be circumstances in which it is impossible of performance.

For the past four years the western line has been stationary, or only slightly wavering. In front of Ypres the fluctuation covered barely seven miles; in front of Bailleul it was little more. In front of Arras and Amiens the movement was wider and more violent; but the medical arrangements were never entirely dislocated. As the enemy advanced the bases were withdrawn. As he retreated the medical supports were moved up. For nearly two years, whilst the war was at an *impasse*, or the theory of the limited objective prevailed, casualties were cared for with as much precision as if they had occurred in the outskirts of London.

Battles opened at daybreak, and by 2 o'clock in the afternoon ambulance trains were entering Charing Cross. Men fell at their gun positions in front of Ypres, and in three hours they were on the operating table at Remi Siding. At the Somme in 1916 ample accommodation was available in Albert, where in one case twelve surgeons worked by day and twelve by night barely three miles from Pozieres and Courcellette, where the fighting was the fiercest. At Vimy the field was cleared at dusk, and all casualties had reached a main dressing station—fed, dressed, warmed, and comforted with morphine.

All this was merely the routine of a form of warfare which had become established. The conditions were known; events were foreseen; preparations were made in advance to cope with them. But with the advance from Arras a new phase opened, a phase which, let us hope—and fear—will persist until the end comes. The advance was so deep and so rapid that none but the most mobile of the medical elements could keep pace. The regimental and ambulance stretcher-bearers followed on, but very soon they had a carry by hand of three miles, and before the battle was over the troops were twenty miles in front of a wilderness which extended all the way from Lens to Albert. In this area no habitation remained overground, no shelter for a main dressing station, still less for a casualty clearing hospital. It is not for nothing the enemy has devastated the country over which he passed.

A casualty clearing station normally accommodates 200 cases, on the principle that a railhead is

available for evacuation. Without that facility the number soon mounts up to 1,000, and the staff is overwhelmed. To move up a casualty clearing station is no small operation. The lightest form of hut demands forty lorries for transport, and even canvas requires twenty-four hours for striking, transport, and erection in the new area; but even then the problem of evacuation of the wounded to railhead remains unsolved, for good roads do not yet exist.

In this new phase of warfare surprise is the main element of success, and it is a fact that must be faced that any elaborate preparations in advance of the attack defeat the purpose of surprise. In the old days of siege warfare months could be spent in making medical arrangements. To-day the service must at times be prepared to content itself with meagre appliances. A casualty clearing station cannot be hid. It may be destroyed, and its erection is a sure sign to the enemy of an impending attack.

To this new phase the medical service has adapted itself. Something of its old mobility has been restored to the field ambulance. Casualty clearing stations operate in a chain, the one to the rear packed up and parked, ready to come to the front when the way is clear. The staff of nurses has been increased fourfold. Surgical teams have been organized with their own equipment and transport, ready to operate where the need is most urgent. Light railways are made to do duty where the standard gauge stops or is destroyed. And yet, with all these devices the fact must be faced that the medical services in this new phase are unable to provide for the wounded that complete and ready succour which four years of experience had taught men to consider as automatic.

The intent of this writing is to warn the public that the care of the wounded is merely a part of war, and that it can only be carried out subject to the needs and aims of other arms of the service. The public may be assured, however, that the medical services are fully alert to the restrictions imposed by this new phase, and that all will be done that can be done within the limits of a hard necessity.

Nothing so encourages the combatant troops in their severe trial as the sense of security that when their duty is done the medical service is at hand for their succour. Commanders have in the past made full use of this incentive to courage and daring; but commanders, no more than the public, should insist upon the impossible. It is our duty to warn the public that the war has entered upon a phase during which they must restrain their compassion, and be content with less perfect surgical ministrations. The Director-General of the medical services may well be trusted to explain in advance to the commanders that this war of movement imposes limitations upon him as well as upon other arms of the service.

#### THE MEDICAL SERVICES.

Between military medicine and civilian medicine there is no gulf fixed. The one merges insensibly into the other, and both have a common root in the Hippocratic tradition, which is the good of the patient.

The military surgeon is merely a specialist, and is the complement of his civilian brother. In times of peace each goes on his appointed way. When the drums beat and the trumpet sounds their paths converge, and they come together as closely as the physician and the surgeon by the bedside. The battlefield is their clinical meeting place. Human needs are invariable. The methods by which they are ministered unto—these alone change.

During the long years of peace the military surgeon



disclosed himself as a soldier, the civilian surgeon as a man of science and as a practitioner of the art of medicine. The one devoted himself to men in the mass, the other to men as individuals requiring personal care. A specialist must have a profound knowledge of principles, a large acquaintance with subjects ancillary to his own; and it must be admitted that in England, at least, the survey of the military surgeon has been the more comprehensive of the two. He had the medical learning of the schools, and was a civilian until he had passed his degree or otherwise proved his qualification to practise. When he adopted military medicine as his speciality he did not forget his education or lose his training; and putting on the uniform of the soldier did not obliterate his quality of physician and surgeon.

When war came the military surgeon was quite at home in his speciality. His plans were ready and his system formed; although, relying upon the only experience available, it was quite natural that the value of the Boer war loomed too large, just as in South Africa, at the time, the importance of Indian raids, the Mutiny, and the Crimea was over-estimated. Amidst the welter and turmoil of these past four years, in operations which have extended into all known climates, from the arctic circle to the equator, and far south of that line, one solid fact emerges, namely, the efficiency of the medical services. To this wide statement there was only one possible exception, and that was due to causes lying quite outside the function and authority of the military surgeon.

It was not by accident that this efficiency arose. It was due to a recognition of the sound principle that civil and military surgery are one, that both demand the same preliminary training, that both must be merged in the hour of need, and that the specialists should keep to their respective places; because, in short, the two had not in time of peace been dissevered.

In all specialities there are certain prerogatives. On the civil side there are, for the successful, social dignities, academic and professional distinctions, and it may be succulent fees; on the military side the practitioner is content with more illusory rewards, such as ribbons of service and badges of rank. When the civil practitioners were called upon and were adopted into the number, they became partakers of these peculiar privileges. Among those holding the temporary rank of major-general and colonel are many who had already been granted the dignity of knighthood for services performed in their civil capacity; others have been similarly honoured during the war, and many other distinctions have been awarded to them. The list of the officers holding temporary commissions in the Army Medical Service includes men whose names have been made most familiar to the profession by their work in civil practice.

It would be too elaborate an undertaking to estimate the degree of responsibility for administration which has been assigned to the temporary officers in the service. One would expect to find that directors were men who had spent their lives in the army. Of the deputy directors eight out of forty belong to organizations which are more or less of civil origin; and of 123 assistant directors 55 have the same affiliations.

Upon the larger subject of professional treatment and administration in its wider sense—the working out of broad principles for the treatment of the wounded and sick—the influence of the civil profession is undoubted, and, to the honour of the military specialist, may even be said to be paramount. There are consultants in all the armies abroad drawn

from the overseas as well as from the home profession; it would be unlikely that their advice should be disregarded, and in truth it has been sought. There are consultants also in all the commands at home who meet at regular intervals in London as the Consultants' Council, and there is a corresponding council chosen from among the consulting physicians and surgeons with the armies and at the bases in France. In addition there is an Army Medical Advisory Board at the War Office; it now consists of Lieut.-General Goodwin, D.G.A.M.S., Major-Generals Sir Bertrand Dawson, Sir Berkeley Moynihan, and Sir Robert Jones, Colonels Sir Harold Stiles and Sir William Horrocks, and Surgeon-General Sir Havelock Charles, I.M.S. To suppose that the counsels of these assembled bodies are merely hortatory or academic is to misunderstand the character of the men who compose them.

The quality of a service is the quality of the men which make it up. The medical service of the British armies is good because the medical profession is good, both at home and overseas, and offers of its best to military, as always it has done to civilians' needs.

The medical profession is not remarkable for its obedience to any traditions but its own, yet it has accepted military servitude with loyalty and cheerfulness for the general good. We hasten to add that the yoke has been made light because it was mutually adjusted by those who have borne it from their youth upwards, and by those who assumed it in later life. The confidence of the civilian profession was gained by the late Directors-General of Medical Services, Lieut.-Generals Sir Alfred Keogh and Sir Arthur Sloggett. It has been retained, and increased, by their successors, Lieut.-General T. H. J. G. Goodwin at home, and Lieut.-General C. H. Burtchaell in the field.

## CASUALTIES IN THE MEDICAL SERVICES.

### ROYAL NAVY.

#### *Killed.*

Surgeon Probationer N. C. Ward, R.N.V.R., was reported as killed, in the casualty list published on September 23rd.

#### *Seriously Injured.*

Staff Surgeon G. R. Atkinson, D.S.O., R.N.

### ARMY.

#### *Killed in Action.*

LIEUT.-COLONEL R. T. COLLINS, D.S.O., R.A.M.C.

Lieut.-Colonel Reginald Thomas Collins, D.S.O., R.A.M.C., was killed in action on September 18th, aged 38. He was born on December 22nd, 1879, the only son of Dr. Wolfenden Collins, late of Sydenham, and was educated at Guy's Hospital, taking the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1902. He entered the R.A.M.C. as lieutenant on August 31st, 1903, became captain on February 28th, 1907, major on February 28th, 1915, and temporary lieutenant-colonel on September 11th, 1916. He received the D.S.O. on January 1st, 1918, and also had gained the Croix de Guerre.

CAPTAIN C. R. HOWARD, R.A.M.C.

Captain Charles Reginald Howard, R.A.M.C., attached King's African Rifles, was killed in action in East Africa on September 6th. He was the youngest son of Robert Luke Howard of Tynemouth, formerly of St. Albans, and was educated at Guy's Hospital, and at Cambridge, where he graduated B.A. with honours, M.B. and B.C. in 1904, and M.D. in 1907, also taking the diplomas M.R.C.S. and L.R.C.P.Lond. in 1902. After acting as assistant house-surgeon and house-surgeon at Guy's, he went to East Africa as bacteriologist to the Government of Zanzibar. On his return to England he settled in practice at Garston, Freme, Somersetshire, where he was honorary surgeon to the Victoria Hospital, Freme, medical officer of health to



the Frome Rural District Council, and assistant school medical officer to the Somersetshire Education Committee. He took a temporary commission as lieutenant in the R.A.M.C. on March 1st, 1916, and was promoted to captain on completion of a year's service.

**CAPTAIN J. T. KIRKLAND, M.C., R.A.M.C.**

Captain James Towers Kirkland, M.C., R.A.M.C., was killed in action on September 18th. He was the youngest son of Archibald Kirkland of Newmans, and was educated at Glasgow University, where he graduated M.B. and Ch.B. in 1909, subsequently filling the posts of house-surgeon and casualty house-surgeon at Glasgow Royal Infirmary, and of house-surgeon to the Glasgow Maternity and Women's Hospital. He took a temporary commission as lieutenant in the R.A.M.C. on December 2nd, 1914, was promoted to captain on completion of a year's service, and received the Military Cross on January 14th, 1916. He was attached to the Gloucestershire Regiment when killed.

*Died of Wounds.*

**CAPTAIN C. H. FISCHEL, R.A.M.C. (S.R.).**

Captain Charles Henry Fischel, R.A.M.C. (S.R.), attached Leicestershire Regiment, died of wounds on September 14th, aged 28. He was the only son of the late Mr. H. J. Fischel of Hampstead. He took the diploma of L.M.S.S.A. in 1914, received a commission as lieutenant in the Special Reserve of the R.A.M.C. on November 28th, 1914, and joined for duty on May 28th, 1915.

**CAPTAIN J. C. FORSYTH, C.A.M.C.**

Captain James Cotton Forsyth, C.A.M.C., whose death from wounds we announced last week, was born at Mount Bridges on March 3rd, 1871, and graduated in medicine at the Western University, London, Ontario, in 1894. He joined the C.A.M.C. in April, 1916, and served in England until July, 1917, when he went to France, and was attached to No. 1 Canadian General Hospital. He was invalided to England in June, 1918, and was on his way back to Canada when he died of wounds at sea on September 8th, 1918.

**CAPTAIN L. E. W. ROBERTS, A.A.M.C.**

Captain L. E. W. Roberts, Australian Army Medical Corps, was reported as wounded, in the casualty list published on September 26th, and as having died of wounds in that of the following day.

**LIEUTENANT M. J. O'FLYNN, R.A.M.C.**

Lieutenant Michael Joseph O'Flynn, R.A.M.C., died of wounds on September 24th, aged 38. He received his education at the Catholic College, Dublin, and Queen's College, Galway, and graduated M.B., B.Ch., B.A.O. R.U.I. in 1903, and M.D. four years later. He had served the offices of house-surgeon to the Wolverhampton and Midland Counties Eye Infirmary, and house-physician to the Salisbury Hospital. He was in practice at Neath, Glamorgan, and took a commission as temporary lieutenant R.A.M.C. in November, 1917, being attached to the Northamptonshire Regiment when wounded.

*Died on Service.*

**CAPTAIN T. F. GRAHAM, C.A.M.C.**

Captain Thomas Fleck Graham, C.A.M.C., who died suddenly of cardiac failure on September 20th, was born on August 20th, 1883, at Guelph, Ontario, the son of Mr. Alexander Graham of Brantford, Ontario. He graduated in medicine at the University of Toronto in 1914. He joined the C.A.M.C. in July, 1916, and served for some months in England, after which he went to France, and was attached to a stationary hospital. His special abilities led to his employment in resuscitation of patients with wounds of the chest, and the success he had with blood transfusion in these cases was a striking tribute to his skill.

**LIEUTENANT L. S. RAMIER, I.M.S.**

Lieutenant L. S. Ramier, I.M.S., was reported as having died on service, in the casualty list published on September 27th. He was educated at Madras University,

where he graduated M.B. and B.S., and also took the diplomas of M.R.C.S. and L.R.C.P. Lond. in 1916. He received his commission on January 23rd, 1917.

**LIEUTENANT D. TAYLOR, R.A.M.C.**

Lieutenant Douglas Taylor, who died on active service on July 26th, aged 23 years, was only son of the late Dr. John Taylor of Whiteinch, Glasgow. He was educated at Glasgow High School and Glasgow University, graduating M.B., Ch.B. Glasg. in 1917 after a successful academic career. During his final year of study he acted as clinical assistant at Govan District Asylum, Hawkhead. On graduating the state of his health at first prevented him from joining the R.A.M.C., and he held an appointment for several months as district medical officer. On receiving his commission later he was sent to the Near East, and while engaged in work at a base hospital he contracted dysentery and malaria, from which he died in hospital at Salonica.

*Wounded.*

**Lieut.-Colonel K. W. Mackenzie, D.S.O., M.C., R.A.M.C. (temporary).**

Captain J. H. Campaign, R.A.M.C. (temporary).

Captain J. Carrick, R.A.M.C. (temporary).

Captain J. McCusker, Australian A.M.C.

Captain K. McLean, Australian A.M.C.

Captain G. R. Phillips, R.A.M.C. (temporary).

*Missing.*

Captain J. Buchanan, R.A.M.C. (temporary).

**DEATHS OF SONS OF MEDICAL MEN.**

Bond, Leslie, Private, Hertfordshire Regiment, younger son of Dr. Bond of Treeton, died of wounds in France on September 4th, aged 20. He joined the army as a motor-driver two years ago, but subsequently transferred to infantry, and had served in four different battalions.

Clapperton, Henry Bertram, Queen's Royal West Surrey Regiment, son of the late James Clapperton, M.D., of Broughton, Hampshire, killed September 14th.

Drew, Reginald James Blakeney, Lieutenant Commander R.N., only son of the late Inspector-General W. B. Drew, R.N., killed September 16th. He had seniority from January 30th, 1917. He served in H.M.S. *General Craufurd* in the attacks on the Belgian coast, August to November, 1915, and was mentioned in despatches in the *London Gazette* of January 12th, 1916.

Hadwen, Charles Eugene, Second Lieutenant Rifle Brigade, only son of Dr. A. St. John Hadwen of Ilford, killed September 12th.

Mason, George Norman Minto, Captain and Adjutant, Royal Naval Division, youngest son of Dr. Wright Mason of Hull, killed by a shell while asleep on September 13th, aged 26. At the beginning of the war he enlisted in the East Riding Yeomanry, subsequently obtaining a commission in the Northumbrian Royal Field Artillery. He went to France on July 1st, 1916, and had been on service ever since. His four brothers have all served in the war; the eldest has been invalided, the second is in hospital after amputation of leg, and a third has been wounded.

Norton, Richard Legge, Second Lieutenant Norfolk Regiment, only child of Dr. John Norton, Queen Anne's Gate, S.W., killed September 18th, aged 19.

Powers, Herbert Grendon, M.C., Captain and acting Adjutant 1st Gurkhas, only son of Dr. C. H. Powers of Kensington, and formerly of Westend, Hants, was killed in action in Palestine on September 19th.

Randall, Guy Philip, M.C., Captain King's Own Scottish Borderers, eldest son of Dr. Philip Randall of Bromley, Kent, killed September 18th, aged 21.

Sanders, Arthur Richard Carless, C.M.G., D.S.O., Brigadier-General, only surviving son of the late Lieut.-Colonel R. C. Sanders, I.M.S., killed September 20th, aged 41. He was educated at Haileybury, got his commission in the Royal Engineers from Woolwich on January 15th, 1897, and became captain nine years later. He went to India in 1899, and had served ever since with the 1st King George's Own (Bengal) Sappers and Miners. He went through the Indian Staff College at Quetta in 1911-12, and in September, 1914, went to France with the Indian Cavalry. He was wounded in December, 1914, got a brevet lieut.-colonelcy in January, 1916, was recently in command of a battalion of the Essex Regiment, and got his brigade command so recently as September 8th. He received the D.S.O. in June, 1916, the C.M.G. in February, 1918, and also had been decorated with the Legion of Honour.

Ward, Walter Granby, Lieutenant Royal Garrison Artillery, younger son of Dr. Ward of Peckham, killed September 3rd, aged 20.

*We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.*



## NOTES.

## THE GRANDE CHARTREUSE AS A BASE HOSPITAL.

THE buildings of the Grande Chartreuse, which have been empty since the sequestration of the monastery in 1903, were handed over at the beginning of the present year to the United States army for use as a base hospital. The monastery was originally founded by St. Bruno in 1085, and in the succeeding six centuries was eight times destroyed by fire. The present buildings have no architectural pretensions, and date from 1676; they stand in a picturesque situation at an elevation of over 3,000 feet, on the northern slopes of the Dauphiné Alps, about twenty miles from Grenoble. Since the buildings were taken over by No. 3 Mount Sinai Unit, which left America in February, they have undergone various transformations and a number of new structures have been erected. A dispensary has been established in the pharmacy of the monks, and laboratory and x-ray outfits have been provided. There are two operating theatres, and separate rooms for eye, nose, and throat work, jaw surgery, and dentistry. The ward buildings, which vary in size, the largest providing 115 beds, are lighted by electricity and warmed with steam heating. Covered walks for convalescents have been provided, and will no doubt be needed, as the winter climate is rigorous. The Mount Sinai unit consists of twenty-six officers, among them being some of the leading physicians and surgeons of New York, sixty-five nurses, five female civilians, and 153 enlisted men. The first patients were admitted in May.

## HOSPITAL FOR NEURASTHENIC MEN.

A new hospital for discharged neurasthenic sailors and soldiers at Bray Court, Maidenhead, has been placed by the Ministry of Pensions under the management of the National Hospital for the Paralysed and Epileptic, Queen Square, London, W.C. Accommodation for the treatment of fifty patients has been provided. Within the large building, outbuildings, and extensive grounds there is ample room for arrangements for re-education and the teaching of suitable trades.

## Correspondence.

## REMUNERATION OF RURAL PRACTICE.

SIR,—The following is an attempt to express in terms of money the difference in the amount of work under the National Insurance Acts that is done by the country and the town practitioner.

At the time of the passing of the Act it was said that the extra time and money spent in travelling in a country practice would be neutralized by the smaller demand made for attendance by the dwellers in rural districts. Many of us doubted if this would prove to be the case, arguing that the inaccessibility of hospitals, the distance of patients from the surgery, the exacting demands of employers to visit their servants, and other causes of extra visits, would more than cancel the advantages due to the better health of the insured person in the country.

The report of the Scottish Commissioners has now definitely settled this question for Scotland—and presumably for England and Wales—by giving actual figures. They find that the average of the three years 1913, 1914, and 1915 shows that for every 100 insured persons the actual number of attendances—that is, visits and consultations at the surgery—is in reality higher in the counties than in the burghs—namely, 324 per annum as against 310. Further, they find that, comparing visits and consultations, in the counties, "the visits preponderate," whereas in the burghs they are roughly only as two is to five. Combining these statements into actual concrete figures, we find that for every 100 insured persons on his panel list the country practitioner pays  $>3\frac{1}{2}$ —that is, at least 163 visits, and gives 161 consultations at the surgery; while the town practitioner pays two-sevenths of 310—that is, 89 visits, and gives 221 consultations.

Here, then, are indisputable data. Can we translate them into terms of money?

Take first the visits. Every visit made involves two expenditures which should be paid for: (a) The actual money spent in travelling; and (b) the time occupied by

the journey. These can both be estimated at so much a mile, and the first thing, therefore, is to find the extra miles travelled by the country practitioner.

To do this we must know the average number of miles travelled for every visit paid. This is a most important figure—indeed, it is an essential datum to have before we can deal with any aspect of the mileage question on a scientific basis. It is easily ascertainable if a practitioner will take the trouble to keep a record of his total mileage for the year, tot up the number of visits paid to all sorts of patients, and divide the one by the other. This figure—"miles per visit"—will be found, roughly speaking, to vary inversely with the density of the population. In practices in crowded towns it is only a small fraction; in wide country practices, such as are found in the North Riding of Yorkshire, it is said to be as high as five or more. The number of visits paid for every hundred insured persons in a year multiplied by the "miles per visit" figure will give us an exact measure for comparison between one class of practice and another.

What ought to be taken as an average town practice with which to compare that of the country doctor? It is said that when the capitation fee of 7s. was accepted by the profession this sum was understood to cover a reasonable amount of travelling. Seeing that all town practitioners, however dense their population and limited their radius, receive this sum, that an insured person in a town seldom resides more than a mile from a doctor, and that many visits can be made in one short round, it will be fair, I think, to take the miles per visit figure of one as marking the outside limit of a "town" practice. It must be a very scattered sort of town practice where a man bicycles more than ten miles to see ten patients in a morning. This figure, then, will give us 89 miles of travelling per 100 insured persons as the base line beyond which a practitioner can fairly claim that his extra travelling should not be covered by his ordinary capitation fee, and entitles him to such privileges as may attach to the position of a country doctor.

But a country practitioner whose miles per visit figure is one travels 163 miles per 100 insured persons by reason of the extra visits he has to pay, giving him 74 miles in excess of the standard; if his miles per visit figure is two his excess is 237, if three it is 400, if four 563, and if five it is 726.

The next step is to translate these extra miles travelled into a money equivalent. The factors are, as we have seen, the money spent, and the value of the time occupied in travelling.

As regards the out-of-pocket expenses of travelling there is not much difficulty. We may assume that the country practitioner travels by the quickest method open to him, namely, by motor—if he rides or bicycles he will reduce his out-of-pocket expenses, but he will lose in time. It will be generally agreed that 6d. a mile is the minimum cost of motoring. At the present cost of petrol, repairs, and renewals, it is certainly higher—probably 7d. or 9d. The present army allowance is from 5d. to 7½d., the cost of hire is 1s. But for the sake of simplicity let us take it at 6d. a mile.

When we come to the value of the time occupied the problem is not quite so simple. The amount of time depends upon the speed of the motor; with ordinary country roads and allowing for stopping and starting probably fifteen miles an hour is the most one can do, but for the sake of simplicity let us take it at sixteen. As to the value of time—obviously this is a matter of assumption; everybody is free to value his own (and his neighbour's) time as he pleases. I shall take that of the country practitioner at 8s. an hour, which, working eight hours a day for six days a week, will give an income of just about £1,000 a year. This is not, I submit, too high a figure for a man who has shown by his admission to a learned profession that he possesses somewhat more than the average amount of brains, and has spent a considerable amount of time and money in training them, who must possess more than the average physical health and strength in order to be fit for a hard life, and even so cannot expect to last out a very long professional career, who owing to the want of local facilities has to spend more than the average amount on the education of his children, and at the same time has to save up for his own old age to provide for his dependants. Eight shillings an hour, at a speed of sixteen miles an hour gives a time



value of 6d. a mile, which, added to the 6d. a mile for out-of-pocket, gives 1s. a mile as the payment due to a country doctor for the excess of distance travelled.

For his *visits*, therefore, a country practitioner whose miles per visit figure is *one* should receive an extra 74s. (£3 14s.) for every 100 persons on his panel; if his miles per visit figure is *two* he should receive £11 17s., if *three* £20, if *four* £28 3s., and if *five* £36 6s.

Now as to the *consultations at the surgery*, a deduction must be made for the smaller number given by the practitioner in the counties as compared to his brother in the burghs—161 as against 221. What is the value of the time thus saved? The fee allowed for an "attendance" by the Commissioners' scale for temporary residents and others is 2s., and this accords fairly well with the value of time as assumed above. It can hardly be argued that more than a quarter of an hour is required for an average professional interview, while if it could be suggested that less than that time were ever given, the value of time would have to be taken at a higher figure. Taking the value of an attendance at 2s., then the sixty consultations at the surgery saved to the country practitioner will be worth £6 for every 100 persons on his list, and on balance the final result works out as follows:

In order to give an equivalent remuneration to the town and country practitioner, the latter, if his average miles per visit are *one*, should receive per annum for every hundred persons on his list £2 6s. *less* than he does at present. If his miles per visit are *two*, he should receive £5 17s. *more*; if *three*, £14 *more*; if *four*, £22 3s. *more*; and if *five*, £30 6s. *more*.—I am, etc.,

Weyhill, Hants, Sept. 29th.

J. P. WILLIAMS FLEMING.

#### EARLY TREATMENT OF MENTAL DISORDER.

SIR,—Dr. Flemming's letter (September 28th, p. 357) emphasizes a difficulty which is constant with general practitioners in dealing with mild mental cases. Every medical man realizes that the treatment of such cases should be conducted away from the patient's home and under special care; and, indeed, general practitioners do not desire the responsibility of treating such cases. But, in the absence of suitable hospitals, what else can be done?

Now, efficient treatment requires efficient diagnosis, efficient accommodation, and efficient personnel. The recognition of mild mental trouble ought not to be difficult from a general practitioner's point of view, but diagnosis as to the cause and consequent treatment is a very different matter, and the investigation necessary can only be properly accomplished by up-to-date laboratory methods. For example, with regard to the cerebro-spinal fluid, we have to ascertain whether it is under pressure or otherwise, the presence of pleocytosis, globulin and glucose content, colloidal precipitants, complement-deviation substances, etc.; similarly, a detailed examination of the blood has to be undertaken, and toxic conditions due to bacteria, such as pyorrhoea and coliform infections, etc., must be investigated and vaccines prepared. For such examination it will not do to send material by post; it must be freshly obtained; it is therefore obvious that an up-to-date laboratory must be at hand.

As regards treatment, Dr. Flemming says "the asylum is worse than useless." Why? Is an asylum, or, as it is now termed, a mental hospital, merely to be regarded as a dumping ground for lunatics, or is it an institution for the treatment of mental disorder?

When it is recollected that a very considerable proportion of these certified patients is returned to civil life, recovered, it is apparent that the present large mental hospitals are not merely dumping grounds for lunatics, and given reorganization they should provide efficient treatment for all cases.

I would suggest that the matter could be adequately dealt with by complete reorganization on the following lines:

1. Centralization of management under a Ministry of Health.
2. Sexes to be housed in different hospitals and the women's hospital staffed by women medical officers.
3. Larger and more up-to-date medical staffs to embrace electrical specialists, dentists, and bacteriologists, for example, with good laboratory accommodation, which laboratory should also be of use locally for other work.

4. Every opportunity and encouragement given for research—for example, study leave, etc.

5. More personnel.

6. Additional buildings away from the present main building to deal with mild and recoverable forms of certifiable mental disorder and also with voluntary patients.

Speaking as a medical officer of many years' experience, I may say that the greatest difficulty which *any* has to deal with in treating mild mental disorder in a large mental hospital is the deficiency of staff and suitable accommodation, so that proper classification and more individualistic treatment can be adopted.

7. Consultant work to be undertaken by the staff in respect of action regarding patients not considered certifiable, and necessary legal powers given.

8. I would also suggest that there should be no need for an expensive resident medical staff attached to the building for definitely irrecoverable patients; one of the junior staff taking his turn as orderly medical officer should suffice.

There are many other points of importance which can be dealt with more efficiently through central organization than by local bodies.—I am, etc.,

Sturford, Sept. 30th.

B. HENRY SHAW.

#### SURGICAL PHYSIOLOGY OF THE FOOT.

SIR,—The paper by Captain Fairweather on boot heels as a cause of flat-foot, etc., in the JOURNAL of September 21st, contains statements which to me are startling: that "cycling and tiptoe exercises tend to produce flat-foot"; that "in a normal barefooted man the weight rests on the heels and outer sides of the feet, not on the arch"; but, if the heels be raised from the ground "by boot heels even a quarter of an inch thicker than the soles," the weight falls on the arch. Still, in the case of the American Indian, "his flat feet (caused by his method of carrying weights) do not handicap him, as his moccasins are heelless."

There is a very curious difference between the author of the paper and Duchenne of Boulogne, who wrote with authority fifty years ago. The former regards the peroneus longus as "pulling the arch down"; the latter regards it as forming the arch. The former regards the tibialis anticus as "the most important muscle concerned in preserving the arch," the latter as the destroyer of it. His words are "le long péronier est le formateur et, pour ainsi dire, la clef de la voûte plantaire; eh bien! le jambier antérieur en est le destructeur."

Both views illustrate the importance of bearing in mind the general principle that muscles seldom, if ever, act singly. We see the net resultant of combined action. When the arch is fully formed, mainly by the bowstring or tie-rod action of the flexor longus pollicis, the long peroneus braces up that portion of the arch which its tendon subtends, and, so far, helps to form the arch, but the chief effect is to draw the crown of the arch downwards, and so prevent over-formation. As to the tibialis anticus, it is enough to point out that when, as seen in cases of infantile paralysis, this ceases to act, the arch certainly does not lessen.

Sir Thomas Watson, in his classic lectures on the principles and practice of physic, makes an eloquent reference to the wonders of the human body, including "its compensations for inevitable disadvantages." This is well illustrated in the human foot, which, in supporting the heavy weight it has to bear, must be elastic; rigidity is inconceivable. But elasticity involves yielding, and yielding involves a disposition to deformity. Here is a disadvantage; it is, however, inevitable. What, then, is the compensation? It is found in the exercise of that which is the principal function of the body, taken as a whole, in motion. The muscles which by their action move, in their action support the structure and maintain the form which in early life they have developed, and which, when deformed, they can, by specially active use, restore. This is the leading motive throughout my book on the human foot. Here I may be permitted to add that Sir William Turner, in kindly telling me that he had written a review of it, supplied me with an excellent expression which, I think, ought to be borne in mind by all who study the prevention and cure of deformities—"the ligamentous action of muscles."

This view of muscular action in preventing flat-foot is forcibly expressed by Professor Arthur Keith in his interesting little book on the human body, but, despite his high authority, I cannot concur in an exception which he makes to the general principle involved. I cannot believe that any arrangement of ligaments or locking the bones of



a joint could resist the backward thrust against the knee-joint in the act of carrying a heavy weight up a steep incline. Support must depend on action of the thigh muscles which, coming from above, pass over the knee-joint to be attached to the leg bones, at two points; and of the leg muscles which, coming from below, also pass over the knee-joint to be attached to the femur, at two points, the divided muscles intersecting with and overlapping each other.

Here the bad influence of high boot heels must be mentioned. Clearly, in proportion as they do not allow the heels to go down, they diminish the range of movement in springing to the tip-toe position. Nearly forty-four years have gone by since I read, before our local Branch, a paper on the influence of muscular action in the prevention and cure of flat-foot. Then and ever since I have advised tip-toe exercises as a remedy. Now I am told that they "tend to produce flat-foot." I heartily wish that some one who can speak with authority greater than mine would supply an answer to the question, What is the teaching of surgical science on the surgical physiology of the foot?—I am, etc.,

Gloucester, Sept. 25th.

T. S. ELLIS.

#### THE FUTURE OF THE MEDICAL PROFESSION.

SIR,—In the JOURNAL of September 21st there is a characteristic article on the future of the medical profession by Sir James Barr. Its real meaning is not apparent, and its influence on the general practitioner is difficult to gauge.

Surely the writer had other aims than merely those of having a fling at the National Insurance Act, and telling us that he believes in evolution and not revolution, or throwing cheap sneers at the mediocre intellect of his fifth and sixth rate politicians. That blood will tell is a truism which does not demand columns of the JOURNAL to carry conviction to the minds of the profession. At the same time activities are paralysed and confusion created when, in one sentence, Sir James tells us that our child welfare schemes preserve too many bad and indifferent babes, and in the other he pictures the dreadful evils, the "irreparable mischief," that follow the lack of a proper appreciation of post-nasal adenoids. These dreadful evils could evidently have been nipped in the bud. By what agency? Is it by means of the hard-worked general practitioner, whose time is fully occupied in attending to and doing his utmost to remedy the results of neglected conditions, and whose livelihood depends on his activities in that direction, or by the evolved health specialist unembarrassed by financial considerations and always available to point out the paths of physiological righteousness?

There are evidently laws of health as well as inherited vitality, and who shall separate them? The welfare of the nation as well as the future of the medical profession are calling for an enlightened and comprehensive plan in which all medical men will have work to do, the general practitioner especially. Let Sir James Barr do something practical and constructive in the shaping of a national medical service, and then he will be able to recommend intellectual young men to enter the profession.—I am, etc.,

September 30th.

SANITAE.

SIR,—Sir James Barr borrows this title for his paper in the JOURNAL of September 21st from Sir Bertrand Dawson in order that he may be able to pass a sneer at the latter's suggestion of team work; that is practically all the heading has to do with the substance of the paper, which is a lecture on the shortcomings of the practice of medicine to-day. Had the writer taken one of the subjects he touches upon and written at greater length thereon he might have given us something worth reading—something useful to us in our daily work.

There are some of us who know the treatment obtainable by the mass of the working class and realize that it should, and could, be improved; we are honestly trying to find the best way. Is it fair for men who hold high positions in the profession only to enter the discussions to jeer at those who are doing their best? Probably Sir James Barr has no first-hand knowledge of industrial practice; then how can he form a sound opinion thereon? Would he trust to hearsay knowledge in forming a diagnosis? Does he still hold that "hospital treatment is absolutely essential for the working classes"? Does he draw a line

at any clinical or social point at which they cease to be essential? Does he consider that ill equipped hospitals are good enough?

Surely we all agree that every means of prevention and cure of disease should be obtainable by all. If so, why not all unite in trying to find a means of bringing it about? We must be constructive if we want any voice in our own future; it is no good to try to sit in the last ditch. We must realize that socialism has made an advance and will not be turned back.—I am, etc.,

Mumbles, Sept. 27th.

F. DE COVERLY VESTER.

#### THE CENTRAL POOL.

SIR,—It is important that the two misconceptions evidenced by the letter of Dr. Mears should be removed. Otherwise members of the profession may improperly decide on the questions now submitted to them.

The idea that "areas whose index register is kept as accurately as possible are penalized in favour of areas where the register is kept carelessly" is quite erroneous. The opposite of this statement is true. Persons whose title to medical benefit in an area has for some reason not been definitely established are placed on a suspense register in that area. Names on the suspense register are not counted in distributing the Central Pool to areas. It follows, therefore, that where a committee takes trouble to clear its suspense register by discovering title and properly transferring names to the ordinary register the proportion of the pool going to such a committee's area is increased, whereas in areas where nothing is done the proportion remains somewhat smaller than it should be.

It is not suggested that "our basis of payment should be the number of insurance stamps sold in a year." If the new suggestions are accepted, the Central Pool will, as now, contain a sum calculated at the rate of 9s. a year for every insured person in medical benefit. With a large migratory population it is impossible to arrive at this sum by a direct addition of the amount due in respect of each individual. The calculation has to be made by actuarial methods. At present the main item in this actuarial calculation is the number of insurance cards surrendered in respect of the first half of each year, but a considerable number of other data are used in arriving at the result.

The new suggestion is that the main item in the actuarial calculation shall be the number of insurance stamps sold during the preceding year, but all other relevant data will be taken into consideration. By this means the actuaries believe that the amount of the Central Pool can be arrived at some eighteen months earlier than is at present the case; and in future, as now, we should have their professional assurance that the amount in the pool for any year will be equivalent to that which would have been produced by a direct calculation of the capitation fees, within a very small margin of error which may be in either direction.—I am, etc.,

Stroud Green, N. Sept. 28th.

H. B. BRACKENBURY.

SIR,—The memorandum of the Insurance Acts Committee (M.3) puts forward practical proposals concerning the composition of this fund which compels the attention of all panel practitioners.

That the Insurance Commissioners should propose to constitute the fund on the basis of the sale of insurance stamps seems to me to indicate a desire to do justice to the insurance practitioners as well as effecting a general simplification of the complicated method at present in use. According to a paragraph in the *National Insurance Gazette* of April 7th, 1917, in reply to a question in the House of Commons, Sir E. Cornwall told Mr. T. Wilson that for the period ending December 31st, 1914, the difference between the value of the stamps sold and those accounted for in the National Health Insurance Fund amounted to £550,000.

By this time the figures would be presumably well over £1,000,000, for since the beginning of the war large numbers of people have become insured who are nothing for national insurance, and do not desire to be identified with it. Thousands of cards belonging to these and other persons are never surrendered, the Government being the gainer and the panel doctor the loser by this default.

I am glad, therefore, to see that the Insurance Acts



Committee sees no substantial disadvantages in the proposed departure which I believe would result in our being paid in full and with a promptitude to which we are at present unaccustomed.—I am, etc.,

September 29th.

W. G.

### THE ABUSE OF DRAINAGE TUBES.

SIR:—In a letter published in the *BRITISH MEDICAL JOURNAL* of September 21st Dr. Frank Hathaway claims that King Edward VII Hospital, Windsor, was the first hospital to give up the use of drainage tubes. I cannot admit the justice of this claim, as drainage tubes have not been used in the Military Hospital, Lincoln, since 1915.

On June 17th, 1915, I wrote to the D.D.M.S. Northern Command stating that I had almost discarded that barbarity—the drainage tube. In the *R.A.M.C. Journal* of October, 1915, I repeated this statement, and in my article, the "Treatment of septic wounds with equal parts of ichthylol and glycerin," published in *The Practitioner* of January, 1916, I stated: "Many of the wounded come to my hospital with drainage tubes; these I remove at the first dressing and never replace them; they are unnecessary and cause much suffering."—I am, etc.,

C. W. DUGGAN.

Military Hospital, Lincoln, Sept. 28th.

Major R.A.M.C.

### Obituary.

#### JOHN WATSON MULLIGAN, M.D.

Formerly President of the South Wales and Monmouthshire Branch.

WE regret to announce the death at Corbet, near Banbridge, Co. Down, Ireland, of Dr. Mulligan, formerly of Abersychan, South Wales. He was the son of the late Dr. Thomas Mulligan, M.D., of Meigh, Co. Armagh, and was born at Tallyconnaught in 1844. He was educated at Queen's College, Belfast, and graduated M.D. Queen's University in 1864. After practising for a short time first in Auchnacloy and then at Abersychan, he went to Australia, but returned to Abersychan in 1872, and he succeeded to the practice of the late Dr. J. W. Davies of Ebbw Vale. Dr. Mulligan was M.O.H. for the area for forty-two years, senior surgeon to the Pontypool Hospital, medical officer of the Pontypool Union, certifying factory surgeon, justice of the peace for Monmouthshire, and an alderman of the first Monmouthshire County Council. He took an active interest in the Volunteer movement and became brigade surgeon and colonel of South Wales Volunteers. He was an enthusiastic Mason and was W.M. of the Kennard Lodge in 1882, Past First Principal of Kennard Chapter, and a Past Provincial Grand Warden. He had been looking forward to being present at the installation ceremony of his son in the Kennard Lodge on September 24th, but death forestalled.

Dr. Mulligan was a man of commanding presence, wide sympathy, and a very exalted standard of professional honour. He was patient and tolerant in all things, and his work in the Pontypool Hospital was marked by care and thoughtful consideration for his patients. He was an excellent operator and a most astute diagnostician. In his relations with his colleagues he exhibited the tenderest charity and fulfilled Newman's definition of a gentleman, that "he never inflicted pain." His work for the British Medical Association was a continuous joy to him. He received every honour that the Branch and Division could give him. He had been president of the South Wales and Monmouthshire Branch, was first Chairman of the Monmouthshire Division, and remained down to his retirement in 1915 a regular attendant at the various committees. His sound judgement and restrained expression were valuable assets; no matter how difficult the situation might seem he provided an acceptable solution. It can be well imagined that such a man would be a valued friend and adviser to a large circle of patients and colleagues, as was indeed the case.

At the time of his retirement in 1915 he received innumerable expressions of regret and good wishes, but none gave him greater pleasure than a small gift of plate to himself and his wife from the Monmouthshire Division as a recognition of his inestimable services and unbounded hospitality. He lived a useful, busy, and well-ordered life. He leaves a widow, a daughter, and three sons, two of whom succeed him in practice.

DR. GEORGE RICHARD CHADWICK died at his residence at King's Lynn on September 20th, aged 66. He received his education at Guy's Hospital and took the diploma of L.S.A. in 1875, that of M.R.C.S.Eng. in 1876, and graduated M.D.Durh. in 1894. He succeeded the late Dr. Woodward in practice and had held the appointments of honorary consulting surgeon to the West Norfolk and Lynn Hospital, medical officer to the post office, surgeon to the borough police, as well as that of Admiralty surgeon and agent. After the departure of some of the younger members of the profession on military service Dr. Chadwick patriotically resumed active hospital work which he had resigned, and also undertook the duties of medical officer to the King's Lynn Union. He was a member of the West Norfolk Division of the British Medical Association.

### Universities and Colleges.

#### UNIVERSITY OF LONDON.

THE following scholarships have been awarded:

*St. Bartholomew's Hospital and College*.—Senior Entrance Scholarship in Science: C. L. Pasricha (£75). Junior Entrance Scholarship in Science: B. M. Tracey (£100). Entrance Scholarship in Arts: J. Maxwell (£100). Jeaffreson Exhibition: N. E. Laurence (£50). *Guy's Hospital Medical School*.—Senior Science Scholarship for University students: J. H. Burn (£75), M. H. MacKeith (£35). Junior Science Scholarships: E. C. Warner (£120), M. B. Goulding (£50). Scholarship in Arts: C. S. Hallpike (£100).

### Medical News.

A LECTURE will be delivered on Thursday, November 28th, at 6 p.m., before the Child Study Society, London, by Mr. N. Bishop Harman, F.R.C.S., on the subject of sight-saving schools. Dr. James Kerr will take the chair.

THE Elsie Inglis Unit of the Scottish Women's Hospital is, we are informed, the only field hospital attached to the Jugo-Slav Division in Macedonia. When the latest information was received it was at Dragomantsi, north of Voden, and a new station, served by motor ambulances, had been established nearer the front. The unit has recently been joined by Miss Elinor Rendel, M.B., as junior surgeon.

LIEUT.-COLONEL SIR DAVID SEMPLE, who has held the appointment since 1913, has resigned the post of Director-General of Public Health, Egypt. His second in command, Dr. Cyril Goodman, has likewise retired owing to ill health, and the Government is finding difficulty in selecting successors. Meanwhile a special commission has been appointed under Dr. Andrew Balfour to examine the public health administration in the country, and it is believed that advantage will be taken of this opportunity for amalgamating the International Quarantine Board with the civil public health administration.

A FUND is being raised to do honour to Senator Camillo Golgi, Professor of General Pathology in the University of Pavia, on the occasion of his retirement this year, when he reaches the limit of age. The money is to be used in the foundation of a bursary to be given annually to an orphan of an Italian practitioner who wishes to enter the medical profession, preference being given to one who has lost his father in the present war.

THE annual meeting of the American College of Surgeons will take place in New York under the presidency of Dr. William J. Mayo, on October 21st to 26th, and will be attended by some representatives of British surgery. During the congress visits will be arranged to the hospitals and laboratories of the city and to the clinic for the functional re-education of disabled soldiers and sailors.

V. C. PIAZZA states (*Rif. Med.*, June 15th) that malingers who desire to produce the appearance of albuminuria either add liquid or dry albumin to the urine or inject it into the bladder. Generally hen's egg albumin is used, but human or horse serum is occasionally employed. The repeated injection of albumin into the bladder sets up an inflammatory condition which manifests itself by the presence of a minimal quantity of pathological albumin and an abundant deposit consisting wholly of well-preserved leucocytes. Sometimes methods tending to set up an albuminuria of renal origin are used, as by the intravesicular injection of big doses of quinine, salted meats or fish, large quantities of sodium chloride or pepper, but more commonly by the ingestion of enormous quantities of egg albumin, liquid or desiccated.



THE British Fire Prevention Committee has prepared a small poster (No. 32) entitled "Fire precautions for householders." It is simply worded and highly practical; copies will be supplied free to any applicant who sends an addressed and stamped envelope to the offices of the committee (3, Waterloo Place, London, S.W.1).

THE American Medical Department has established a central laboratory in France under the direction of Lieut.-Colonel George B. Foster, jun. Among the workers are Major Richard P. Strong, professor of tropical diseases at Harvard, Major William J. Esler, professor of bacteriology at Cornell, and Major W. B. Cameron, professor of physiology at Harvard.

## Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the *BRITISH MEDICAL JOURNAL* are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the *JOURNAL* be addressed to the Editor at the Office of the *JOURNAL*.

THE postal address of the *BRITISH MEDICAL ASSOCIATION* and *BRITISH MEDICAL JOURNAL* is 429, Strand, London, W.C.2. The telegraphic addresses are—

1. EDITOR of the *BRITISH MEDICAL JOURNAL*, *Aitiology*, Westrand, London; telephone, 2631, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Mediscera*, Westrand, London; telephone, 2631, Gerrard. The address of the Irish Office of the *British Medical Association* is 16, South Frederick Street, Dublin.

THE address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### QUERIES AND ANSWERS.

CUSTOS inquires for a simple formula for making a 5 per cent. solution of aluminium subacetate which is recommended for use in burns.

G.P. wishes to learn if cuprase or collosol cuprum has been tried in cases of mediastinal growths (not secondary) and with what results.

HEXAMINA inquires whether the continued use of urotropin in 10 gram doses three daily can harm the kidneys.

### LETTERS, NOTES, ETC.

#### A PHYSICAL CENSUS AND ITS LESSON.

##### Erratum.

IN the article which appeared last week with this title there was an obvious misprint in the eighteenth line on p. 349, due to the omission of a decimal point. The sentence should have run: "In other words, in less than 0.4 per cent. of this enormous number of medical examinations there was reason to believe . . . that the grading by the National Service Medical Board did not correctly represent the degree of physical fitness of the individual."

#### WOUND TREATMENT.

DR. J. J. BOERMA (Arnhem, Holland) writes to say that he has read with much pleasure the publication issued by the *British Medical Association*, entitled *British Medicine in War*, and adds: In the chapter on wound treatment I did not see the method of deep disinfection anaesthetization, by injection with novocain and some disinfecting agent around the wound as described in the *Nederlandsch Tijdschrift van Geneeskunst* of August 17th, 1918. In infected suppurating wounds you have attained great success with the Carrel-Dakin method, but would it not be logical to try to attain a deeper disinfection by injections in some suitable cases? May be you are employing already some kind of such method and hope you will consider my remark upon your excellent work as a feeble trial to do a little bit for the benefit of the gallant British soldiers.

#### MANGANESE A POISON.

MR. J. F. WARD (Manager, The Crookes Laboratories, 50, Elgin Crescent, W.11) writes, with reference to the letter of Dr. James Gardner, September 28th, to point out, in view of the extensive use of colloidal manganese at the present time by intramuscular injection in furunculosis, acne, eczema, gonorrhoea, and generalized systemic infections, that in the colloid state manganese is for all practical purposes non-toxic. Physiological experiments undertaken by Professor R. Tanner Hewlett of King's College in July, 1918, showed that 11 c.cm. of collosol manganese injected intravenously into a rabbit weighing two kilograms produced no ill effect. The dose found by clinical experience to produce the best results

is 0.5 c.cm. to 1.5 c.cm., and reports (as already mentioned by Sir Malcolm Morris and other writers in the medical journals) almost invariably show marked constitutional improvement after the injections.

#### LIQUID FIRE IN WARFARE.

THE prototype of the liquid fire now used by the Germans was the "Greek fire" which kept sea power in the hands of the Byzantines in their long struggle with the Moslems. This "Palladium of the State," as it is pompously styled by Gibbon, was an incendiary compound the secret of which was imparted to the Constantinopolitans by Callinicus, a native of Heliopolis in Syria or in Egypt. It would seem from the vague and possibly misleading hints of Anna Comnena, daughter of the Emperor Alexius Comnenus I. in her *Alexiad*, and other Byzantine writers, that the principal ingredient was naphtha or liquid bitumen, which is found in abundance in certain areas between the Tigris and the Caspian. The naphtha was mixed with sulphur and turpentine. The fire was used in various ways. The simplest weapon was probably a tube filled with combustible materials, which was flung by the hand like a grenade. From the ramparts of Constantinople it was poured out of large boilers, or shot in arrows and javelins round which flax or tow strongly impregnated with the inflammable oil was twisted. Sometimes it was carried in fire sloops and blown through long copper tubes "fancifully shaped into the mouths of savage monsters that seemed to vomit forth a stream of liquid and consuming fire," which were laid on the prows of galleys. It is probable that naphtha was the "oleum incendiarium" used at the siege of Jerusalem, although there is no direct evidence on the point. Joinville, in his life of St. Louis, says that the fire came flying through the air like a winged, long-tailed dragon about the thickness of a hog's head, with a noise like thunder and the velocity of lightning. There is a formula in a treatise by Marcus Graecus of the ninth century with a title of undisguised frightfulness, *Liber primus ad comburendos hostes*, which exists only in a Latin translation, edited by F. Hofer in his *Histoire de la Chimie* (1842). The use of Greek fire was continued till the middle of the fourteenth century, when the discovery of gunpowder brought about a revolution in the art of war.

#### THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

##### Subscriptions to the Second Appeal.

The following subscriptions, completing the list up to Monday, September 23rd, should have been acknowledged in our previous issue:

	£ s. d.		£ s. d.
Sir A. Pearce Gould	5 0 0	Major W. M. A. Fletcher	1 1 0
Messrs. Bower and Sons	2 2 0	Dr. F. G. Glenow	5 0 0
Captain A. Bagnian	1 1 0	Dr. S. H. Bonn	1 1 0
Dr. Norman Farlax	1 1 0	Dr. H. Leader	2 2 0
Dr. A. W. Cassie	1 1 0	Mr. A. Williams, M.P.S.	1 1 0

##### Monthly Subscriptions.

The following monthly subscriptions have been received for September:

	£ s. d.		£ s. d.
Sir A. Pearce Gould	5 5 0	Dr. G. Grey Turner	1 1 0
Mr. E. Spence Evans	0 10 0	Dr. W. S. Hunt	1 0 0
Dr. Alfred Cox	1 1 0	Dr. Vincent Tighe	0 10 0
Dr. A. B. Stevens	1 0 0	Mr. J. B. C. Brockwell	
Dr. E. C. Morland	0 10 6	R.A.M.C.	0 10 0
Dr. K. J. Dougall	0 10 0	Dr. A. W. Forrest	1 0 0
Sir T. Barlow	0 10 0	Dr. W. Luffman	0 10 0
Dr. R. Legat	0 10 6	Dr. A. Graham	1 1 0
Dr. A. E. Nash	0 10 0	Dr. A. Hawkyard	0 10 0
Dr. Hyla Greves	0 10 0	Surgeon P. G. S. Davis	
Dr. W. E. Good	0 10 0	R.N.	0 10 0
Major F. R. Potherell	0 10 0	Dr. O. Gaiger	0 10 6
R.A.M.C.	0 10 0	Captain R. L. P. Hildbert	
Dr. J. O. Mussen	0 10 0	R.A.M.C.	1 0 0
Dr. W. Stewart	0 10 0	Dr. H. Whitthouse	0 10 0

Subscriptions to the Fund should be sent to the Treasurer, Dr. H. A. Des Vœux, at 14, Buckingham Gate, London, S.W.1, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited.

#### THE BELL FUND.

DR. S. A. KINSHIE Wilson asks us to acknowledge a donation to the Dr. J. H. Bell Fund of £1 ls. from Dr. S. H. Belfrage. Subscriptions should be sent to Dr. Wilson at 14, Harley Street, London, W.1.

#### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Seven lines and under	0 6 0
Each additional line	0 0 9
Whole single column	4 0 0
Whole page	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the *British Medical Association* at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive post restante letters addressed either in initials or numbers.



## A Clinical Lecture

ON

## RENAL DROPSY.

DELIVERED AT THE ADDENBROOKE'S HOSPITAL IN  
AUGUST, 1918.

BY

SIR T. OLIFFORD ALLBUTT, K.C.B., F.R.S.,

JAMES PROFESSOR OF PHYSIC IN THE UNIVERSITY OF CAMBRIDGE.

The first part of the lecture consisted in the diagnosis of the case as one of Chronic Parenchymatous Nephritis, and in the discrimination of this from other diseases of the kidney, illustrated by pathological specimens: this part is omitted.

On March 7th, 1918, was admitted L. G. H., aged 19, complaining of swollen legs and body, dating back to the previous August; also of dyspnoea, nausea, and vomiting—he vomited last the morning before. Nothing in the previous history worth recording, except the absence of any recognized infection, and a positive story of several severe wettings and chills before he fell ill. He presented the usual aspect of renal dropsy: face puffy and pallid; attitude propped up in bed; some cough and shortness of breath; body and legs enormously swollen—face, back, loins, legs, and private parts—and pitting deeply on pressure everywhere. Heart probably large and dull; some crepitations in the backs of the lungs. Systolic pressure about 140. As pink spots with some dew upon them had appeared on the legs it was decided to tap the legs at once. After careful disinfection and greasing of the skin Southey's trocars were introduced into both legs and during the next three days about 45 pints of water drained off, with great relief; the penis and scrotum also were punctured and drained. No local irritation of importance followed these measures. The urine contained much albumin, and "many granular casts were seen under the microscope." The quantity was deficient. Vomiting recurred occasionally.

This phase of the illness lasted till May 11th. Medicinal means of reducing the dropsy had failed. A free flow of urine had been obtained by various gentle diuretics, for many days reaching some 45 to 50 oz. in twenty-four hours. Diaphoretics, including hot air baths, laxatives, and the rest of the ordinary means, were tried in vain; the dropsy reaccumulated to the fullest extent after each tapping, although at four or five operations large quantities of water had been successfully drawn off.

At the bedside, Gentlemen, I impressed upon you, and now I repeat, that this huge anasarca is not, as generally supposed, a mere mechanical overflow of water into the subcutaneous tissues because of an obstructed filtration from the kidneys. At first this obstruction had perhaps something to do with the condition, but by a little management, and by means of sundry diuretics, we found no great difficulty in bringing about quite a good urinary flow. Moreover, as you have seen, we were able to supplement any defective renal filtration by large discharges of water in other directions. You will remember that, out of the patient's hearing, I had led you to form no great expectations of success by these means, for the secret of relief did not lie there. For the most part we were expelling plenty of water from the patient's system; yet the enormous dropsy continued as bad as ever, and after each tapping returned in all its volume within a few days. On the other hand, I told you that in cases of anuria or eight or ten days' duration no oedema appears. I argued that the fault lay in some abnormal holding up of the water by the tissues, probably by some physical, or chemico-physical perversion. We speculated on osmotic relations (Starling), on acidosis (Fischer), on various perverse affinities, on surface tensions, and we tried methods calculated to check such aberrations, attempts in which we had the valuable co-operation of Mr. Sydney Cole of our biochemical laboratory. The saltless diet was tried; the patient's system was alkalinized for a time, a Bland's pill was given with each meal; but all in vain.

Happily one morning I received a paper from Dr. Epstein of New York, whom I had met at the Sinai Hospital some years ago, and who had since kindly sent to me his papers, which chanced to be on the very subject of the causation and alleviation of dropsy in chronic

parenchymatous nephritis.<sup>1</sup> From what I thus learned of Dr. Epstein's researches I determined at once to make a great change in the diet of the patient. Many of you know that I have not been in the habit of strictly reducing the protein diet in these cases, but rather of allowing such protein diet as the patient seems to require, remembering that these patients are always anaemic, and under the anasarca always emaciated. But Dr. Epstein's diet had gone far beyond any liberty I had taken. It was as follows: Lean meat, lean ham, whites of eggs, (oysters), (jelly, lentils, split peas), green peas, rice, (oatmeal), skimmed milk, (coffee), and tea; salt in moderation, and fluid as reasonably desired. We allowed also fish, an ounce of bread, and half a pint of unskimmed milk. The articles in brackets we omitted.

Unfortunately the patient had hardly begun the new diet when he was attacked by something like influenza; the throat was sore, the head ached, and the temperature rose—an additional burden which almost made an end of him. All through June he was very ill. However he weathered this storm, and the diet was pressed on again. Fortunately it was acceptable to the patient. During July his progress was remarkable; by July 24th a steady fall of the anasarca had been recorded, and on that day it was noted that the swelling of the legs and thighs was less than it had been at any time since admission; less, indeed, than after the tapplings, although the catarrhal attack was not quite over and a cough and muco-purulent spitting still distressed him. On July 27th he had been up on a couch and was feeling much better than he had been since his illness began. August 2nd: "Legs practically free from oedema; general condition good. He passes up to 90 and 100 oz. of urine a day, which however is still very albuminous." On September 10th he was still on the Epstein diet, with excellent result. "He is not now passing an excessive quantity of urine, but there is no sign of dropsical fluid anywhere in the body." A cursory examination of a drop of the urinary deposit which I placed under the microscope showed nothing important save one epithelial cell (renal). On September 28th he received his discharge; not of course as cured, but as entirely relieved of his burden.

And now, Gentlemen, with Dr. Epstein's help, I will try to explain to you the reason of the method which in this case—a severe one of its kind—has proved so successful.

First of all, you must understand that I am speaking only of chronic parenchymatous nephritis, and that what I have to say about this disease does not apply directly to any other disease of the kidney—not, for example, to the primary contracted kidney. This being understood, we will turn to our dietetic treatment—from Galenism to biophysics. You have seen that the successful diet was high in protein value, low in fats and carbohydrates, being thus the contrary of the ordinary diet in this disease. Yet it seems to have been brilliantly successful. How? You have seen also that in this case the dropsy was not due to deficient flow through the kidney. Again, as to the salt retention, while admitting that this is probably important, we remark that salt retention is found also in renal diseases in which there is no dropsy, or but little. Now in his researches Dr. Epstein has found that, in the disease before us, the blood is very poor in proteins; moreover, that of these the globulins are in great excess, sometimes in extreme instances making almost all of the protein volume.\*

It seems highly probable that this poverty of the blood in proteins is due to the very large losses of albumin by the urine which are characteristic of this particular disease, and that this impoverishment of the blood is proportionate to the degree of the albuminous discharge. For instance, such a patient may thus lose 25 grams a day, or more, of albumin, while the average total content of the blood is but 210 grams. It may be replied that the poverty is but apparent and due to the aqueous dilution (hydraemia), but this source of error has been controlled. What then must be the effect on osmotic pressure of this impoverishment of the colloid content of the blood? Professor Starling has calculated that the normal osmotic pressure of the blood is about 4 mm. Hg per 1 per cent. protein, and thus the passage

\* I have tried to ascertain the normal proportion, but failed. At last I find in Luchini that the relative proportions of serum and globulin are difficult to determine, and in fact have not yet been determined.



of saline water is, of course, from the tissues to the blood vessels. Should the protein or colloid content of the blood fall sufficiently, the drift may well turn the other way; and the tissues attract the water and hold it. Accordingly, if we analyse the dropsical fluid, we shall find it to be little more than this saline water, its protein content being practically nil; the tissues, indeed, may become stronger in colloid content than the vessels, and the osmotic relations be quite upset. If, for control, we take a dropsical effusion from a case of primary contracted kidney, or of cirrhosis of the liver, we shall find it to contain as much as, or more than, three parts of protein per 100 c.cm. (Epstein). You see then how idle it is under these conditions to rely on expelling the dropsy by diuretics, diaphoretics, and the like; we can expel but the surplus after the tissues have saturated themselves.

In the next place, Dr. Epstein discovers a great excess of lipid in the blood of these cases. This he attributes in great part to starvation; and if derived largely from mobilization of fat, it is also a product of breaking down of the tissues. Now abstraction of lipoids from tissue cells causes imbibition of fluid with consequent swelling of the cells—cell oedema.† The diet for this dropsy is therefore largely exclusive of fat.

Once more: I need not remind you that one main product of carbohydrate food is water; we may fear therefore that large amounts of such food may promote the accumulation of water in the system. Moreover we desire to make room rather for the protein constituents, and to secure their full assimilation without rivalry.

These, then, are Dr. Epstein's principles, which, you will admit, seem reasonable, and are based upon careful research. Further experience only can establish or invalidate his conclusions. So far as our one case goes you have seen that the results—we are tempted to say the consequences—were very striking. In conclusion I have to acknowledge the able assistance of our house-physician, Mr. Gittens, in the management of the case.

To bacteriology, Gentlemen, we owe indeed an unspeakable debt; but you have heard me say again and again that, this territory being largely won, we have now to look for the next great conquests to biochemistry and physical chemistry. But these and such advances demand a very different system of clinical investigation from that we now have in England; experience is good, sagacity is good, but now we have penetrated so far that chairs of clinical research, armed with skilled staffs and laboratories, must be established in tardy England as already they are provided in every considerable medical school in Scotland and on the European and American continents.

#### REFERENCE.

1. A. A. Epstein: *Amer. Journ. Med. Sci.*, November, 1917; and *Journ. A. M. A.*, August 11th, 1917.

## ACUTE ULKERATIVE GINGIVITIS.

BY

CAPTAIN CLAUDE G. COLYER, M.R.C.S., L.R.C.P.,

L.D.S. ENG., R.A.M.C.

ADVISORY DENTAL SURGEON, — ARMY.

DURING the past year or two a number of observers have written on the subject of acute ulcerative gingivitis. Little attention has, however, been paid to the signs on which an early diagnosis can be made, while no facts have been available regarding the extent to which the disease is prevalent among our armies in France. With regard to treatment, chief emphasis has hitherto been laid on the local use of drugs having a more or less specific action on the organisms found in this condition.

In the present paper, which is a modification of a report drawn up at the request of certain army medical authorities, special attention has been given to the methods of early diagnosis and the incidence rate in troops in France. The treatment has been dealt with on more general surgical lines than in previous communications, less reliance being placed on the action of anti-spirochaetal drugs, and more on thorough surgical cleansing of the infected areas. This method of treatment has been adopted as the result of personal experiences dating from March, 1915, when I saw for the first time cases in France.

On the harm which cholesterin may do to the body see Dr. Epstein (loc. cit.) and my *Diseases of America*.

(In passing, it is interesting to note that between November, 1914, and March, 1915, no cases came under my notice.) Since March, 1915, numerous cases of the disease, in all stages, have come under my personal care.

#### Signs and Symptoms.

Acute ulcerative gingivitis is an acute inflammatory condition of the margins of the gums, which spreads rapidly, and leads to sloughing of the interdental papilla; sloughing of the gums around the necks of the teeth; ulceration of the adjacent mucous membranes (in the more severe cases); rarefying osteitis and destruction of the bone around the teeth, in chronic cases.

The general symptoms are as follows: Malaise; slight elevation of temperature, rarely over 100° F., but occasionally 102° F.; glandular swelling, the submaxillary glands being chiefly affected; general depression.

The local symptoms are: Haemorrhage from the gums, either spontaneous, or as a result of pressure; pain in the gums, especially at night, and often so severe as to make sleep impossible; a foul taste; very offensive breath; mastication difficult and extremely painful, the teeth becoming very tender and loose.

*Clinical History.*—The onset is gradual. A small area of gum becomes painful, and this pain spreads to the interdental papillae of the adjacent teeth. By the seventh to the tenth day the pain and local symptoms are severe, and the patient may report sick.

*Local Signs.*—In the earlier stages the only signs are a slight oedema of the interdental papillae; these rapidly become congested and are bluish-red in colour, and are distinctly swollen; if touched they bleed readily. Later the gums appear to be separated from the teeth, this being due to the swelling and not to any destruction of the periodontal membrane. This stage is generally present for two or three days. An acute necrosis of the papillae then follows. The slough formed is non-adherent, of a characteristic brownish colour, and very friable. There is no attempt at formation of a true membrane until the process of healing has commenced. If left untreated, sloughing gradually spreads until a considerable area of gum is destroyed. The gums in the infected region are deeply congested. The teeth are usually loose.

*Distribution of the Infection.*—The gums around the upper incisor teeth are commonly affected first, but in a number of cases the disease commences in other situations; an erupting lower third molar, for instance, is a common site, or any spot where food tends to lodge. When one jaw is affected, the other soon shows signs of infection in the corresponding situation. The spread is usually in direct continuity along the gum, the interdental papillae on either side of the primary lesion becoming attacked. It is rare for a large area of gum to slough before several teeth have become implicated. Occasionally, on the other hand, the lesion begins at distinct points.

#### Pathology and Bacteriology.

In the early stages the tissues attacked by the specific organisms become deeply congested, and after two or three days necrose, making a series of cup-shaped depressions between the teeth. The sloughing does not extend deeper than the bottom of the periodontal sulcus. At first there is little or no bone destruction, although this is to be found in advanced or chronic cases. Tartar is always present on the necks of the teeth exposed by the sloughing of the gum.

[*Note.*—In periodontal disease (pyorrhoea alveolaris), which is the disease most commonly mistaken for acute ulcerative gingivitis, the gums become slightly congested, but do not slough. Ulceration proceeds at the bottom of the periodontal sulcus, thus destroying the periodontal membrane. This is accompanied by a rarefying osteitis, which finally leads to the destruction of the bony tooth socket. The gum is not destroyed as quickly as the periodontal membrane, and so a pocket of varying depth is formed between the tooth and the gum. In severe cases this pocket is filled with pus. Periodontal disease is extremely chronic, and in contrast to acute ulcerative gingivitis, may be present for ten or fifteen years.]

The characteristic organisms found in films are a mixture of *Bacillus fusiformis* and spirilla. In well-marked cases, especially when occurring in a clean mouth, these may appear to be present in almost pure culture, giving a very striking picture under the microscope. In other instances where periodontal disease or simple gingivitis is present



in addition, or when the condition has become chronic, a large variety of other organisms may be found as well.

It may be noted that acute ulcerative gingivitis and Vincent's angina of the throat are obviously one and the same disease, the only difference being the part of the buccal cavity affected. When the throat condition is primary, there are frequently multiple lesions on the gums, which eventually coalesce. The ulceration may begin and disappear in the throat before the gums are affected, and vice versa. On the other hand, only the throat or only the gums may be found involved in any one patient.

#### *Incidence and Sources of Infection.*

Cases are to be found in all branches of the service, and in all ranks. The condition is also found among the French civilian population, and in certain allied troops who have come under observation (for example, Portuguese). It is noticeable that officers form a large number of the cases treated, but this is most probably due to advice being sought sooner. Men in the trenches, or those living under bad conditions, are only slightly more liable to infection than those under more favourable circumstances. The condition is more prevalent during the winter than in the summer months.

Up to the present I have not been able to trace any definite methods of infection. In France, at least, the disease does not appear to spread by close proximity, for example, in huts and billets. Two cases have come under my notice in which the patients had been attached to "gas schools," and had tested box respirators belonging to other men; in these two instances the gums around the incisor teeth were infected first.

Excessive smoking, in my opinion, predisposes to the condition, and considerably retards the process of healing. The absence of fresh food does not seem to play any part in the causation. Officers and men who are able to obtain fresh vegetables are frequently victims.

*Duration.*—If untreated the condition becomes chronic, and results within a year or eighteen months in the destruction of the bony sockets of the teeth; when this occurs the teeth must necessarily be extracted before a cure can be effected. If treated by mouth-washes only, although the severity is diminished, the condition is not cured. If treated vigorously all symptoms disappear in three or four days, although a cure is not effected until about the tenth day of treatment; even after this period films may still show the presence of the causative organisms. Men should not be allowed to escape from treatment until three or four days have elapsed after all signs of ulceration have disappeared. Working on this principle I have had very few relapses. Recurrences are reported to be frequent, but the majority of such cases have been discharged before all ulceration of the gums has been completely healed. Careful use of a toothbrush and the employment of an astringent application to the gums for two or three weeks as an after-treatment will tend to decrease these recurrences.

#### *Diagnosis.*

In the earlier stages diagnosis may be difficult, except to a person with experience. Suspicion may be aroused by a slight swelling and reddening of an isolated interdental papilla, the surface of which appears to be stretched and glossy and the edges thinned out and transparent. The apex of the papilla may actually have sloughed. At this stage a microscopical examination should be made to establish the diagnosis. In the later stages the characteristic bluish-red gum, covered by slough, the offensive breath, and the glandular enlargement make the diagnosis easy.

The differential diagnosis is as follows:

1. From simple gingivitis. In simple gingivitis the gums are a bright red colour near the margin, the interdental papillae not being especially affected, while the gums gradually become normal as the buccal sulcus is approached. The interdental papillae are swollen, but not painful, and do not show any signs of sloughing. The gums are usually covered with food debris or tartar; this can be removed without causing pain or haemorrhage. The characteristic odour of the ulcerative type is absent, and there is neither pain at night nor glandular swelling.
2. From periodontal disease (pyorrhoea alveolaris). In this condition there is no sloughing, and little obvious inflammation of the gums. Pus can usually be squeezed out from the pockets which surround the teeth. These pockets are caused by the destruction of the periodontal membrane. After some years considerable destruction of gum ensues, but this destruction is slow, and is not brought about by visible ulceration.

3. From ulcerative stomatitis. This condition, although frequently showing similar organisms on microscopical examination, and occasionally associated with ulcerative gingivitis, is not limited to the gum margins. It does not lead to so much destruction of tissue. Small ulcers are usually to be found on the palate, tongue, and buccal mucous membrane.

4. From syphilis. Mucous patches may be mistaken for ulcerative gingivitis, and reliance must be placed on a history of the case for a diagnosis. Secondary ulcers and the punched-out ulcers of tertiary syphilis are most often confused with Vincent's angina of the tonsils and fauces. The ulceration, however, in these cases may spread out along the gums. Slides from such ulcers do not give the characteristic flora, and the ordinary treatment for ulcerative gingivitis will fail. A Wassermann reaction will clinch the diagnosis under such circumstances.

5. From mercurial stomatitis, scurvy, etc. Negative bacteriological findings, coupled with the history of the case, must be relied on.

#### *Treatment.*

This may be divided into an account of the general lines of treatment commonly adopted in this disease and an account of the methods advocated by myself.

The commonest local forms of treatment in use are:

1. Swabbing of the gums with Bowman's or other similar solutions. These solutions contain, for the most part, mixtures of vinum ipecacuanhae, liquor arsenicalis, and glycerin, or solutions of silver nitrate or copper sulphate.
2. Mouth-washes, usually associated with the above treatment, generally given every four hours, and composed of hydrogen peroxide, eusol, carbolic acid, etc.
3. Scaling of the teeth and removal of tartar, as soon as all signs of sloughing have disappeared.

The treatment I have adopted, as a result of considerable experience, is briefly as follows:

*General Treatment.*—Patients are admitted to hospital. Diet is light for the first two days, but ordinary hospital diet is substituted as soon as possible. Smoking is forbidden.

*Local Treatment.*—When the patient is first seen all slough is scraped away. This is best done with a large, spoon-shaped excavator. The remaining debris is then washed away by means of a water syringe, great care being taken to syringe between the teeth. A concentrated solution of thymol in water is the best lotion for this purpose, but if not available eusol may be used instead. When all the slough has been removed from the ulcers as much tartar as possible is scaled from the necks of the teeth. The haemorrhage caused by the above process is not harmful, although care should be taken that the tissues are damaged as little as possible. The gums are then dried and swabbed with a 5 per cent. solution of silver nitrate; this is allowed to remain for a minute or two and the patient instructed to wash out his mouth with water or thymol solution.

*Subsequent Treatment.*—A mouth-wash of thymol water is given two-hourly throughout the day. The above treatment is carried out daily until all ulcers have a clean granulating surface (usually four to five days); when this stage is reached mouth-washes are given less frequently, but not less than three times a day; the application of silver nitrate is discontinued, but the syringing of the interdental spaces is carried on. All roots and septic teeth are then extracted and all necessary fillings completed as soon as the ulcers commence to heal.

When obtainable, glycerin and tannic acid is rubbed into the gums daily when the application of silver nitrate has been discontinued.

From the commencement of the treatment patients are instructed to brush their teeth, using the brush with a vertical action, and by using the bristles of the brush in a similar manner to a toothpick—namely, for the purpose of cleaning out the interdental spaces.

*Treatment of Chronic Cases.*—The treatment of these cases is different from the above in that any attempt to save the teeth in the affected area is useless. Marked bone destruction or a history of several attacks extending over a period of several months necessitates the extraction of the affected teeth. Before this can be done, however, it is essential to render the mouth comparatively clean; two or three days' treatment as indicated above will usually suffice. Local anaesthetics must on no account be used in these cases.

Patients are not cured until the specific organisms can no longer be found by bacteriological examination.

Clinically, patients may be considered fit for duty when all ulcers are completely healed and the gums no longer bleed when pressure is applied to them.

The usual duration of the disease from commencement of treatment is ten to fourteen days, patients usually becoming free from the specific organisms on the eighth or ninth day.

#### *Statistical Evidence.*

This has been obtained from two sources: 1. Reports from dental officers of the number of cases of acute ulcerative gingivitis occurring among patients seeking dental treatment. 2. Mouth inspection, by myself, of



soldiers living under various conditions but not reporting sick on account of dental disease.

1. Number of visits made to dental officers in a certain area during a period of one month ...	9,380
Number of men treated approximately ...	7,000
Number of cases of acute ulcerative gingivitis ...	46
Percentage incidence, 0.65.	

2. The mouths of 889 men from various units in the army were inspected. These included:

(a) Men returning after a four days' tour in the trenches. Samples taken from each company of six battalions.	
Positive acute ulcerative gingivitis	2 = 0.76 per cent.
Dirty mouths ...	31 = 11.4 ..
Moderately clean mouths	76 = 25.7 ..
Clean mouths ...	157 = 57.1 ..
Men wearing dentures	13 = 4.8 ..
Total	279

(b) Troops in back areas—A.S.C. workshops and M.T. companies.	
Positive acute ulcerative gingivitis	1 = 0.35 per cent.
Dirty mouths ...	49 = 15.8 ..
Moderately clean mouths	68 = 22 ..
Clean mouths ...	159 = 51.8 ..
Men wearing dentures	32 = 10 ..
Total	309

(c) Reinforcements from the base.	
Positive acute ulcerative gingivitis	1 = 0.33 per cent.
Dirty mouths ...	51 = 17 ..
Moderately clean mouths	67 = 22.2 ..
Clean mouths ...	154 = 51.1 ..
Wearing dentures	28 = 9.3 ..
Total	301

The above figures, although not large, appear to show that acute ulcerative gingivitis is present in approximately 0.5 per cent. of men behind the line, and in 0.7 per cent. of those returning from the trenches. None of the cases found at inspection were severe, but all had definite sloughing of the interdental papillae.

Certain other points noted at inspection are of interest. On the whole the condition of the teeth is fair. Of the infantry only a small proportion clean their teeth at all, but in spite of this there is a higher percentage of clean mouths among them than in other branches of the service. This is in all probability due to difference in the diet. Certainly not more than 30 per cent. of the men use their toothbrushes for the proper purpose, although at least 90 per cent. have them for "kit inspection." Of the men (70 per cent.) who do not brush their teeth, 30 per cent. use their brushes for cleaning buttons, while the remainder keep the brushes for inspection purposes only. Caries is present in the majority of the men, and could be largely prevented if more dental officers were available. It would then be possible to inspect troops regularly and fill the cavities while they are still small.

Simple gingivitis is present in a large number of the men who do not keep their teeth clean, and periodontal disease is common amongst the older men and those who have always neglected their teeth.

#### SUMMARY.

From the foregoing report the information obtained can be briefly summarized as follows:

Severe cases of acute ulcerative gingivitis represent 0.65 per cent. of all men reporting sick on account of their teeth.

Only a small proportion of men suffering from the condition report sick until the pain becomes severe, and there is considerable ulceration.

Significant points affecting the army in connexion with this disease are its contagious nature, the disability produced, and the subsequent loss of teeth unless treated early.

The average duration of treatment in first attacks is ten days, provided treatment is rigorous.

Relapses are common, and probably chiefly due to inefficient treatment or too early discharge.

The treatment is laborious, and personal daily treatment by a dental officer is required for each case.

I am indebted to Major-General H. N. Thompson, C.B., C.M.G., D.S.O., Director of Medical Services, for affording me special facilities in connexion with this and other dental work, and to Major J. W. McNee, D.S.O., Assistant Adviser in Pathology, for many valuable suggestions and help in laboratory work.

## ON THE AMINO-ACID CONTENT OF NUTRIENT MEDIA.

BY

I. WALKER HALL, M.D.,

PROFESSOR OF PATHOLOGY, BRISTOL UNIVERSITY; CONSULTING PATHOLOGIST TO THE SECOND SOUTHERN GENERAL HOSPITAL, ETC.;

With the Assistance of

A. CAMPBELL, B.Sc. EDIN., AND I. HILES, M.Sc. VICT.

(Report to the Medical Research Committee.)

The preparation of nutrient media for bacteriological purposes was considerably enhanced by the adoption of Eyre's scale of acidity.<sup>1</sup> A further advance was made when the reaction was adjusted to  $P_H = 7.35$  with phenol-sulphonephthalein as the indicator.<sup>2</sup> Another stage is gradually being evolved by a more generally recognized necessity for the provision of substances associated specifically with parasitic metabolism.

The ultimate objects of the production of nutrient media are, however, not concerned solely with the compounding of material for exhibiting the growth of bacteria from the visual standpoint. They include also a conception of the biochemical activities of the micro-organism, and envisage the possibility of developing the varying antigenic capacities and agglutinable properties which are manifested during the course of an infection. They may even foreshadow the reproduction *in vitro* of the various factors which confront the bacterium when seeking its food in living animal tissues. Media intended for isolation purposes only might be considered, therefore, as a blend of specific amino-acids and other compounds habitually used by the parasite, dissolved, or constituted, under those physical conditions best suited for its enzymic actions; while media devised for the purposes of immunity might be expected to incite bacterial growth under conditions approximating to the lytic and physical changes which accompany vital response to an irritant.

Towards some of these aims our work on the purification of peptones was directed.<sup>3</sup> Its continuance was prevented by the onset of routine military work; but the introduction of numerous new media designed to meet restricted food supplies has opened up a number of complexities. It seemed worth while, therefore, to make an attempt to consider these from the standpoint of the gross amino content, leaving the previously proposed examination of particular amino-acids to a later investigation.

One of the reasons which led Cole and Ouslow to adopt the casein preparation known as "lait-proto" as a base for the production of a nutrient medium was the fact that it yielded regularly a rich and fairly equable supply of amino-acids in a tryptic digest.<sup>2</sup> Dorothy Lloyd, when using the same medium, observed that meningococcal growth increased in relation to the number of hours of digestion, and that as the percentage of amino-acids was raised the necessity for the addition of catalysing or vitaminic influences was decreased.<sup>5</sup> Rettger, Berman, and Sturges suggested that, unless free amino-acids are present in a sufficient amount, the development of the enzymes necessary for the cleavage of such simple bodies as peptones and proteoses does not take place.<sup>6</sup> As a practical application of these findings, Glynn, among others, prior to undertaking his extensive work on dysentery bacilli, determined the amino-acid content of several peptones and selected one which yielded a satisfactory formaldehyde figure.<sup>11</sup>

In the preparation of nutrient media, therefore, it is essential to ensure that there is an adequate content of free amino-acids of low molecular weight. Hence we proceeded to estimate the amino content of ordinary and special media and to determine the minimal percentage necessary for effective growth.

#### The Formaldehyde Figures for Nutrient Media.

The estimation of the approximate amino-acid content may be carried out in a few minutes by the simple method described in Plimmer's handbook of biochemistry.<sup>7</sup> It enables the results to be recorded in terms of N 10 alkali per 100 c.c.m. of medium. Our findings are incorporated in Table I.



TABLE I.—*Amino-acid Content of Nutrient Media: Formaldehyde Express.*

	N to Alkali per 100 c.c.m.
1. Blood serum prepared for Loeffler's medium ..	22.5
2. Various commercial peptones:	
(a) 1 per cent. solution ..	5.0
(b) 1 per cent. ..	6.0
(c) 1 per cent. ..	8.75
(d) 1 per cent. ..	14.0
(e) 1 per cent. ..	25.75
3. Various beef extracts:	
(a) 1 per cent. solution ..	5.0
(b) 1 per cent. ..	6.0
(c) 1 per cent. ..	9.0
4. Various meat substitutes (yeast derivatives):	
(a) 1 per cent. solution ..	8.0
(b) 1 per cent. ..	11.0
5. Vegetable broth	
Potatoes 300 gm., carrots 150 gm., turnips 150 gm., water 1,000 c.c.m. ..	2.5
Ditto, plus 30 gm. yeast, grown for 24 hours... ..	10.0
Ditto, plus 60 gm. yeast, grown for 24 hours... ..	18.0
6. Tryp-agar (500 gm. heart, water 1,000 c.c.m., digested 5 hours):	
Digest 1 ..	29.0
Digest 2 ..	27.5
Digest 3 ..	25.0
7. Laitproto media (casein No. 6, 100 gm., water 1,000 c.c.m., digested 15 days, diluted 1 in 5):	
Digest 1 ..	47.0
Digest 2 ..	53.0
Digest 3 ..	43.0
Digest 4 ..	48.6
Digest 5 ..	54.0
8. Soy-bean media (beans 100 gm., water 1,000 c.c.m., digested 15 days) ... ..	55.5
9. Oat media (uncrushed oats 100 gm., water 1,000 c.c.m., digested 15 days) ... ..	0.0
10. Maize media (uncrushed maize 100 gm., water 1,000 c.c.m., digested 15 days) ... ..	0.0
11. Nasgar media with peanuts replacing nutrose, diluted 1 in 5 ... ..	36.0

Taking the contents of ox blood serum diluted for coagulation as Loeffler's medium, we may compare the figures of various composite media and of their several components. The differences in the amino contents of the several peptones are striking, and indicate the need for adjustment in the amount required for peptone water. It would be worth the while of commercial houses to guarantee a definite percentage of amino acids and proteins in their products.

There is a similarity between the content of beef extract and yeast extract, although the amino percentage of each is inconstant. At its present low price the latter is the more economical. It cannot, however, be employed indiscriminately. From Table III it may be inferred that when used in quantities which are necessary for the early growth of bacteria in cultures, an inhibitory factor appears and growth is checked. The cause of this inhibition has not yet been fully worked out, but it is possible that an excess of potassium phosphate plays a part. These extracts seem to be useful as accessory constituents, but in view of other combinations of amino-acids which are free from their drawbacks, they may be regarded as emergency rations only.

The various formulae which have been suggested recently for vegetable broths have not yielded satisfactory media. Their authors have lessened an apparent cheapness by adding 1 or 2 per cent. of expensive peptone powder. We attempted to increase their amino values by the addition of varying quantities of baker's yeast, allowing growth to take place for a day, then heating the mixture for a few hours and finally digesting it with our own pancreatic extract for three weeks. The results were not encouraging. The ultimate amino content was increased, but the intestinal organisms alone grew easily in the medium. Anthrax even gave a modified growth, owing apparently to the presence of some adverse cleavage substance.

The tryp-agar medium gives a small yield for the amount of muscle material employed.<sup>8</sup> It is probable that the digest should be continued for a longer period. At the present time and in its present form it is one of the most expensive of our media, and yet requires the addition of a catalyser or vitamine to render it useful for those bacteria which grow with difficulty on artificial media.

The laitproto medium contains a high percentage of amino-acids and is economical.<sup>2</sup> Different digests are not constant, but the amino contents can be adjusted easily. Nasgar, in which peanut powder replaces the nutrose, as suggested by Wallis, has a good amino content, and is an improvement upon the ordinary nutrose nasgar.<sup>9</sup>

With the digests of oats and maize soups we have not yet been successful. Other proteolytic ferments are perhaps necessary. But from soy beans we have obtained a useful extract which promises well. Not only does it yield a high amino content and furnishes a cheap medium for routine work, but it appears to provide dysentery bacilli with some specific nutrient. Sown with the strains of Shiga and Flexner which we possess, such a profuse growth appeared that it seemed possible to think of it as an enrichment medium for these bacilli. As a useful addition to the brilliant green method of isolating pathogenic intestinal organisms it calls for trial, as it occasions peculiar and distinctive colonies also with typhoid and the paratyphoid bacilli. These preliminary statements may perhaps tempt others to test our findings with their own strains. The following example may be of interest:

To an emulsion of one of the stools under examination for dysentery bacilli there was added a loopful of a twenty-four hours' growth of Shiga bacilli in a fluid medium; to another emulsion of the same faeces a similar quantity of Flexner bacilli was added. A standard loopful of the faecal mixture was then transferred to 1 in 1,000 brilliant green media. After incubation for twenty-four hours the usual quantitative plating was carried out. The figures were as follows:

TABLE II.

Bacterial Growth in Loop	Shiga No. of Colonies.	Flexner No. of Colonies.
In Laitproto ..	36	0
In 2 per cent. peptone water ..	1	0
In soy bean broth ..	41	2
In soy broth plus albumen extract soy beans ..	—	20
In soy broth plus watery extract soy beans ..	41	20

The soy bean vitamins appear therefore to act vigorously with regard to growth stimulation. These are considered in a later section.

#### *The Percentage of Amino-acids Necessary for Bacterial Growth.*

In order to ascertain more closely the part played by amino-acids in nutrient media, namely, whether they form the main food of the bacterium, or constitute only an easily assimilated nutrient ensuring a sufficiency of metabolism for the formation of substances capable of breaking down proteoses or proteins—it is necessary to determine the minimal and maximal quantities of amino-acid required by the various pathogenic organisms. The quality of the amino-acids is, of course, an important factor, but we are compelled to leave this for the moment; the fringe of the question which we touched upon in the previous work on Silk peptones opened up problems too large for discussion at present. The use of single or grouped amino compounds produced so many alterations in the usual sugar and other reactions that it is better for the time being to keep to the general standpoint.

The results of the growth of non-proteolytic bacteria in solutions of varying amino-acid density are recorded in Table III. The relation of amino to albumin content in the media for the proteolytic types is not yet defined.

In these observations certain empirical figures are employed to denote the number, size, opacity, etc., of the colonies upon solid media when compared with those yielded by the media we are accustomed to in our daily routine work. The inseminations were made by using a standard loopful of a twenty-four hours' culture standardized according to the methods employed in agglutination work. The estimations of the growths were made after twenty-four and forty-eight hours. The media were all filtered repeatedly through dense paper in order, so far as possible, to remove the vitamins. Dilutions of the resultant extracts were made, and the formaldehyde figure determined for each solution. It was recognized that simple calculations would not exclude the varying solubilities of the



different amino-acids, and that it would be more precise to add an exact amount of each amino-acid to the solutions. We have not yet, however, reached the stage when the isolation of the individual amino-acids has become a matter of practical application.

TABLE III.—*Bacterial Growth in Media Varying in Amino-Acid Content.*

Medium.	Amino-Acids.	COCCI.			BACTERIA.					
		N. mingo.	Strepto.	Pneumo.	Coli.	Typhoid.	Para A.	Para B.	Sul. n.	Flexner.
Vegetable broth ...	2.5	0	2	0	3	1	0	1	0	1
Ditto, plus 1 oz. yeast	10	0	2	2	5	1	1	1	1	0.5
Ditto, plus 2 oz. yeast	13	0	2	2	6	2	1	1.5	1	2
Yeast extract 1 per cent.	3	0	2	2	6	2	5	1	2	4
4 per cent.	32	0	0	0	5	3	2	4	0	4
6 per cent.	48	0	0	0	4	3	1	4	0	4
Tryp-agar ...	27.5	5.5	5	4	5	5	5	5	5	4
Nut nasgar—										
(a) ...	36	4	7	3	5	5	5	5	5	5
(b) ...	18	0.5	1.5	2	4	4	4	4	4	4
(c) ...	13.5	0	0.5	0.5	3	4	2	4	3	4
(d) ...	9.5	0	0	0.1	2	2.5	1.5	3	1	3
Laitproto										
1 ...	48.6	5	4.5	4	5	5	5	5	5	5
2 ...	36	4	3.5	4	4	5	4	5	3	4
3 ...	26.5	2	2	1	3	4	4	5	3	4
4 ...	17.5	0	1	1	2	3	2	4	1	2
5 ...	14.5	0	0.25	0.5	2	2	1	4	0.5	2
Soy bean—										
(a) ...	55.5	2	5	2.5	6	4	3	6	3	7
(b) ...	31	0	2	2	5	4	3	5	3	6
(c) ...	25	0	1	0	4	4	2	4	3	5
(d) ...	12.5	0	0.25	0	3	3	1	3	1	5
Oat broth ...	—	0	0	0	5	0	1	2	0	1
Maize broth...	—	0	0	0	5	0	1	1	0	0

A glance at the findings summarized in Table III will reveal the fact that the meningococcus fails to grow upon any medium which contains less than the amino content represented by the formaldehyde figure of 25, while streptococci are able to multiply at a lower percentage. It seems, therefore, that the formaldehyde figure designed for the Gram-negative cocci and for the pneumococci and streptococci need not be more than 40 and should not be less than that amount. The intestinal organisms, on the other hand, are habituated hereditarily to the scantiest of fare, but even they require a minimum of 20 for the production of representative colonies and reactions.

It seems a feasible proposition for a provisional standard to take these two figures and to adjust our media thereto. Such a procedure would simplify methods of preparation, in that, once a concentration of 40 was obtained, it would be the easiest of proceedings to add the necessary dilution of sterile melted agar or normal saline.

#### The Influence of Vitamines on the Amino-acid Content.

The addition of accessory factors to nutrient media has passed into general use. It has assisted materially in the profuseness of primary cultures, but has introduced some difficulties and not a few contaminations. How far the increased growths are due to these super-nutrient substances is a question asking for solution, and one which affects somewhat the institution of any amino standard. To deal with the matter from the quantitative standpoint is far from easy, but an attempt has been made to add roughly similar amounts of various vitamines to the media used in the experiments.

For the preparation of the vitamines 20 grains of egg yolk, oats, pea-flour, or ascitic fluid were added to 100 c.c.m. of 30 per

cent. ethyl alcohol and extracted at 37° C. for four days. The supernatant fluid was then decanted. Calculated amounts were added to each medium at the time the plate was poured. In some instances the alcoholic extract was added directly; in others the alcohol was evaporated to dryness at 37° C. and the residue taken up in sterile water. Examples of the results attained are given in Table IV.

TABLE IV.—*The Relation of Amino Content and Vitamines.*

(Vitamines prepared by adding 20 grains of powdered substance to 100 c.c.m. 30 per cent. alcohol, extracting at 37° C. for four days and decanting the supernatant fluid.)

Medium.	Amino-Acids N/10 Alkali.	No Vita mine.	0.25 % Egg Yolk.	0.25 % Pea Flour.	0.25 % Oat Flour.	0.25 % Ascitic Fluid.
MENINGOCOCCI.						
Laitproto	35	4	6	6	4.5	6
Yeast extract ...	26.5	2	4	4	3	5
Vegetable broth	17.5	0	0	0	0	0
and yeast	14.5	0	0	0	0	0
Yeast extract ...	8	0	3	3	3	2
Vegetable broth	32	0	0	0	0	0.5
and yeast	18	0	0	0	0	0.5
PNEUMOCOCCI.						
Laitproto	35	4	0.5% Egg Yolk.	0.5% Pea Flour.	0.5% Oat Flour.	0.5% Ascitic Fluid.
Yeast extract ...	8	2	4	4	4	4
Vegetable broth	17	2	2	2	1	2
and yeast						
STREPTOCOCCI.						
Laitproto	35	4	5	5	5	5
Yeast extract ...	8	2	6	5	4	4
Vegetable broth	17	2	1	1	1	1
and yeast						

In the case of the meningococcus, it was evident that on laitproto growth appeared so long as the amino content did not fall below 20, but that when that percentage was not reached the stimulating factors failed to act. On yeast extract media, however, the vitamines induced growth when the amino content was lower. An explanation of this may, perhaps, be found in the large amount of nucleic derivatives present in yeast mixtures.

With pneumococcus and streptococcus the presence of vitamines was similarly associated with an increased growth, although for these organisms a lesser density of amino-acids suffices.

The source of the vitamines seemed to be immaterial, within limits. Those obtained from soy bean, however, appeared to exert some specific action upon dysentery bacilli. When 2 per cent. peptone water, laitproto broth, and soy bean broth were quantitatively sown with dysentery bacilli and alcoholic or watery soy extracts added, the results appended in Table V were given.

TABLE V.—*Soy Bean Vitamines and Dysentery Bacilli.*

(20 grains soy bean powder, 100 c.c.m. 30 per cent. alcohol, extracted at 37° C. for four days; extract decanted off.)

Medium.	Amino N/10 Alkali.	No Vitamine.	Plus Alcoholic Extract 1 %.	Plus Watery Extract 1 %.
SHEILA				
Soy bean	35	1	10	8
Peptone water 2 %	12	0	3	0
Laitproto	43	2	4	2
HENDER				
Soy bean	25	2	10	3
Peptone water 2 %	12	1	5	3
Laitproto	43	2	4	2

Although an acceleration of growth became evident in all the media, the most marked increase was evident in the soy broth. This observation led to the inclusion of



soy bean vitamines in the brilliant green soy broth previously employed for the isolation of dysentery bacilli from faeces. The cultures appeared free from turbidity, but, upon plating, an adequate growth of dysentery bacilli followed. Both the alcoholic and the watery extracts were effective, although the alcoholic appeared to act best. The observation will be applied more fully during the coming autumn work.

#### REMARKS.

We venture to submit that a proposal for the general adoption of a uniform amino-acid standard content for nutrient media may be supported by the following considerations:

(a) Teaching would be simplified, in that the student would be less confused by differences in size, contour, opacity, etc., of colonies grown on media of varying contents.

(b) A standard of nutrition would increase the comparative value of work carried out in different laboratories.

(c) The action of bacteria upon secondary substances, such as starch, sugars, alcohols, etc., would be more precisely estimated when adequate free amino-acids were invariably available. Troubles with late lactose fermenters, poor indol producers, mutations, etc., might be lessened.

(d) For use in vaccines and for antiserum production the antigenic properties might be less variable.

(e) In the preparation of emulsions for purposes of agglutination there might be a more equally agglutinable type of bacillus.

(f) A considerable economy in material, time, and labour would be effected, and a wastage of superfluous nutrition prevented.

The suggestions embodied in (c) and (d) have been prompted by the indications of some preliminary work which is now in hand. They seem to bear a particular application to the Gram-negative cocci.

We are aware that the proposition does not envisage any standardization of the vitamine fraction. The addition of vitamines is rather an art than a science at present, and fortunately it is less necessary when the amino-acids are in excess.<sup>5</sup> We may also deplore that it does not attempt to construct a medium which reproduces the physical changes which occur in infected tissue, or take into account the action of the secondary products of bacterial action. When Sasaki and his co-workers have developed this side of the problem more fully we may be led to consider the provocation of prophylactic immunity on more strictly physico-chemical lines.<sup>10</sup> Nevertheless, working always with a standard measure of nutriment, we may obtain more concordance in our cultures and perhaps gain a broader insight into the mutations of bacterial action during latent or active infections.

#### REFERENCES.

- <sup>1</sup> J. W. H. Eyre: *Bacteriological Technique*, 1912, p. 154. C. G. and Onslow: *Lancet*, 1916, vol. ii, p. 9. <sup>2</sup> Walker Hall and Peters: *Journ. R.A.M.C.*, October, 1916. <sup>3</sup> Walker Hall: *Journ. Path. and Bact.*, Cambridge, 1914, vol. xix, p. 286. <sup>4</sup> Dorothy Jordan Lloyd: *Ibid.*, 1916, vol. xxi, p. 113. <sup>5</sup> Rettger, Burman, and Sturges: *Journ. Bact.*, Baltimore, 1916, vol. i, p. 15. <sup>6</sup> R. H. A. Plimmer: *Practical Organic and Bio-Chemistry*, 1915, p. 145. <sup>7</sup> Douglas: *Lancet*, 1914, vol. ii, p. 891. <sup>8</sup> Wallis: *Indian Journ. Med. Research*, 1917, vol. iv, No. 4, p. 786. <sup>9</sup> Sasaki: *Journ. Biol. Chem.*, vol. xxxii, 1917, and *Acta Scholae Med. Univ. Kioto*, 1917, vol. i, Fasc. IV, and 1918, vol. ii, Fasc. II. <sup>10</sup> Glynn and co-workers: *Medical Research Committee Report No. 7*, 1918.

## AN ANALYSIS OF CAUSES OF BREAKDOWN IN FLYING.

WITH NOTES ON THE NERVOUS MECHANISM OF  
THE FLYING MAN.

BY NORMAN S. GILCHRIST, M.A., M.D.,  
CAPTAIN R.A.M.C.

(ATTACHED ROYAL AIR FORCE.)

For this analysis one hundred consecutive cases were taken. Nothing was done in the way of selection of cases, which all came under review by the Royal Air Force Special Medical Board, E.E.F.

Breakdown is the term I have chosen to describe those patients who were rejected by the Board as "permanently unfit," for permanent cannot be looked on as other than a relative term. None can say how far many of these rejects may ultimately recover, but I can safely assert that

none will be fit to fly for six months, most not for years, and some (in the case of those breaking down under training, probably many) never.

#### A. Categories Examined.

Qualified pilots ...	33
Qualified observers ...	3
Qualified balloon officer ...	1
Total qualified fliers ...	37
Pilots under instruction ...	61
Observers under instruction ...	2
Total pupils ...	63
	100

#### B. Causes of Failure.

##### 1. Psychological or subjective—"Nerves," loss of confidence, or general nervous breakdown:

Qualified pilots ...	20
Pupil pilots ...	44
Qualified observers ...	2
Balloon officer ...	1
Total ...	67

##### 2. Objective nervous conditions:

Epilepsy and fainting fits ...	4
Giddiness, nausea, vomiting in air ...	11
Total ...	15

These are closely allied to Group 1. The total failures in "Nerves" group = 82 per cent.

##### 3. Physical complications:

Visual troubles, mostly bad landings ...	4
Heart disease ...	4
Crash injuries (direct) ...	2
Tubercle ...	3
Asthma ...	1
Various ...	4
Total ...	18

#### C. Points Reported on.

The following are the chief points recorded in the nervous subjective group (67 cases), which is that specially selected for this article:

Nervous family history ...	18 = 27 per cent.
Nervous personal history ...	27 = 40 "
History of previous nervous breakdown ...	20 = 29.8 "
Bad dreams, nightmare, or somnambulism—	
In infancy ...	14 = 20.9 "
In adult life ...	37 = 55.2 "
History of concussion or shell shock ...	25 = 37.3 "
Evidence in higher cerebral centres—that is, impairment of memory, concentration, judgement, temper ...	35 = 52.2 "
Malaria ...	24 = 28 "
Reflexes—	
Normal ...	11 = 16.8 "
Exaggerated + ...	20 "
++ ...	26 = 82.2 "
+++ ...	9 "
Absent (syphilis? tabes) ...	1 = 1.5 "
Tremor + or ++ ...	49 = 73.1 "

Of the 67, only 2 could not be placed under one or more of these headings: one was a qualified observer who, being shot down, had no further confidence in the pilots; the other, who had had a crash, was congenitally stupid and dull. Of the 24 malarial cases 17 occurred in officers who had been on service and whose mentality was manifestly affected thereby.

#### D. Effects of Crashes.

Of the 67 who lost their nerve a considerable number had to be rejected after crashes, either very recent or somewhat more remote. Many of these cases occurred amongst observers returning from service to qualify as pilots. These men invariably claimed that they had got over their crash, but this was found by experience not to be the case.

##### Loss of nerve after crashes—

Qualified pilots ...	13
Pupils ...	18
Total ...	31
Loss of nerve, no crash ...	36

Grand total ... 67

Of the twenty qualified flyers who lost their nerve the history

After aerial fight ...	2
Stress of service ...	6
Stress of service in German East Africa (a malarial country) ...	2
Crashes ...	9
Crashes (alcoholic excess) ...	1
Total ...	20



*Critical Survey.*

In the above analysis will be noted at once the large percentage rejected for psychological reasons—nervousness and loss of confidence: 67 per cent. made this complaint their chief explanation of failure. But besides it may be noted that a further eleven men who complained of faintness and nausea in the air as their main symptom were all, except two, exceedingly nervous subjects, and that no objective sign to account for the nausea and faintness could be found in them. If one adds the epileptic group of four, one gets roughly 80 per cent. who were rejected from nervous causes.

Any medical officer who has to work amongst airmen will admit the question of "nerves" is, and must continue, one of the most important and most difficult in this branch of medicine. If we find that more than half (55 per cent.) of those who fail under instruction do so for this reason, it is surely our duty to try and discover a means of weeding out such unlikely, such costly and dangerous material as those who are below the average of nervous competence before they so much as cross the threshold of a school of aeronautics.

My review is based on an experience of eighteen months with the R.F.C. and R.A.F. I have been in charge of a large training camp, a member of the R.A.F. Special Invaliding Board, E.E.F., since its inception, and also, later, a member of the "Commissions" Board which examines candidates for admission as flying officers or N.C.O.'s, and which has been in existence in Egypt for some four months only. Until the institution of the latter board, pilots were accepted on medical officers' certificates, and no special standards were adopted beyond Class A for general service. It is on the experience of the failures amongst the latter, as well as amongst those passed fit by the Commissions Boards in England or in Egypt, that these deductions are founded.

The problem is not easy. If one could reject out of hand all those who had a nervous history, a history of concussion or of nervous breakdown, or who had very exaggerated knee-jerks, the matter would simplify itself considerably, as one would certainly include under these headings all or almost all pupils who fail from nervous troubles. But the mesh of such a sieve is far too fine, and fails to let through a type which has over and over again proved the finest flyer of any. I refer to the highly strung, sensitive type—keen, alert, full of energy, "nervous" it may be, but just sufficiently so to give him that promptitude of action and reaction that is so essential in the air. His nerves are well under control, he is healthy otherwise—in short, a thoroughbred among men.

How, then, are we to judge? Has anything pathognomonic been found among the failures, either as pilots or as pupils under instruction? Is there anything in the history of such which will enable us to discriminate and lead us to reject these unsuitable types out of hand? Or is there in their history even any indication that will lead us to eye that type with grave suspicion, allowing them to pass only after a most searching examination by experts? I think so; certain facts are more serious than others, certainly, but, even so, one may by reviewing carefully a candidate's past nervous history get information of momentous value in deciding fitness for duty as a flying officer.

Let us review the points seriatim:

1. *Nervous Family History.*—Twenty-seven per cent. of failures gave such a history—that is, either parent was of a nervous disposition, brother or sister had a nervous breakdown, one had a sister in an asylum, etc. I do not want to labour the value of this, but it is very certain that unstable nervous temperament is hereditary, and, though this alone is not very important, its existence should call for the further history to be very carefully sifted.

2. *Nervous Personal History.* 40 per cent.—By this I mean they were nervous as children, had St. Vitus's dance, habit spasm, bit their nails, avoided the usual rough and tumble of children's sports, etc. This point is to be considered in relation to 1, and

3. *Actual Nervous Breakdown.* 35 per cent.—Nothing I know of will more surely lead to failure in air work, especially piloting, than the previous history of a serious nervous breakdown. I do not refer to a breakdown of a week or a fortnight, but to those lasting two or three months, often involving cessation of duty (but not necessarily so), producing, however, definite neuroasthenic symptoms, with mental depression, insomnia, loss of power of concentration, and so on. I do not think it matters much what produced this, whether worry at the office, or an accident in the hunting field, or a bomb in battle, so long as the

symptoms have been pronounced, nor do I consider it essential that present symptoms exist, though usually one can detect them if one observes closely enough. Sometimes these symptoms occur after concussion, and when they do they make the acceptance of such a candidate more and more hazardous.

*Does it matter at what age the breakdown has occurred?* I hardly think so, except that if it be said to have occurred before 9 or 10 years of age, that is, before puberty, I should be inclined to doubt its reality and would ignore it in the absence of other signs. From puberty on I think it is about of equal significance at all ages. I need hardly say here that one pays the greatest attention to statements of nervous upset before puberty or at that time, not necessarily for the fact of the breakdown which may have been doubtful or apparently trifling, but for the indication that such a story gives of an otherwise unstable nervous system.

*Does it matter how long ago?* Again, No, if sufficiently definite and prolonged, and not occurring in infancy. The nervous system does not recover enough to warrant acceptance for training, at least under war conditions.

*Should it apply to observers whom up for training as pilots?* In many cases, Yes; they should not be accepted, but here one would except certain men whose strength of will and character stamp them as far above the average—only they must be very carefully chosen, show no active symptoms, and have had a prolonged rest since the breakdown.

*Does the same apply to qualified pilots?* Not to the same extent. Much will depend here on the cause of the breakdown—for example, simple stress of service or malaria should be recovered from in time, and again much depends on the individual. It is here that experience in dealing with flying people counts for much. I do not mean to imply that all such cases will fail to qualify as pilots if given the opportunity to do so. What one finds is that a large percentage fails in training, and of the few who qualify, only a small proportion can stand the strain of active service sufficiently long to justify the time and money spent in their training.

4. *Dreams, Nightmare, and Somnambulism* (in infancy 21 per cent.; in adult life 55 per cent.).—I am convinced that nightmare in infancy (or somnambulism) is a sign of an unstable nervous system, and that its presence to a pronounced degree should mark a candidate as suspect, and is enough to call for a searching examination of his nervous system otherwise. In adult life it is even more important, especially where there is a history of accident or injury, flying or otherwise. But nightmare is invariably associated with other derangement of the cerebral functions to be detailed later. One would roughly lay down that even a qualified flying officer should be free from nightmare for eight or ten weeks at least before starting to fly again. Indeed collateral symptoms will usually demand a much longer rest.

5. *History of Concussion or Shell Shock.*—Thirty-seven per cent. gave such a history. Although these are not by any means the same entities, yet their effects are so similar that they may be taken together. Their importance varies considerably, depending on whether one is dealing with an officer who can fly or with a candidate for admission.

(a) *Candidates.*—In these a history of concussion should always be regarded seriously, but several details should be taken into account in coming to a definite decision. If the concussion was accompanied by prolonged unconsciousness—for example, three or four days—then acceptance should be very carefully considered and granted only in very special cases. If followed by serious nervous breakdown, then reject in every case. These conclusions apply equally to shell shock, which on the whole seems to be more often followed by a nervous breakdown, and is therefore more serious for flying purposes. A good deal depends upon the age at which the concussion took place and consequently on the lapse of time since. Thus, if it happened before the tenth year, I think, broadly speaking, it is much less serious than from the tenth to the twentieth year.

(b) *Qualified Pilots.*—Even though unconscious for two or three days, if there has been no fracture of the base, if recovery is speedy and complete without impairment of the higher cerebral functions and without nervous breakdown, such, after three months' or even after two months' rest, may be safely employed again as flying officers in not too strenuous circumstances. A good deal depends in these cases on the individual's own wishes as regards continuing to fly. Confidence is a most essential asset in forming conclusions in these cases. They should be given light "graduated flying" duties, with dual control at first, and their performances carefully watched before being launched as fully responsible instructors, ferry pilots, etc. Indeed, it is possible that with a year or two's rest many more may ultimately be classified fit than is at present the case. But I would like to utter a word of warning in cases that have sustained more than one attack of concussion, even though recovery has been apparently quick and complete. They should be given very prolonged rest before flying again, even if they are not totally rejected.

6. *Affection of Higher Cerebral Functions* (occurred in over 52 per cent.).—By this is meant derangement of memory, powers of concentration, judgement, temper, affections, including, I doubt not, reaction times, and intimately associated with dreams, nightmare, and manifested in a very serious way as actual obsessions and hallucinations. In both candidates and flying officers these derangements, whether past or present, are to be regarded seriously, and no matter what their cause their presence in the history will weigh heavily in the balance against fitness for flying duties, most heavily in the case of



candidates for admission as pilots. It does not matter whether, as is most usual, they are associated with an admitted nervous breakdown or not. This is a frequent concomitant of concussion and shell shock. Of course, such symptoms of a serious must be more than transitory—that is, lasting two or three weeks at least. They are probably also less serious after a definite accident or injury than if coming on as the result of pure mental worries in a neurasthenic subject. With experienced flying officers the case is somewhat different, and after two or three months' rest and absence of symptoms they may safely be allowed to resume flying light base duties. But so far I have no notes or recollection of any who have successfully tackled service as pilots after such a breakdown if at all prolonged. Some have tried as observers, others as pilots, but they do not last. If ever they are to become fit for service flying again they need more rest than it has so far been possible for them to have while under my observation. However, not a few have made good as very capable instructors. Much depends on the individual; if he is keen and wants to fly he will often by mere will power get over any temporary subjective difficulties. If the will is absent it is useless to force him, and even when the will is present it may be painfully tedious to slow him to fly. Great discrimination is needed, and personal knowledge of such officers in private life helps enormously in forming the right conclusion.

7. *Malaria*. Thirty-six per cent. gave a history of fairly recent malaria. Of this number 25 per cent. was in flying officers back from active service. I cannot put down too strongly my conviction that malaria is often the direct cause of a most profound breakdown of the nervous system, and especially of the higher cerebral processes, producing depression, bad memory, loss of concentration, irritability, delayed reaction times. When the possibility of such an infection exists let us never neglect to examine the blood—not for parasites alone but also for any increase in large mononuclear leucocytes. Under rest and appropriate treatment these cases do well and are to be regarded in most cases as but temporarily unfit.

8. *Reflexes*.—Eighty-two per cent. had exaggerated reflexes. This is included partly in order to protest against too much significance being attached to this phenomenon. How many hundreds—thousands, may be—of excellent pilots have exaggerated knee-jerks! Taken by itself the knee-jerk is almost useless as a test of the soundness of a prospective pilot's nervous mechanism. Taken with other symptoms and signs its value is definite enough.

9. *Tremor* (73 per cent.).—Almost the same remarks apply as for reflexes, yet tremor of the tongue is, if marked, a very useful clinical symptom, I think, of nervous instability. But, again, it must be taken only in association with other symptoms.

Suppose, then, we come across a candidate with a definite history of mild nervous instability, in fact, a highly strung person—are we to accept or reject him, and on what grounds? It is well known that some men of this type make the finest, the most brilliant flying officers. The choice is not without responsibility, for the slightest mistake in training will ruin their chances. One has to consider the man's individuality. He is nervous, but are his nerves well under control? This is not easy to test, and though certain methods have been suggested, a good deal must still be left to the insight and judgement of the examining medical officers. Will he fly two hundred hours on service? Then accept him, for in that time he will probably justify training expenses. Further, it is suggested that one would much sooner accept a well educated nervous type as a pilot than one whose mental training has been very limited. For the nervous, pale faced, introspective, East End clerk, with little or no experience of outdoor exercise and sport, whose habit of life almost compels him to think far too much of himself, one would probably advise rejection; while for the university athlete, equally nervous, but trained to ignore himself and to control his feelings, trained to act and think of and for others, of good physique and broad in mental outlook, one would on the whole advise acceptance. The one is by habit and training habituated to self-control, the other to self-commiseration.

This leads me to say that much depends in these cases on the manner in which the pupils are handled in training. These nervous subjects are very sensitive of criticism and cursed with an anxiety to do well which exceeds their powers of execution. Having been found fault with, perhaps somewhat brusquely, they begin to worry over their mistakes, think they are stupid and slow, become over anxious, and, instead of progressing, get worse. Flying occupies their dreams, and soon fills their minds to the exclusion of everything else—in short, flying becomes an obsession. An instructor who is himself nervous is especially disastrous for such pupils. Akin to this is the error of "stunting" a timorous beginner in the hope of increasing his confidence.

Finally, a word with regard to medical officers of the

Royal Air Force. There still exist, unfortunately, doctors who believe that the neurasthenic is a fraud, that his ailment is imaginary, or, more accurately, that his ailment is voluntarily assumed and capable of being equally voluntarily set aside. Such types should not be chosen as medical officers for flying schools.

There is great scope for the finest scientific minds in the investigation of all aerial medical problems.

## SOME ASPECTS OF MAXILLARY ANTRUM DISEASE.

By W. BARRIE BROWNLIE, M.D. GLASG.,  
F.R.C.S. EDIN.,

OPHTHALMIC AND AURAL SURGEON, BLACKBURN ROYAL INFIRMARY.

THE purpose of this short paper is to illustrate by means of four cases the relation of antrum disease to surrounding diseased organs. In these cases the antrum disease was the primary infection, or, at any rate, its presence prevented these structures recovering under the usual methods of treatment.

### CASE I. *Dacryocystitis and Antrum Disease.*

Female, aged 51. Left dacryocystitis and mucocele of the sac and watering of the right eye, of twelve months' duration. The left lacrimal passage when syringed was fairly patent. The patient complained of "nasal catarrh," and stated that the muzzling at the left inner canthus was always worse after a cold. Proof puncture demonstrated the presence of double antrum disease, the left side containing more pus. As is usually the case, syringing of the sac, with the after-introduction of argyrol, etc., did not produce any benefit after three weeks' trial.

A double radical antrum operation was then done, with the result that the lacrimal condition returned to normal within a week after the nasal operation, and has remained so for four months at the time of writing, the nose condition being also normal.

### CASE II. *Mastoid and Antrum Disease.*

Female, aged 26. The patient had had a radical mastoid operation performed on the right ear two years previously by another surgeon. The ear had discharged continually since the operation. The mastoid cavity was a good one, the discharge coming from the tubal end. The patient complained of "nasal catarrh" of five years' duration, following an influenza cold. The nose showed the usual suspicious signs of sinus disease, and proof puncture demonstrated the presence of pus in both antra. After a radical antrum operation, with the intranasal frontal sinus operation and removal of the anterior ethmoidal cells on both sides, the ear condition became quite dry within a month, and has remained so for six months.

### CASE III. *Otitis Media and Antrum Disease.*

Boy, aged 12. Brought with a history of right chronic otitis media, and always catching colds, with nasal discharge of at least five years' duration. He had had the usual treatment for the ear, and within the last two years had had two separate operations for adenoids by different surgeons, the second of whom stating that the adenoids had been insufficiently removed at the first operation.

Without going into details as regards the nose examination, proof puncture yielded positive results on both sides, large stringy plugs being washed out. No adenoids were present. After a double antrum operation the ear dried up completely in about five weeks without any local ear treatment. Both the nose and ear are "dry" six months after the operation and the boy's health is improved in every way.

### CASE IV.—*Left Supraorbital Pain, Deviated Septum, and Antrum Disease.*

Boy, aged 15, brought to see if glasses could improve the pain over the left eye. The symptoms, pain and "nasal catarrh," dated for two years. Only a slight amount of hypermetropia and no astigmatism being found, glasses were not advised.

Examination of the nose showed a high deviation of the septum to the left, and proof puncture demonstrated double antrum disease. A resection of the septum and a double antrum operation caused absolute stoppage of the symptoms. This was done twelve months ago, and the boy has remained very well up to now.

### Comments.

With regard to Case I, the relation of the nose to lacrimal sac affections has long been a disputed subject. Abnormalities, such as flattening or hypertrophy of the inferior turbinal or deviated septum, which may be found in any normal functioning nose, have been urged by some as causing the eye condition. My own experience is that the presence of dacryocystitis associated with nasal sinusitis is the only definite relationship which is to be found, and this is by no means rare.



There are, of course, very many cases of nasal sinusitis in which the lacrymal sac is not affected, at least, not so grossly affected as to draw the patient's or surgeon's attention to it; but, to make an analogy, one must remember the small proportion of epididymitis in cases of gonorrhoea, or how seldom the parotids are affected in oral sepsis. The fact that the nasal duct opens into the inferior meatus high up under cover of the inferior turbinal, and its peculiar direction from the eye—namely, downwards, outwards, and backwards into the nose—which provides good drainage even in the recumbent posture, may be factors in its immunity from contamination in all cases of nasal sinusitis.

In this case the prevailing organism in culture from the antrum pus and the lacrymal sac pus was the pneumococcus, which is often met with in lacrymal sac affections. Provided the nasal duct is fairly patent—and there are many cases of dacryocystitis, and certainly of commencing epiphora, where this is so—and nasal sinus disease is found to be present, the removal of the latter can reasonably be expected to cure or improve the eye condition. If there is a definite stricture of the duct, then, of course, one must resort to other measures—removal of the sac, or intranasal drainage of the tears.

I have operated on three other cases of a similar nature (dacryocystitis and antrum disease), but nothing like a cure of the dacryocystitis was obtained in any of them, owing to the fact that the nasal duct was either completely or very much obstructed to commence with. Incidentally, a case like the above (also Case iv) helps one to leave, at times, the somewhat narrow grooves of routine ophthalmic work, and to remember that many ophthalmic conditions are merely symptoms of disease of a neighbouring organ, or of a general infection.

With regard to Cases II and III, the relationship of nasal sinus disease to otitis media is well known. It is difficult to be always sure which process commences first, but ultimately a vicious circle is established, and it is important to correct any existent nasal disease before undertaking the mastoid operation, in order to avoid causing disappointment to the patient, who expects a dry ear within a reasonable time after the operation, certainly within six months.

Case III shows the excellent result on the ear disease of attending to nasal sinusitis first; but the chief point regarding Cases III and IV is the age of the patients—12 and 15 years. I find that antrum disease is by no means uncommon in children about this age, or even younger, and a nasal discharge at this time of life is often, and correctly, put down to the presence of adenoids; but if the nasal discharge does not cease within two months of the adenoid operation, a careful examination of the nose will frequently reveal the cause of the trouble in the presence of a deviated septum, or antrum disease, or both combined.

#### Method of Operation.

This is not the place to discuss the merits of the intranasal and the radical antrum operations. Personally, I always employ the radical method, for many reasons.

As regards the type of operation, the Caldwell-Luc was done in all these cases, the technique employed being that of Dr. W. S. Syme of Glasgow. By this method a better view is obtained of the interior of the antrum, and the vertical incision has many other obvious advantages; moreover, the whole operation can be done with comparative comfort to the patient under local anaesthesia, preceded by a hypodermic of morphine or omnopon. The great advantage of the method is that it is practically bloodless, whether done under local or general anaesthesia.

C. H. MANLOVE (*Philippine Journ. Sci.*, Manila, 1917, XII, Sec. B, 149-163), who records two cases with necropsies, finds that intestinal infection with *Balantidium coli* is not infrequent in the Philippine Islands, and that among 68 cases there were 7 deaths. Associated with *Balantidium coli* there may be catarrhal inflammation or deep burrowing ulceration, and macroscopically these lesions are indistinguishable from those in amoebic dysentery. Microscopically the cellular changes are the same, but the causal organisms can be recognized. In Manlove's cases eosinophilia of the intestinal wall, though emphasized by previous writers, was not prominent. Any part of the colon may be affected. As in amoebiasis, extensive intestinal lesions may be present in balantidiasis without causing symptoms.

## INTRAVENOUS SALINE IN BLACKWATER FEVER.

By ADAM PATRICK, M.D., CAPTAIN R.A.M.C. (I.).

An attack of blackwater fever begins often with a rapid rise of temperature, malaise, and sometimes rigor and vomiting. The urine becomes of a port-wine or darker red colour, and shows when collected a copious brown granular precipitate. The amount of urine passed quickly falls off, and within forty-eight hours the symptoms may resemble those of uraemia, with vomiting, headache, and oliguria. The patient's prospects of recovery are to be judged to some extent by the amount of urine passed, and if only a few ounces are secreted in twenty-four hours the outlook is distinctly bad. There is ground for believing that the decrease in the urinary secretion is partly to be accounted for by the deposit of the brown amorphous material in the kidney tubules in such quantity as to obstruct them, or even to block them completely. The febrile condition increases the concentration of the urine, and decrease in the amount of water passing through the kidneys favours the sitting-up process in the tubules. Support is given to this view by the finding of brown tube casts in the first specimens of urine passed after the attack begins. These are not of the nature of the casts found in nephritis, but are composed of the brown material excreted with the urine. Their shape shows that they have been formed in the tubules, and it is not unreasonable to suppose that if little water passes through the kidney they may not be washed out at all, but remain in the tubules and block them. If this view is correct one of the most important lines of treatment is to increase diuresis, and the speediest method of doing this is to inject a sodium chloride solution intravenously. This was tried in the following case, and probably saved the patient's life.

J. M., aged 26, had his first attack of subtertian malaria in Macedonia in June, 1917, and suffered from it pretty constantly for the next six months, spending nearly all his time in hospital. He was transferred to a Malta hospital in December, 1917, and when admitted there on December 16th was pale and cachectic. Subtertian parasites (crescents) were found in the blood. He had no pyrexia, and no quinine was given to him.

On January 12th, 1918, he began to feel out of sorts, and on January 13th his temperature was a little elevated. A single dose of quinine sulphate (10 grains) was given by the mouth. In the evening he was shivery, and during the night passed red urine. Next morning (January 14th) the temperature was 104° F., and a blood film showed a few subtertian rings. The urine was red, with a copious brown deposit, but without red blood corpuscles. It was diminished in amount, though not markedly. In the evening the temperature fell to 102.6°.

Next day (January 15th) the highest temperature was 100.5°, but his condition was much worse, and in the evening it looked as though he were going to die. The temperature was 122 in association with a temperature of 100°; the urine had become very scanty and was dark red in colour; he vomited frequently and complained of headache. At 10.30 p.m. 1,500 c.c.m. of sterilized tap-water, with sodium chloride (1 per cent.) in solution, was injected intravenously. Immediately before this, at the suggestion of Colonel Sir A. Garrod, A.M.S., cups were put on over the kidneys. Within one and a half hours the patient had passed urine which was lighter in colour, and within the twelve hours following the injection he passed 1,100 c.c.m. Next morning he was pale and yellowish, but felt much better, and no longer looked like a man who was likely to die. By 5 p.m. of the same day (January 16th) haemoglobin had disappeared from the urine, and he made a rapid and uninterrupted recovery.

The importance of increasing the flow of urine in such cases is urged by the textbooks on tropical medicine, but they generally suggest giving saline solution intracellularly or by the rectum.<sup>1</sup> Evidently what is wanted is a rapid copious passage of water through the renal channels, and this is better obtained by an intravenous than by either a subcutaneous or a rectal injection. It is generally recognized that water injected directly into the circulation is rapidly excreted. This is a disadvantage if the object of the injection is to raise the blood pressure, but it is just what is wanted in a case of blackwater fever such as that just described. Once the tubules become blocked, attempts to promote diuresis may not avail, and therefore it would seem advisable to give the intravenous injection, or injections, before the patient reaches this dangerous stage.

#### REFERENCES.

<sup>1</sup> Castellani and Chalmers, *Manual of Tropical Medicine* (1913), p. 924; Meunier, *Tropics Diseases* (1914), p. 300.



## 31

AND

TRUSTING PHYSICIAN TO THE SANATORIUM, AND PHYSICIAN TO THE  
RHEINLAND PROVINCE HOSPITAL FOR DISEASES OF THE CHEST.

### CASE I.

Compare with this case another.

CASE II.

117

HAYRE.

The fourth case showed only enlarged glands in both groins, most marked on the right; at intervals they became tender and more swollen. The onset was indefinite, the patient, at present 31 years old, having noticed the tender swellings when he was a boy at school. He also complained of a feeling of soreness deep down in the pelvis, and a pain in the lumbar region. There was no history of chyle or blood in the urine, and there have been



no attacks of scrotal lymphangitis. The enlarged glands, which were at first thought to be syphilitic, were present in both groins, and extended from the anterior superior spine of the ilium to the pelvis. The largest were approximately the size of a walnut, uniformly enlarged, and neither hard nor soft in consistency. All glands were discrete and no thickened lymphatic cords could be felt. The patient gave a history of a short attack of pain (twenty-four hours), with swelling and tenderness in the right popliteal space, six weeks before admission, which might have been lymphangitis. Examination of the blood, at midnight, showed the presence of the embryos.

These four men had all lived in middle and southern Queensland for considerable periods. They were unable to tell me that similar cases had occurred in the same neighbourhood. Two of the men had lived in the same town—Maryborough—for some years. In the case last described, the patient stated that he had been in a bad plague of mosquitos some years ago, but as he had noticed the presence of the enlarged glands some years before this, it seems very improbable that this was the time of infection.

It would be interesting to know if there are many cases of filarial infection amongst Australian troops who have lived in Queensland.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### THE ADMINISTRATION OF ANAESTHETICS TO SOLDIERS.

LIKE Dr. Arthur Mills of St. Andrews, all anaesthetists will by now have gained much experience in the administration of anaesthetics to soldiers, and all will doubtless endorse his views (see *BRITISH MEDICAL JOURNAL*, September 28th, p. 343) in regard to the difficulty of inducing anaesthesia in the cases falling into the first of his two classes—namely, the young, athletic, nervous, hard-smoking type. I am, however, not in agreement with the opinion that chloroform or its mixtures should never be used to induce anaesthesia in these cases. On the contrary, my experience is that it is possible by means of chloroform, or a mixture of one part of chloroform to two of ether, followed by ether alone, to induce anaesthesia safely and quietly, and without that salivation and mucus secretion, so often seen when ether has been employed from the start. In my experience a preliminary hypodermic injection of morphine and atropine is not always necessary; indeed, it is not used as a routine in my cases. It is largely a question of technique. The practice should be to induce slowly, beginning with a vapour so weak that it is not unpleasant to inhale. The object aimed at is gradually to anaesthetize the nerve terminations of the respiratory mucosa, whereafter any strength of vapour can be presented, without intolerance on the part of the patient. Haste invites trouble and is extremely unpleasant for the patient, whose chances of satisfactory recovery are thereby prejudiced. The open inhaler of my design and described in *Anaesthetics in Dental Surgery* (Coleman and Hilliard), may be used, and upon the first sign of excitement or struggling a change should be made to a Carter Braine's modification of Ormsby's inhaler, not overcharged with ether, beginning with the air valve open, when almost immediately the patient passes quietly into deep anaesthesia.

I entirely agree with Dr. Mills that ethyl chloride is, in suitable cases, a most useful preliminary to ether, but I maintain that my method of using Braine's inhaler and continuing with ether in the same apparatus is even more simple than the practice advocated in Dr. Mills's interesting and instructive article.

HARVEY HILLIARD, M.R.C.S., L.R.C.P., D.P.H.,

Lecturer on Anaesthetics, Charing Cross Hospital  
Medical School, etc.  
London, S.W.1.

#### AN EIGHT MONTHS' EXTRAUTERINE PREGNANCY.

ON the evening of August 13th last I was called to see the patient, a married lady aged 32 years, who was a stranger to me. The history I obtained was that she had had two normal confinements, the last seven years ago. There had

been complete amenorrhoea since the end of December, with the exception of a slight brownish discharge in March, which lasted a few days, and at no time was there any expulsion of decidua membrane. In February she went to a doctor, who treated her for colitis. Making no improvement, she consulted someone in May, who informed her that she was three months pregnant. After this she seems to have improved, although she continued to have frequent attacks of abdominal pain.

On my arrival she complained of frequent pains (pseudo-labour) which were very severe, urgent vomiting, and fainting attacks. On examination, the patient lying on her back, the abdomen was rather full and wide, but the anterior abdominal wall was straight, that is, was not pushed forward at any spot. Both flanks were resonant. In the middle line the percussion note was dull from the pubes to a spot midway between the pubes and umbilicus. In the hypogastrium was felt a small ill-defined swelling; the inability to define this swelling was largely, if not entirely, due to the abdominal tenderness. Per vaginam, Douglas's pouch was occupied by a diffuse swelling which felt like placenta. The posterior lip of the cervix was so incorporated into the swelling in Douglas's pouch that only the anterior lip of the cervix could be defined, and this was not soft. The os uteri, which was represented by a transverse slit, was not patulous. Per rectum, the head of the fetus was felt in Douglas's pouch above the mass which vaginally was considered to be placenta.

I may add that the diagnosis was verified by operation on August 15th, which the patient did not survive.

London, W.

A. T. NASH, M.D., R.U.I.

#### A CASE OF STATUS EPILEPTICUS.

STATUS EPILEPTICUS is the climax of epilepsy. In rare instances a patient, the subject of epileptic fits, has a series of fits rapidly following one another, which may last a few hours or a day or two, and never recovers consciousness in the intervals between them. The heart beats rapidly, respirations are quick, twitches occur in the intervals of the convulsions, the temperature is high, and the patient dies collapsed.

On August 13th I had occasion to examine a man, aged 25, who had been the subject for many years of epileptic fits, and during the examination he had a typical epileptic seizure. The next day I was called to see him at his home, and was informed that he had had several fits during the night, but that there were periods of consciousness between the fits, when he seemed quite normal. Since early morning the fits had become more numerous and severe, without any conscious interval. I found him quite unconscious, slightly cyanosed, with rapid pulse, quickened respirations, and sweating profusely. The temperature was 102.5°. Convulsions would last for about a minute and be followed by relief, save for a few twitches, but he never regained consciousness. The reflexes were absent, and he frequently passed urine into the bed, but not faeces. Each day he became weaker, and the temperature kept creeping up until, on the morning of August 18th, it was 104.3°. He was extremely collapsed; the abdomen had become distended and tympanitic. He began to vomit faecal matter, and died an hour later.

The case seems to be of interest on account of its rarity, sudden onset, its duration—nearly five days—and in the manner of its close. The patient, previous to August 13th, had enjoyed freedom from fits for four months, but had recently been working hard as a carter, and conceivably this might have been the predisposing cause of his last attack. His bowels were not moved during the illness, and this might have been the cause of the faecal vomiting. As a rule, in status epilepticus the reflexes are absent for a short period after a fit, but soon reappear. In this case they were constantly absent, probably owing to the rapidity with which one convulsion followed the other. Neither the inhalation of amyl nitrite, nor the injection hypodermically of atropine sulphate or hyoscine, seemed to control the convulsions.

Wrexham.

A. LLOYD DAVIES, M.B.

MAJOR EUGENE WILSON CALDWELL, of the United States Medical Reserve Corps, who died recently from the results of burns by x-rays, left estate valued at more than £30,000 to Columbia University.



## Rebels.

### ABDOMINAL SURGERY IN WAR.

MAJOR GENERAL CUTHBERT WALLACE has done well to bring together, in a volume entitled *War Surgery of the Abdomen*, his considered opinions on the treatment of abdominal wounds. Much of what is here said has been published from time to time in the periodical press, but it is advantageous to have it brought together in one volume, for there is, perhaps, no department of surgery in which opinion has changed more during the war. In an introduction the author gives a short sketch of the history of the subject; for many years it had been held, mainly as a consequence of experience in the South African war, that the operative treatment of abdominal wounds was not to be advised under war conditions. The way in which opinion changed is here set out. Though expectant treatment with rest was the rule in the first days, some attempts at operation were made by various surgeons, including Mr. Souttar, then serving with the Belgian army. The first paper containing results of operative treatment in the British army was that published by Colonel Owen Richards in these columns on August 7th, 1915. That the previous results had not been good was no doubt due to the late arrival of the cases at a place where an operation could be performed. In June, 1915, a series of operations and *post-mortem* examinations showed that the injuries were of such a nature that recovery, except in a few instances, was not to be expected without surgical aid. It was also found that haemorrhage was a frequent cause of early death, and that bullets might produce extensive gut injuries. In June, 1915, Surgeon-General W. G. Macpherson directed some of the field ambulances to send the abdominal wounds with all possible celerity to the nearest casualty clearing station: the results were so encouraging that in the first week of August, 1915, an order was given making the rapid collection of abdominal wounds the official method. This order places great responsibility on the field ambulance officers, but as haemorrhage is the chief cause of early death, and the only hope lies in the arrest of the haemorrhage by surgical means, it is obviously worth while to take risks in cases of abdominal wounds which it would not be right to take in other cases.

In discussing the time factor Major General Wallace gives a table which shows that the sooner a man is operated upon the better; another important factor is that the patient must be kept quiet and well nursed after operation. Even though it might be possible to operate at the regimental aid post or advanced dressing station, it would be under disadvantageous circumstances, and after-operation nursing as usually understood would be impossible. It followed that the place to operate was either a special operating centre placed between the advanced dressing station and the casualty clearing station, or at the casualty clearing station; the point is made that the time occupied in passing from the advanced dressing station to the casualty clearing station is usually a very small part of the time that elapses between the receipt of the wound and arrival at the casualty clearing station, which should be from 10,000 to 15,000 yards from the line. The French and Belgians went through the same experience as the British, but when the line became fixed operation was their accepted practice also.

In a section on the diagnosis of intraperitoneal damage it is said that experience has shown that great care must be taken in making a negative diagnosis and has proved also the wisdom of operation in doubtful cases. Of the pulse he says that a rapid pulse, a pulse that does not fall, or a rising pulse, is an indication for operation. The pulse often falls with rest and quiet, but "often a falling pulse is more an indication of the possibility of operation than a contraindication to operative measures." In a chapter on the causes of failure, after a reference to the effects of mental and physical strain, attention is particularly directed to haemorrhage, which, the author says, is the great enemy of the surgeon. After speaking of the various sources of haemorrhage and the means which should be

taken to arrest it, the subject of septic absorption is considered at length, and, finally, the clinical treatment of shock: "Warmth is the most potent restorative we have."

In enumerating the factors which have led to success in the treatment of abdominal wounds the author mentions four: (1) The magnificent way in which the wounded are collected by the bearers; (2) the way in which the motor ambulances have been handled by the drivers, "who in darkness and shell fire tenderly pick their way among the holes in the road to avoid a needless jolt to their wounded charges"; (3) the fixity of the fighting line, which has allowed the clearing station to develop; and (4) the wisdom of those who administer the R.A.M.C., in that they have abandoned the old tradition that operations cannot be performed near a fighting area. The question then arises whether as good results can be maintained in open fighting with armies on the move: motor ambulances, it is said, "can diminish distance, but cannot entirely obliterate it"; all will depend on whether the casualty clearing station can be moved sufficient quickly.

Nothing could be more timely than the provision of a careful analysis and explanation of statistics by one who has seen the whole of them in the making, and the book will certainly be studied with the greatest profit by all who have to operate for gunshot wounds of the abdomen. The tables of figures are themselves very interesting, and not least so for the remarkable uniformity and consistency often to be observed; but their value is enhanced by the guidance deduced from them both for diagnosis and for treatment, using treatment in the broad sense of the term as well as the particular sense of what to do at the operation. Dedication of the book to "the stretcher-bearer" drives home the paramount importance of early operation, and prepares the reader for finding "haemorrhage" accounted the most serious cause of failure. If any proof were needed that the policy of "look and see" is safer than "wait and see," these pages would afford it.

A wide circle of readers will appreciate the labour that has gone to the preparation of this indispensable volume, and the large share of credit due to the author and his fellow consultants for the bright side of the picture displayed.

### CHEMICAL PATHOLOGY.

WELLS'S *Chemical Pathology*, originally issued in 1907, passed into a second edition in 1914, and now, in its third edition, has attained a pre-eminent position as a standard book of reference, as it gives a complete though succinct summary of present knowledge with constant indications as to original papers of value. The entire volume has been reprinted since the last edition, as, in spite of the war, a large amount of new work has appeared and been critically incorporated; several sections, such as those on anaphylaxis, jaundice, and acidosis, have been rewritten, and new articles on the Abderhalden reaction, specificity, the chemical basis of growth, atrophy, and the pressor bases have been added. The Abderhalden reaction, first introduced for the diagnosis of pregnancy and extensively used clinically for this purpose, is fundamentally the same as the anaphylaxis reactions, and rests on the principle that in pregnancy the chorionic cells of the placenta enter the maternal circulation, and as foreign proteins cause the formation of specific defensive ferments; in fact, it differs from other reactions of this class merely in that the methods used for determining the proteolysis are chemical instead of biological. There are many sources of error in the technique, and so many careful and experienced workers have found the original method to give absolutely non-specific and hopelessly paradoxical results, that its diagnostic value for either clinical or scientific purposes must be considered at present to be unproved. The subject of immunity is philosophically discussed, and much attention is naturally paid to the problems of ferments—a branch of medical research in which the author has played an important part. The chapter on the chemistry of diabetes is again contributed by Dr. R. T. Woodyatt, the discussion of diabetic coma being included in the account of acid intoxication in another part of the volume, where

<sup>2</sup> *Chemical Pathology*, By H. Gibson Wells, F.R.C.S., M.D., Professor of Pathology in the University of Chicago and in Rush Medical College. Fourth Edition, revised and reset. Philadelphia and London: W. B. Saunders Co. 1918. Pp. 592. 10s.

<sup>1</sup> *War Surgery of the Abdomen*. By Cuthbert Wallace, C.M.G., F.R.C.S., etc. London: J. and A. Churchill. (Med. 8vo, pp. viii + 152, 5 figures. 10s. 6d. net.)



a good deal of recent American work has been added. The existence of the opposite condition, "alkalosis," unless it occurs in parathyroid tetany, has not justified its claim to definite recognition.

The clear, and at the same time condensed, manner in which the rather difficult subject matter is treated is admirable, and the present edition fully maintains the high standard and reputation of its predecessors.

### NOTES ON BOOKS.

DR. RUTHERFORD DARLING, assistant surgeon to the South Sydney Hospital, setting out to write a handbook on preventive nursing in accordance with the syllabus laid down for the final examination of the Australian Trained Nurses' Association, has produced a book, *Elementary Hygiene for Nurses*,<sup>1</sup> which not only fulfils this purpose, but is also likely to be of use to students and junior members of the medical profession who are not seeking a diploma in public health. He deals in succession with ventilation, food, the sanitation of buildings, water, sewage, the prevention of infectious diseases, parasites, and personal hygiene. There are a number of illustrations, many of them familiar, but well selected, and a good index.

<sup>1</sup> *Elementary Hygiene for Nurses*. By H. C. Rutherford Darling, M.D., M.S. Lond., F.R.C.S. Eng., F.R.F.P.S. Glasg. London: J. and A. Churchill. 1917. (Crown 8vo, pp. viii + 152; 13 figures. 3s.)

### VENEREAL DISEASE AND WASTE OF MAN POWER.

THE War Cabinet has considered the objections made in many quarters to No. 40 D of the Defence of the Realm Regulations, and has issued a Memorandum maintaining the regulation, but announcing the appointment of a committee to report to it on the subject.

The regulation is as follows:

No woman who is suffering from venereal disease in a communicable form shall have sexual intercourse with any member of H.M. Forces or any of H.M. Allies, or solicit or invite any member of H.M. Forces or of the Forces of any of H.M. Allies to have sexual intercourse with her.

If any woman acts in contravention of this regulation she shall be guilty of a summary offence against these regulations.

A woman charged with an offence under this regulation shall, if she so requires, be remanded for a period (not less than a week) for the purpose of such medical examination as may be requisite for ascertaining whether she is suffering from such a disease as aforesaid.

The defendant shall be informed of her right to be remanded as aforesaid, and that she may be examined by her own doctor or by the medical officer of the prison.

In this regulation the expression "venereal disease" means syphilis, gonorrhoea, or soft chancre.

The Memorandum is as follows:

"The Regulation was founded on information showing that the spread of venereal disease in the British and Colonial forces involved a serious loss of man power for war purposes. Up to the end of August seventy-eight persons had been convicted of breaches of the Regulation, thirty-seven of them having pleaded guilty; and it is stated that the removal for a time of these centres of infection and the deterrent effect of the Regulation on others has already resulted in a diminution of venereal disease in some army districts. The United States authorities have asked that the Regulation shall be extended so as to apply to their troops in this country, and the Governments of Canada and New Zealand have made similar Regulations for the protection of their troops in the Dominions. In these circumstances the Cabinet have decided that the Regulation must for the present be retained. They have, however, decided that a small committee shall be appointed to consider it, and what modifications (if any) should be made in its terms or in the procedure for enforcing it, and to report their conclusions as soon as possible, and in any case within two months."

The committee will consist of Lord Moulton, G.B.E., K.C.B., F.R.S. (Chairman), Mrs. Pound, Mrs. H. B. Irving, Lieutenant-General Sir Francis Lloyd, G.C.V.O., K.C.B., D.S.O., Sir Malcolm Morris, K.C.V.O., F.R.C.S., Miss Flora Murray, C.B.E., M.D., and the Bishop of Southwark, D.D. The secretary of the committee is Mr. Archibald J. Allen, and any communication on the subject of the inquiry should be sent to him at 4, Cottesmore Gardens, Kensington, W. 8.

A MOVEMENT has been started by the clinical society of Havana to establish in Cuba a school of preventive medicine to train men who wish to devote themselves to sanitary work, and especially to give them a knowledge of tropical diseases.

## PARLIAMENTARY REPRESENTATION.

BY

N. BISHOP HARMAN, F.R.C.S.

BIRMINGHAM has played so large a part in the parliamentary life of our country in recent years that a visit to Birmingham for the purpose of addressing Birmingham men on parliamentary representation is of special interest. I thank you, Mr. Chairman, and your Executive Committee for the honour you have done me in asking me to visit you for this purpose.

Our profession is just now profoundly exercised as to how it can best play its right and proper part in the councils of the nation. Not that it has failed to play its rightful part in the past. It has done its part and still does, and with an ever-increasing success, in the very homes of the people. The doctor has always been, even in the days of least light and learning, somewhat of a missionary; he has never failed to bear witness to an ideal of health; he comes to heal the sick and stays to guide the feet of the restored into the ways of right living. That work will remain to us always. It is a great responsibility, and one which I believe our profession will never fail in attempting. But in these days something more than that is needed. Life has become so highly organized that there is need for a corresponding increase in the organized expression of the needs of the community. The genius of our race has chosen that the expression of national needs and aspirations shall be made through a Parliament, through the living voices of our own representatives in that Parliament. We are not content to be ruled by a selected governing class or by the pundits of government departments. There are great and good men amongst these, indispensable to the life of the nation; but we believe that the initiative and the final determination of action must be in the corporate representation of the common sense of the nation as it is beaten out in parliamentary debate and vote. That initiative is ever being renewed; it cannot grow stale; and as a final determinant it is human and devoid of the obstinacy of officialdom. In these points Parliament, with all its human faultiness, is better than the best of autocracies or bureaucracies.

Parliament in its essence is a family gathering. Our constitutionalists trace its dim origins to the gathering of the elders, as in the Saxon Witanagemote. In such gatherings a representative stood for his family, but also for the particular virtue with which he as a man was gifted. In our modern Parliament the members are the representatives of constituencies or territorial divisions; each stands for his own place in the great assembly, but each can and should bring into the common council some special virtue which is his as a man. It is of interest to note that in the first Parliament, that of Simon de Montfort, there was a definite recognition of occupational representation as well as of territorial division. Earls, barons, clergy, knights of shires, and the burgesses of the cities were called, and the last two as representatives of agriculture and commerce. In our modern Parliament the necessary organization of voting on territorial lines has overlain this occupational principle, but for all that there has never been found wanting men who possess a special virtue of their own as men of affairs, of commerce, of law, of education, of science, and of medicine. But of these last there have been too few. It is to consider the possibility of supplying this lack in the national council that we are met here to-day.

Of the need for more men in Parliament able to give a considered and first hand opinion on matters relating to national health and medical work I have no manner of doubt. For the past three years I have been the chairman of the Parliamentary Subcommittee of the Association, and in the course of my duties have done not a little "lobbying" in the House. And whilst I would gladly acknowledge the courtesy and ready responsiveness of members of Parliament, both medical and lay, to applications for help, and to their willingness to understand and give weight to information my committee had to put at their disposal, yet there is left in my mind no doubt that an advocacy of a medical position or argument at second

<sup>1</sup> An address delivered to the Central Division of the British Medical Association, Birmingham, October 3rd, 1915.



and is never and can never be so effective in an assembly as the House, or in its committees, as the plain statement of the man who knows personally of what he speaks. When, as occasionally happens, there is a doctor in the House who can "speak as one with authority" there is no uncertainty in the response, but too often we have to be content with the good offices of the "scribes." That brings me to the question before you. How are we to remedy this state of affairs?

Early this year, by resolution of the Central Council of the Association, this matter was the subject of investigation of the Parliamentary Subcommittee. Inquiry was made of the Divisions of the Association; the replies thereto showed a fairly equal balance of opinion, so that the matter was brought before the Representative Body for full discussion. That body, meeting in July last, instructed the Council to take action. The definiteness of the instruction given will be realized best by quoting the words of the resolution:

"At the time has arrived when the medical profession should be more fully represented in the House of Commons: that to this end financial aid should be provided when necessary from funds specially collected by it for this purpose; and that the Council is hereby instructed to take such action as may best conduce to the attainment of this object."

On the same day as the Council received these instructions it appointed an *ad hoc* committee with a wider and more numerous representation than the subcommittee which had begun the work of investigation. That committee—the Parliamentary Elections Committee—has formulated a plan of campaign, and it is to consider this plan, and the principles laid down therein, and to give effect to these plans, that you are called to this meeting.

#### *A Voluntary Fund.*

The first of the recommendations is:

"That a voluntary fund for the support of the parliamentary candidature of medical men should be established with the following objects:

To ensure the presentation to Parliament of expert medical opinion on matters relating to national health or involving the welfare of the medical profession, and for this purpose to secure a larger representation of the medical profession in Parliament by obtaining suitable medical candidates for Parliament and suitable constituencies, and assisting, when necessary, by monetary grants such candidates, irrespective of political party."

Let us take the several items of this recommendation in order.

*Item 1.*—The fund shall be voluntary. The remembrance of the Osborne judgement is with you all; that judgement made it illegal for unions or associations established for certain definite purposes to divert any part of their funds to the support of political candidatures. Any fund that we promote must therefore be voluntary and independent of the finances of our Association.

*Item 2.*—The primary object of the establishment of the fund is to ensure that Parliament shall have the benefit of expert medical opinion.

*Item 3* states how this desire is to be realized. The intention is to follow the constitutional practice of securing men of parts as candidates for constituencies. Men who are not only desirous and capable of fully representing the classes who may send them into Parliament, but who have also a special virtue as part of their mentality and equipment, and this virtue is for them an expert knowledge of the problems of national health and of our profession.

*Item 4* states how we are to help these men. We are to seek them out, we are to find constituencies willing to adopt them, we are to aid them in that heavy toll which the nation takes of its representatives—election expenses.

*Item 5* states that in doing all this we are to ignore the particular political badge or colour of the medical men we seek to aid.

Now, Sir, someone may ask, Why all these items and definitions? My answer is that when we desire concerted action in such a field as this—one in which the fiercest passions and rivalries are aroused—it is well to make plain our proposals, so that everyone may understand, and that there may be no likelihood of confusion at the critical moment of action.

#### *The "Signs" of a Good Candidate.*

The next recommendation of the committee which I would draw your attention to is that which sets out the character of those candidates we desire to find and assist. The clause reads:

"That the condition of approval of the Association of the candidature of any medical man for a parliamentary seat be as follows:

That he should, by his past work and experience, have proved his knowledge of, and loyalty to, the interests of the profession as expressed through the British Medical Association."

That provision shows that we are out for real workers—men who have proved themselves. I do not know much about horse racing, but I have heard that the skill of the tipster lies in his ability to find out and recollect the doings of every horse in the stud calendar; the promise of performance of any particular horse is to him expressed in its past doings. That is our attitude to our professional colleagues whom we desire to help. We do not want any promises from them, we neither ask nor desire pledges, but we want to know our man, and on that knowledge we can determine our aid. But there is more in this provision than meets the eye. We want men who are capable of giving good service, and in our experience this can best be obtained by choosing men who have shown keenness in the past, who have done the "donkey work" of their profession through this Association, men who are known to have insight into their own and our problems, quick in the uptake, capable of making a plain and intelligible statement of a complicated position.

The regular work of a doctor, no matter what may be his type of practice, does not readily secure all these characteristics for a man, but if he has taken part in the affairs of the Association he will have gone far to attain them. In this, if alone, the work of our Association has been of inestimable value to our profession and to the nation. It has trained our doctors in the conduct of public affairs, to the great gain of not a few municipal councils, and we hope now also to Parliament. It is commonly said that the doctor is a bad business man. That is a popular mistake, due to his slackness in sending in his bills. The business that he puts his mind to prospers at his hands, from the curing of his patients to the affairs of the country. Let me cite to you the work of the Central Medical War Committee. That work began with a very humble committee of the Association; it is now a Statutory Medical Tribunal; and it has become the pattern for other professional tribunals, such as those for the dentists and the veterinary surgeons. Better testimony to the business capacity of doctors could not be wished.

In the two provisions I have quoted lie our whole plan. The provision of a fund, and the choice of men. The rest—the finding of constituencies, arrangements with party whips and secretaries—are matters of detail and routine which follow out of these provisions; in such details no matter of principle is involved.

But perhaps you may ask for a word on the political side of such arrangements. What is to become of a man's political convictions? They will be as they are. Unless he has these, and has them pretty strongly, he will be no candidate for Parliament, and no use to us. There is no such thing possible, or likely to be possible, as a "medical candidate." We shall never see on the hustings—"Vote for Dr. Dash the Doctors' Delegate."

A candidate must stand as a citizen and seek the suffrages of his fellow citizens. Party government suits the genius of our people, and in normal times it seems likely to prevail; therefore a candidate must be a party man. The days of the independent are few and evil. But whilst we recognize these commonplace facts there is no need for us to take them into our consideration when we come to the aid of candidates who have for us a special virtue in that they are medical men. In this matter of party sentiment we are neither interested nor hostile; we are *indifferent*. That is the only safe and satisfactory attitude.

The issue is before you. Do you want men in Parliament who can speak with authority on health and professional matters? Are you prepared to ask them to make sacrifices, great sacrifices, to do this work? Are you prepared to respond by making sacrifices yourselves, quite small sacrifices, to back them up and ensure success in their labours?



# British Medical Journal.

SATURDAY, OCTOBER 12TH, 1918.

## HOUSING AND HEALTH.

THE Prime Minister, speaking at Manchester, dealt at considerable length with the nation's health, taking as his text the results of the physical census of the Ministry of National Service, to which we called attention a fortnight ago. His first remedy was better housing, and we entirely sympathize with his despair in the face of Acts of Parliament running into hundreds of sections, and regulations which would fill a library. We have on many occasions dwelt on the failure of the Housing Acts, and reproached the House of Commons for its inability to produce an effective body of law. We therefore very sincerely welcome the Prime Minister's declaration that "you cannot sweep away slums with paper and cannot cope with the wants of the people with red tape." He said also that the next thing that we need, after housing, is "a more intelligent organization of the forces which have special charge of the health of the nation—national, municipal, and medical." So far, of course, every one will agree, things might be much better; but with his next sentence we feel bound to quarrel. He said: "I doubt if there is a first-rate country in the world where less has been done." As a stimulus to greater effort such a statement may pass, but there is a danger that, taken alone, it may convey to many people a promise that if we organize our forces upon some foreign model we shall, by reason of this organization, ensure results for the health and better physical development of the people, and for the prevention of disease, which cannot, in fact, be attained without a whole-hearted determination by the Government and by Parliament to set the housing question on the right lines and to push on to a solution. Mr. Hayes Fisher was constrained to confess that the Board over which he presides had been playing with it too long, and was not proud of its achievements in Parliament.

Mr. Lloyd George, in speaking of the two matters of housing and better administrative organization in the same breath, may have conveyed the impression to some that he regarded them of equal importance. This we are sure was far from his intention; he mentioned them together, no doubt, because both are matters of immediate political interest. On the one hand he had in mind the plans now on foot for the erection of houses by local authorities with the assistance of a Government grant to cover three-fourths of the prime expenditure, and on the other the bill for a Ministry of Health, which, as was mentioned last week, has been sent to the War Cabinet by the Cabinet Committee for Home Affairs.

It is estimated that 300,000 new houses will be required in England and Wales after the war, and that local authorities already have schemes to provide 250,000. The President of the Local Government Board told a deputation on October 4th that if local authorities had not sufficient power to get land they must be given it. Financial aid is to

be given not only to the local authorities but also to public utility societies, and the large boroughs as well as the county councils are to have power to take shares in such companies. The deputation was sent jointly by the Federation of British Industries and the National Alliance of Employers and Employed, bodies which it was stated represented 10,000 firms, and trade union members numbering a million and a half. The employers appear willing to find a considerable amount of capital if they receive for their schemes the same financial assistance as is to be given to local authorities. Objection is felt to any scheme for the provision of the needed houses by the employers direct, on the ground that it would accentuate the bitterness of labour troubles if the employers controlled a man's house as well as his employment. This objection would not lie against public utility societies under proper management.

The houses to be built must fulfil certain conditions; model plans have been circulated by Government, and the Royal Institute of British Architects is publishing designs from local competitions; diversity is to be encouraged and local architects employed, but the conditions laid down are intended to ensure houses so designed and constructed that their inhabitants may find it easy to observe the fundamental laws of hygiene. If this end be achieved, the disappearance of private enterprise will cause no regret, for hitherto much of the time and energy of the sanitary authorities of towns have been spent in trying to make healthy dwellings out of houses built at the lowest possible cost by speculative builders in a hurry to turn over their money.

The real promise for the future is in a wise housing policy vigorously administered. So long as this is recognized, and so long as trust is not placed in mere reorganization of machinery, we may welcome the promise of a Ministry of Health, helped by expert advisory councils and endowed with will and power to strike at the roots of ill health and deterioration, which are bad housing in town and insanitary surroundings of houses in the country.

## THE ETIOLOGY OF RICKETS.

THE Medical Research Committee has issued a report on the social and economic factors in the causation of rickets,<sup>1</sup> based on work carried out in Glasgow by Miss Margaret Ferguson under the direction of Professor Noël Paton and Dr. Leonard Findlay.

In an introductory historical survey Dr. Leonard Findlay notes that the disease was apparently very prevalent in ancient Rome, where it was observed by Soranus Ephesus about 100 A.D., who believed that its true cause was to be found "in inexperience with regard to the rearing of children." Dr. Findlay does justice to Glisson's great treatise (1650), and goes on to set out the main facts and theories concerning the geographical distribution, etiology, and pathological anatomy of the disease, and to pay particular attention to the metabolism of calcium in it, a subject which has aroused a considerable amount of interest in recent years.

The main portion of the report is concerned with the investigation of the social, economic, and dietetic conditions of families containing rickety children. In order to control the results the same factors were studied in a series of families of the same social scale but in which no rickety children were discovered, and

<sup>1</sup> A Study of Social and Economic Factors in the Causation of Rickets. Medical Research Committee, Special Report Series No. 20. London: H.M. Stationery Office. To be obtained through any bookseller. (Price 2s., or 2s. 2d. post free.)



in a number of families resident in the garden cities of Bournville and Port Sunlight. In all 200 families containing children with marked rickets, 150 with mild cases, 100 with apparently healed rickets, 200 families of non-rickety children, 50 families in Port Sunlight, and 55 families in Bournville were studied.

The general conclusion that rickets is to be prevented only by the improvement of housing conditions was reached after other factors had been carefully considered and eliminated. For example the evidence is held to establish the proposition that the origin of parents, whether country or town bred, has no influence on the incidence of rickets in the children, and that the state of health of the mother is a contributory factor in the development of rickets in the child only in so far as it affects maternal care, or is an index of the conditions under which the child lives. On the other hand, the habits of the mother and the care taken of the children were found to have a marked effect, whereas any influence the health and habits of the father may have is to be attributed merely to the manner in which they modify the social conditions under which the children are reared. It was found that something like 50 per cent. of children of the poorer classes in the city of Glasgow are affected with rickets, and that the disease was slightly more prevalent among males than among females. The most frequent age of incidence of rickets appeared to be between 6 and 18 months, and the disorder generally developed in late winter and spring. The close association of tetany with rickets is shown by the fact that 42 per cent. of the rickety children had suffered from tetany, whereas it was not observed in any of the non-rickety children. Diarrhoea had occurred in 33 per cent. of the rickety children prior to the commencement of the disease, while only 11 per cent. of the non-rickety children had so suffered. The duration of breast feeding was not proved to have any relation to the incidence of the disease; the age at which artificial feeding was commenced appeared to be of little moment, and diets of the rickety and non-rickety families showed no significant difference in energy value or protein content. The majority of cases of both rickety and non-rickety children seemed to have had an adequate supply of fat during infancy; though the amount of fat in the diets of non-rickety families was on an average 10.7 per cent. higher than in the diets of the rickety, the overlap was so great that a defective supply of fat is not considered to play an essential part in the causation of rickets. The evidence was against a deficiency of milk, of butter, or of the fat-soluble A substance being a determining factor. On the other hand, inadequate air and exercise seemed to be potent factors in determining the onset of the disease. The probability that rickets will occur was found to increase with the number of children in the family, and usually several of a family were affected. Although they lived in the same districts the social conditions of the non-rickety families were better than those of the rickety, but the district of the city in which the child dwelt had not so great an influence on the development of rickets as the actual conditions of the home. For example, the average number of persons to a room was almost one person greater in the rickety than in the non-rickety families; the cubic space for each person was 32 per cent. less in the families with cases of marked rickets than in families free from the disease, and the house was distinctly cleaner in the non-rickety than in the rickety families. Rickets was found to be very uncommon in the garden cities of Bournville and Port Sunlight.

In a general discussion by Professor D. Noël Paton and Dr. Leonard Findlay, with which the report concludes, attention is focussed on various facts discovered or supported by the inquiry and on points in the pathological anatomy and chemistry requiring further research. The final conclusion is that whatever the true cause of rickets, improper housing, absence of facilities for open-air life, and imperfect parental care favour the onset of the disease, and that by improving the housing conditions the disappearance of the disease would be brought about.

#### THE NEED FOR DOCTORS IN THE ARMY.

Owing to the course of events in France and the nature of the present fighting, there is again an urgent demand for medical men to serve in the R.A.M.C. The most pressing need is stated to be for the next few months. The position has been carefully considered by the Central Medical War Committee, and various emergency methods have been passed under review. Of the plans proposed the Committee has found that only two afford any hope of producing the young and fit medical officers required within the next two months. The first of these was to call upon men of Grade 1 under the age of 46 who have recently resigned their commissions to rejoin the R.A.M.C. These men have, of course, their right of appeal to the medical tribunal for exemption. The machinery of the Committee is being quickened in every possible way in order that all men in this category who are available for service again may be in France by the beginning of November. The second method is to call up for immediate service those medical men whose applications for exemption have been refused, but whose removal from civilian practice cannot be effected without some form of substitution. For this purpose a method is under consideration by which rapid substitution may possibly be brought about. The Scottish Medical Service Emergency Committee is understood to be reviewing the work of all medical men practising in Scotland, and to have decided to set free for the army every man who can be spared, after due consideration of the civilian necessities. For the immediate emergency a plan for employing surgeon probationers in the R.A.M.C. for a limited number of months before qualification has been proposed, but there are serious objections to this scheme. In the first place, it is by no means certain that it can be put into effective working order in time to be of use during the present military operations. In the second place, it would be to reap our corn in the blade. It may be that we are nearing the end of the war, but it would be rash indeed to assume that the army will not want medical men to replace wastage after the winter. Foresight is necessary, and we believe it may be wiser to retain these young men in the schools until they can qualify. It is possible, of course, that the corporations and universities may be able to make special arrangements for early examinations. The demand made by the army has not this time been sprung upon the Ministry of National Service; it dates from the British defeats at the end of March. The demand then made has never been adequately met. Many medical officers were made prisoners then, and week by week the army in France has lost medical officers—killed, invalided, or time-expired. We have no doubt that the medical department of the Ministry of National Service is in close consultation with the War Office on the one hand, and with the medical war committees on the other, but we would plead for long views. The present emergency must be met without endangering the future, which no man can foresee. The action taken by the Irish Medical War Committee is fully reported in another column of our present issue, and we cannot doubt that the appeal it makes will meet with a satisfactory response.



### "ALL OUT."

"The night had been stormy, making the assembly of the troops difficult, and the assault was launched in a steady downpour of rain. As the attack progressed the weather cleared, favouring the development of operations which, from the first, were completely successful." These words, from Sir Douglas Haig's communiqué of Tuesday evening, will bring to the mind of those who know the country a picture of the sufferings to which the wounded have been subjected, and the difficulties under which the Army Medical Service has carried on its work. The advances are being made through upland downs exposed to every storm; it can never have been a country of many resources, and everything has been destroyed by the retreating foe. Villages are so utterly devastated that the traveller only knows their place by an English placard, "This is —," stuck into a heap of bricks, and reflects that the tense is wrong. Everything must be carried into such a country, not only the tents or huts of casualty clearing stations, but everything they use, from food to the means of warmth. Cold is the great enemy of the badly wounded man, and by hook or by crook means of warming him have been provided in the main dressing stations of ambulances, as well as in the casualty clearing stations. What was happening between St. Quentin and Cambrai on Tuesday has been happening all along the front. All British armies have been heavily engaged within the last fortnight, and this fact has a material influence in increasing the strain on the Army Medical Service. It renders it impossible for an army actively fighting to borrow personnel or material from some other army not so occupied, for all are fighting. Consequently each must retain its surgical teams, which used to be lent from one casualty clearing station to another; and, with a number of wounded larger than the casualty clearing stations are able themselves to treat fully, the stream of men going to the base and there requiring surgical treatment must render it difficult to spare teams to be sent from the base towards the front. There is no doubt that the work will be done and done well, but we are convinced that never since the earliest days of the war has the Army Medical Service been tried so high.

### BACILLARY DYSENTERY ON THE BELGIAN FRONT.

The prophecy at the beginning of the war, based on the experience of former campaigns, that acute dysentery would attack the combatants on the Western front, was not fulfilled for some time, and even now not to the extent that was probably anticipated. The recent article by Nolf, Colard, Dulière, and Roskam<sup>1</sup> in the sole surviving medical periodical of Belgium shows that during 1915 and 1916 the Belgian troops suffered little from bacillary dysentery, but that during the last five months of 1917 there was an epidemic which reached its acme in the middle of September and the first half of October and then died down with the fall of the temperature and the disappearance of the flies, which it was thought had spread the infection. The authors treated 1,200 cases among the troops and found that the great majority were due to infection with the Flexner or the Y strains of the dysentery bacillus, 12 only out of 1,044 positive agglutination reactions pointing exclusively to Shiga infection. Many French observers have insisted that the severe cases of bacillary dysentery are usually due to infection with Shiga's strain, but among the fourteen specially bad cases described by the Belgian observers two only were due to *Bacillus dysenteriae* Shiga; on the other hand, the low mortality of 0.25 per cent. may be correlated with the predominance of the Flexner and Y strains. Most of the cases were slight or mild and recovered rapidly under treatment.

but the severe cases were characterized by the rapid changes that occurred in their clinical state; from profuse vomiting and copious intestinal discharges the tissues may become so drained of fluid that collapse, cyanosis, and muscular cramps on the slightest exertion—a condition recalling that in cholera—supervened. The intravenous injection of saline solution gave temporary relief only—a result which quite fits in with Professor Bayliss's observation that saline solution thus introduced soon leaves the vessels. Injection subcutaneously or intravenously of the Pasteur Institute's multivalent anti-dysenteric serum in amounts up to a total of 400 c.cm. was not followed by any very striking benefit, nor was the intravenous injection of peptone, which, as mentioned in the article on protein shock therapy in our issue of June 1st (p. 624, where the word proteose is spelt protease), has given good results in enteric fever. The Belgian physicians appear to have relied more on half-grain doses of calomel every hour for twelve hours on three successive days after castor oil on the day of admission.

### ENDOCRINE ORIGIN OF MUSCULAR DYSTROPHY.

Two recent papers by workers previously known in connexion with the metabolic investigation of this problem both conclude that hypoglycaemia due to disturbance of the ductless glands is the cause of muscular dystrophy. McCrudden,<sup>1</sup> who gives a summary of the available data, decides that the myasthenia of progressive muscular dystrophy is due to hypoglycaemia, which together with the fatty infiltration depends on impaired glycogenesis, the carbohydrate of the food being probably changed largely into fat instead of glycogen, and that this impaired glycogenesis is the result of disease of the adrenals or other endocrine glands. A more extensive article by Janney, Goodhart, and Isaacson,<sup>2</sup> contains, in addition to a critical review of the subject, the details of the observations on the metabolism of nine cases of muscular dystrophy, the patients being supplied with a creatinine-creatine-free diet from a special kitchen and kept in separate rooms under constant supervision by nurses trained in metabolic work. These patients showed a disturbance in the creatinine-creatine metabolism; the urinary creatinine was diminished in all the cases and was usually reduced in proportion to the severity of the cases; moderate amounts of creatine, which is not normally present, in the urine were found in all the cases, and in eight out of the nine cases the quantity of creatine exceeded that of creatinine. There was also constant hypoglycaemia with impaired utilization of carbohydrates, or essentially the same metabolic picture as that recorded in myxoedema, hypopituitarism, and Addison's disease, which are undoubtedly due to insufficiency of the ductless glands, and in animals after experimental removal of the thyroid or adrenals. Nearly all the patients gave skiagraphic evidence of bony changes, which the authors contend are not necessarily due to disuse, and other manifestations of disturbances of the ductless glands, such as pigmentation and dryness of the skin, hypertrichosis, unusual distribution of the subcutaneous fat, and both hypertrophy and arrested development of the genitals, were noted. Hypothyroidism was the most prominent condition, but the pituitary was unquestionably affected in one case, and the pineal possibly in two others. The conclusion drawn is that muscular dystrophy may in reality be only a symptom-group due to deficient function, not of one but of several endocrine glands separately or coincidentally affected. This endocrine failure causes hypoglycaemia, and from the consequent interference with their normal carbohydrate supply the muscles weaken, atrophy and degenerate, and creatine appears in the urine, while the excretion of creatinine diminishes. In this connexion it is significant that the creatinine-creatine metabolism of muscular dystrophy closely resembles that

<sup>1</sup> P. Nolf, A. Colard, A. Dulière, et J. Roskam. *Ann. Méd. Biol.*, Paris, 1918, lxxi, 521-539.

<sup>1</sup> F. H. McCrudden. *Arch. Int. Med.*, Chicago, 1918, xvi, 256-262.

<sup>2</sup> W. Janney, S. P. Goodhart, and V. E. Isaacson. *Ibid.*, 198-215.



of fasting, but even in prolonged starvation the sugar in the blood is maintained at the usual level, thus showing its vital importance; hypoglycaemia would therefore reasonably be expected to give rise to excessive muscular wasting.

#### MENINGITIS IN THE NEWBORN AND IN EARLY INFANCY.

ALTHOUGH common in childhood, meningitis is very rare in the newborn and in early infancy and then differs in its etiology. In Holt's series of 300 cases of meningitis in infants and young children only 1 per cent. were in infants under 3 months of age, and he concludes that 55 to 70 per cent. are tuberculous in origin, and that no cases of meningitis due to *Bacillus coli* occur in children over 6 months of age. On the other hand, among 19 collected cases of meningitis occurring in the newborn, Barron<sup>1</sup> found that 7 were due to *B. coli*, 6 to staphylococci and streptococci almost always depending on infection of a spina bifida, 2 to pneumococci, and one each to the meningococcus, *B. lactis aerogenes*, and *B. pyocyaneus*. Adding 20 cases of meningitis in infants under 3 months and 3 cases in infants between 3 and 5 months Barron finds that *B. coli* was responsible for 14 cases, streptococci and staphylococci for 10, the meningococcus for 5, the pneumococcus for 4, and the tubercle bacillus for 3. The important part that the tubercle bacillus plays in the meningitis of later infancy is therefore occupied by *B. coli* in the early months of infant life. The paths of infection in the newborn have not been definitely established, but infection through the mouth by means of fingers, instruments, and bath water must be guarded against; bacteria may also enter through the alimentary canal, the external ear, and the Eustachian tube. The susceptibility of infants to infections with micro-organisms otherwise only slightly pathogenic may be explained by the feeble production of antibodies during the early months of infancy. The greater resistance of breast-fed infants as compared with those artificially fed is probably due to the compensation of the passive immunization by the breast milk for the active immunization which is still deficient.

#### A ROMAN TEST OF WATER HARDNESS.

THE Romans attached particular importance to the quality of water for drinking, and they preferred soft water to hard. The springs chosen by them for watering troops, as shown by archaeological research, were always those containing the smallest proportion of mineral substances in solution. They were familiar with the toughening effects of hard water when employed for cooking vegetables, but apart from this culinary test they had recourse to another quasi-chemical method of estimating the degree of hardness. Hippocrates had pointed out that soft water is to be distinguished from hard "indigestible" water by the fact that it is tinted by very small amounts of red wine. When a little wine is added to water, the colour is lost in proportion to the richness of the water in alkaline salts. The test is applied by adding the wine drop by drop to a given quantity of water in a recipient with a white bottom, the number of drops required to tinge the water red being noted. A deep red wine must be used for this purpose, as the sensitiveness of the colouring agents varies very greatly among the lighter wines. Dealing with 100 c.cm. of water the number of drops varies from 1 or 2 to from 30 to 35. Dr. Arnold Gautier has shown that the colouring matter of wine is due to tinted oenotannins, pigments which are more sensitive to alkaline than to merely calcic salts; but the two properties are often found together, so that a classification made on this basis closely approximates that based on the soap test.

#### THE BRITISH RED CROSS.

At a luncheon given by him on October 9th, at the Savoy Hotel, Lord Devonport, chairman of the Lord Mayor's Red Cross Appeal Committee, made an eloquent appeal on behalf of "Our Day," which will be held on October 24th. Among the activities of the British Red Cross and Order of St. John of Jerusalem none, he said, is deserving of more sympathy than the succour of British prisoners of war, on whose behalf more than one and a half million pounds a year are expended by the organization. Lord Devonport blamed the Government for the delay in effecting the return of prisoners, and said that according to trustworthy accounts 70 per cent. of those who were captured at Kut are now dead, and the survivors are still in captivity notwithstanding an agreement with the Turkish Government for their release. Sir Robert Hudson, chairman of the finance committee of the joint organizations, said that for every £1 subscribed the administration expenses are 4d., which is reimbursed by the interest received from investments. Replying to those who object that the State should undertake the duties performed by the Red Cross, he explained that on the one hand no Government can act as swiftly in an emergency as a voluntary society, which is so organized that it can and will supply everything, except red tape, at a moment's notice; and on the other hand the public wishes to take a share in ministering to the sick and wounded soldier and sailor, and has found by experience that it can best do so collectively, through the Red Cross as its channel of generosity. Already ten million pounds have been expended by the joint societies, and £80,000 worth of stores are sent every week for the use of hospitals and casualty clearing stations abroad, to say nothing of the assistance in money and kind given to the 1,500 auxiliary hospitals in this country with their 84,000 beds. Both Lord Devonport and Sir Robert Hudson especially insisted on the fact that the work of the Red Cross cannot come to an end with the end of the war, but that financial support will be very difficult to obtain after the close of hostilities.

#### MEDICAL SOCIETY OF LONDON.

THE opening meeting of the 146th session of the Medical Society of London will be held at 11, Chandos Street, Cavendish Square, W.1, on Monday, October 14th, at 8 p.m., when the in-coming president, Major A. F. Voelcker, will deliver his address, and Dr. Theo. B. Hyslop will give a demonstration on degeneration in art, science, and literature. The programme for the ensuing season includes papers on rheumatoid arthritis, by Dr. T. S. P. Strangeways and Dr. A. P. Beddard, on October 28th; a discussion on reconstruction and the practice of medicine, on November 11th; a paper by Professor J. G. Adami, on heredity as a factor in certain diseases, on November 25th; and a paper on epidemic encephalitis, by Major E. F. Buzzard, on December 9th. On January 27th, 1919, a discussion on the modern treatment of gonorrhoea of the genito-urinary organs will be introduced by Colonel L. W. Harrison, R.A.M.C. The Lettsomian lectures on jaundice will be delivered next spring by Colonel W. H. Willcox, and the annual oration will be given in May by Sir John Tweedy.

A COURSE of demonstrations will be given in the Museum of the Royal College of Surgeons of England by Professor Arthur Keith, on Fridays at 5 p.m., beginning on October 18th. The first demonstration will be on nerve suture and nerve regeneration; the second, on October 25th, on the physiological effects of massage and gymnastics; and the third, on November 1st, on bone-

<sup>1</sup> M. Barron, *Ann. Journ. Med. Sci.*, London, 1918, 2, 151.



# THE WAR.

## THE WESTERN FRONT.

### II.

#### THE FIFTH WINTER.

LET the medical profession not deceive itself. The armies are facing the fifth winter of war. Even if peace should break out at once, the medical services at home and in the field would not find their duties much altered or their burdens appreciably diminished in weight. Sickness, in spite of all prevention, will be with us to the end even if the casualties in battle should cease.

It is yet too early even to consider the possibility of a cessation of war. For the medical services an armistice does not exist until the last soldier is returned from the field and is re-established in civil life. But as rumours of peace become more insistent the medical personnel will become restless. They will desire to take up their normal life from which they have been so long drawn aside. In time the interest will have passed and the excitement died down. There will not be the stimulus of battle to energies which have begun to flag.

At the present moment it is a groundless assumption that the coming winter will be different in any favourable respect from those which have preceded it, and if the enemy succeeds in making that impression, to such an extent will he have gained. It is not what he says, but what he does, that we must choose as our guide.

With each winter the difficulties of the medical services increase by multiplication rather than diminish by that ease of handling which comes with experience. The soldier has a mind as well as a body, and mental trouble increases at a ratio which has not yet been calculated. These mental symptoms have long since shown themselves amongst the enemy because his distress was the greater, and a new literature has grown up in his language.

It is not that these symptoms are new. Isolated instances have been familiar to all specialists; when they occur in the mass they are obvious to the least observant eye. Hysteria, which has long been regarded as the peculiar prerogative of women, is now known to be not an affair of sex but a manifestation of that portion of the mind which is common to the male and female alike. Such primitive emotions as those created by fear, cold, hunger, love, hatred, produce certain reactions which are normally kept under control. When these emotions are too strong for the organism, control breaks down, and the primitive mind asserts itself. The feminine nature either feels more strongly or is less resistant to the reactions which those emotions arouse. That is all one can say; but the result is a breakdown in moral.

To one who is not made familiar with this downfall of control, and the resurgence of the primitive mind, by witnessing its occasional occurrence in women, the spectacle is distressing when it occurs in a man, and especially so when the man affected is a soldier who has been remarkable for a control which shows itself as courage and daring in the field.

Such cases are seen most commonly by the regimental medical officer, and he is utterly at a loss for an explanation. To him it is a spectacle of human nature naked and unashamed. The display of weakness offends him. His business is with the body of the soldier; to the mind he has not learnt to minister. A breakdown of moral is rare in his experience, and the casual books afford him no guidance.

In the usual course of events the man returns to his duty, and relying upon his comrades and his officer he comes through somehow, lies where he falls, or is evacuated in an appalling condition of neurosis, neurasthenia, or whatever the newest term is. But if the victim is an officer the case is more serious. He is face to face with an admission of failure in circumstances where his courage, that last possession of the soldier, may be impugned. Before him he describes disgrace upon himself, upon his family, and upon his regiment. Under such a stimulus to action his spirit is somewhat braced, and his men may be led to failure and death by a broken and bewildered mind.

A professional army does not attract men who experience emotions so strongly that the reactions are not under easy control, and if such a tendency does exist it is checked by the stolid military routine. When the whole population is at war this breakdown in moral is more greatly to be feared; and if it cannot wholly be prevented, its worst consequences may be stopped.

The danger is greatest at the approach of winter, save in the case of new troops, whose ignorance makes them wise. It seems incredible, but it is true, that enormous numbers of officers and men are about to face their fifth winter in the trenches. Their past lies behind them; but it is ever present in their minds as an eternity of cold, wet, darkness, misery. With the disposition of the forces the medical service has nothing to do; and yet it is worth enunciating a sound principle of psychology, that an exchange of boredom produces the effect of novelty. If the boredom of the base and of the office were more freely exchanged for the boredom of the trench and the cave, both parties would profit.

The Germans have from the beginning been alert to the danger from boredom. They moved their troops freely, and their inner lines made the process easy. The men saw a new area, a new style of mud, new faces, and possibly a new brand of beer. Even the cold felt different, and the misery itself was of a new kind. For years the diaries of prisoners referred to "journeys"—"journeys by foot," and "journeys by rail." It is uniformity that kills.

But the medical services have to do with the mind as well as the body of the soldier, and at the beginning of this fifth, and worst, of winters these services should be impressed, even from civilian sources, with a new sense of their power and responsibility. The bodily health of the troops is better than amongst the civil population. The achievement is great, but it is not enough. The organization is there. The army is rich in specialists and consultants. The time has come for them to transmit more of their authority to the regimental medical officer who comes in contact with the men.

A medical officer does not cease to be a physician when he puts on the uniform of a soldier. In the long winter his purely technical duties are light. He can accomplish much good by reverting to the Hippocratic tradition and making the case of each soldier peculiarly his own. The theory that a man is either sick or well is too rigid. The physician has a place between the two extremes where he can bring comfort and courage.

The drift of military medicine is towards the mass and away from the individual. It has gone too far. It should be checked. That medical officer should be held to succeed best who practises his profession in the true spirit of the physician. His place in contact with the daily lives of men is the highest, not the lowest, in the service. He should be the confidant of officers and men, and he should have sufficient liberty



of action and responsibility to make it worth reposing confidence in him. He is the one whom the soldier should seek when he feels his moral in danger; and the medical officer should be in a position to advise rest for recreation on purely medical grounds, with some assurance that his advice will be carried out.

The work of the regimental medical officer has become too mechanical. The post, with all its other attendant hardships, is too much avoided by men who have proved in civil life that they have the real qualities of the physician. Such men are needed less in the hospital and more in the trench.

The wonder is not that failure of individual moral should have occurred in certain instances, but that

it should have survived the trials of the past four years. Never before have armies for so long a time endured strategic defeat, even if it was relieved by an occasional tactical triumph. But now, victory is in the air; and victory is a sovereign remedy for the weary mind.

There is enough machinery in the medical service. The thing for which we plead is an affair of the spirit. The spirit is there. The directors, who are themselves physicians, can easily evoke it. They can select for the front men of the Hippocratic spirit, in whom the profession is rich, and they can insist continually that medical officers, whilst remembering that they are soldiers, shall not forget that they are first physicians.

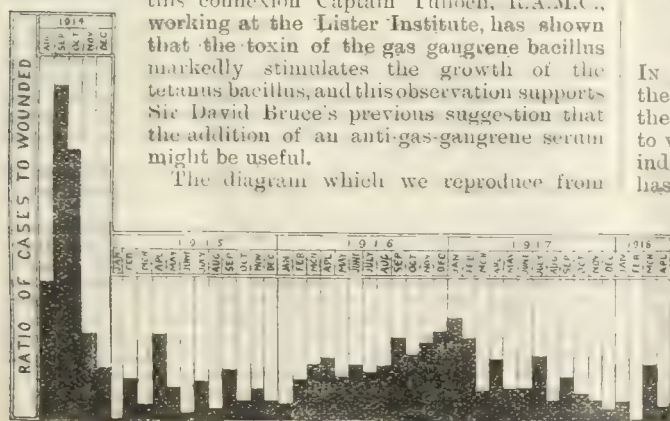
## TETANUS IN HOME MILITARY HOSPITALS.

SUMMARIES have been given from time to time in the JOURNAL of the first six analyses of cases of tetanus treated in home military hospitals; and in our issue of February 23rd, 1918, we discussed the analysis of a thousand cases of tetanus which formed the subject of the Presidential address given to the Society of Tropical Medicine and Hygiene a year ago by Major-General Sir David Bruce. We have now received the seventh, eighth, and ninth analyses of a hundred consecutive cases of tetanus treated in this country, the whole period under review covering the months between June, 1917, and April, 1918. The following table shows the number of cases of tetanus dealt with in each of the nine analyses and the rate of mortality:

Analyses.	No. of Cases.	Recovered.	Died.	Incidence per 1,000.
1914-15	100	98	133	57.7
1915-16	100	99	9	49.2
Aug. Oct. 1916	200	127	7	36.5
Oct.-Dec., 1916	100	69	31	31.0
Dec., 1916-March, 1917	100	81	19	19.0
March-June, 1917	100	71	29	29.0
June-Sept., 1917	100	85	15	15.0
Sept.-Dec., 1917	100	84	16	16.0
Dec., 1917-April, 1918	100	76	24	24.0
Total	1,226	790	436	35.5

It will be seen that the death-rate, which appeared to have reached its low water mark in the fifth analysis, was even lower in the seventh and eighth. In this connexion Captain Tulloch, R.A.M.C., working at the Lister Institute, has shown that the toxin of the gas gangrene bacillus markedly stimulates the growth of the tetanus bacillus, and this observation supports Sir David Bruce's previous suggestion that the addition of an anti-gas-gangrene serum might be useful.

The diagram which we reproduce from



Incidence of cases of tetanus per 1,000 of wounded.

the ninth analysis represents the ratio of cases of tetanus to the number of wounded soldiers treated in home military hospitals from August, 1914, to April, 1918; the cases are reckoned from the date of wound, not from the onset of disease. The abrupt fall in the ratio in November, 1914, is due to the introduction of prophylactic injections of antitoxin, which took place in the middle of October.

Taking the last three analyses together, the shortest period of incubation—that is, the interval which elapsed between the date of wound and the onset of tetanus symptoms—was three days, and the longest no fewer than 556 days. The average incubation periods of the nine consecutive series analysed have been as follows: 13.4, 31.2, 30.6, 45.0, 67.0, 44.1, 55.5, 46.9, and 49.19 days. During the ten months now under review there were roughly three times as many cases of generalized as there were of local tetanus in home military hospitals.

In the seventh analysis it is noted that of the nine cases in which no prophylactic dose of antitetanic serum had been given, six arose in England. One patient was infected with garden soil when acting as a gardener; another had a finger crushed with a blow from a hammer at a farm; two cases followed operation for appendicitis; one followed a fall on a garden path; and the last was the case of an artillery officer serving at home. With regard to the influence, if any, of promptitude in giving prophylactic injections on the rate of mortality, the most recent figures do not seem at all conclusive; it is quite possible, however, that the rate of incidence may be affected, though on this point no figures are at present available. All the cases now under review received therapeutic treatment with antitetanic serum. There appears to be no difference in the rate of mortality in cases of tetanus according to whether the wound is complicated by a fractured bone or not. It has not at present been ascertained if there is any difference in the rate of incidence, but it seems probable that this rate would be greater in wounds complicated by fractures. Once again the question is asked whether there is any evidence that the intrathecal route has any advantage over the other methods of injection, but Sir David Bruce still finds it impossible from the figures analysed to make out a case either for or against this route. We observe that the empirical treatment of tetanus by carbolic acid or magnesium sulphate seems now to have been definitely abandoned in this country.

## THE DISABLED SOLDIER IN CANADA.

In the JOURNAL of September 15th, 1917, we referred to the organization in Canada for bringing to the notice of the disabled soldier the means whereby he may be restored to working life, and set up in a career of self-supporting industry. The familiar poster, printed in red and black, has now been rewritten with the heading, "What every

invalided Canadian soldier and sailor should know."

Several paragraphs have been omitted now that full details are to be found in the returned soldier's handbook, which every invalided man should possess. The information contained in the new poster is also reproduced in pocket size on a khaki card which is given to every invalided member of the Canadian forces. The chief duties of the department of soldiers' civil re-establishment of the Canadian Invalided Soldiers' Commission are as follows: (1) Training in new occupations for men unfitted for their old work because of their war service; (2) medical treatment for men needing prolonged care, and for men who have come back for such treatment after discharge; and (3) artificial limbs and orthopaedic and surgical appliances. An illustrated poster issued by the department gives pictures of returned soldiers working at various occupations, such as tractor ploughing, typewriting, school teaching,



machine work, electrical engineering, and fruit growing. In order that every invalided soldier may know where to apply for information regarding his interests, he is given on his discharge a card showing the addresses of all assistant directors of the Invalided Soldiers' Commission, district officers to the pensions board, and secretaries of the provincial soldiers' employment commissions. Every invalided Canadian soldier is expected to lay to heart the following motto: "Skill won makes up for strength lost."

## CASUALTIES IN THE MEDICAL SERVICES.

### ROYAL NAVY.

#### *Died of Wounds.*

SURGEON F. P. POCOCK, D.S.O., M.C., R.N.

Surgeon Frank Pearce Pocock, D.S.O., M.C., R.N., died of wounds on September 29th, aged 27. He was the youngest son of Mr. Charles Wellesley Pocock of Portishead, formerly of Ealing, and was educated at King's College, London, and at Westminster Hospital, taking the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1913. At the beginning of the war he took a temporary commission in the navy, and for some time served on H.M.S. *Colossus*. He received the D.S.O. on July 23rd, 1918, and had previously gained the Military Cross.

#### *Wounded.*

Surgeon J. S. Roberts, R.N.

### ARMY.

#### *Killed in Action.*

LIEUT.-COLONEL F. H. BRADLEY, D.S.O., R.A.M.C.

Lieut.-Colonel Frederick Hoysted Bradley, D.S.O., R.A.M.C., was killed in action on September 22nd, aged 34. He was born on November 22nd, 1883, the youngest son of the late Canon Bradley of Monaghan, and was educated at Campbell College, Belfast, and at Edinburgh University, where he graduated M.B. and Ch.B. in 1906. He entered the R.A.M.C. as lieutenant on February 4th, 1908, was promoted to captain on August 4th, 1911, and during the war to major and acting lieutenant-colonel. Before the war he was serving in India, but came to France in September, 1914, and had served there ever since. He received the D.S.O. on January 1st, 1918.

MAJOR T. F. P. BREEN, R.A.M.C.

Major Thomas Francis Pennefather Breen, R.A.M.C., was killed in action on September 18th, aged 29. He was born on June 8th, 1889, the elder son of the late Inspector-General Breen, R.N., and was educated at Stonyhurst and at Trinity College, Dublin, where he graduated M.B., B.Ch., and B.A.O. in 1912. After acting as senior house-surgeon of the Mater Misericordiae Hospital, Dublin, he entered the R.A.M.C. as lieutenant on January 30th, 1914, was promoted to captain on March 30th, 1915, and subsequently to acting major. He went to France with the first expeditionary force in August, 1914, was with No. 11 Field Ambulance in the retreat from Mons, and had served in France ever since; for part of the time in command of a field ambulance, and twice acting as D.A.D.M.S.

MAJOR H. B. GERMAN, M.C., R.A.M.C.

Major Hugh Bernard German, M.C., R.A.M.C., was killed in action on September 18th, aged 38. He was the eldest son of the late Alexander German and of Mrs. German of Southsea, was educated at Guy's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1904. He then entered the Royal Navy as surgeon, and while in the navy received a medal for his services in connexion with the Calabrian earthquake of 1908, and also the Order of the Crown of Italy. While still holding the rank of surgeon he resigned and went into practice at Waltham Abbey, Essex. He held a temporary commission in the R.A.M.C. as captain from January 8th, 1916, and had since been promoted to acting major. He received the Military Cross on February 4th, 1918, and a bar thereto on September 16th.

MAJOR C. MCN. MCCORMACK, M.C., R.A.M.C.

Major Campbell McNeill McCormack, M.C., R.A.M.C., was killed in action on September 21st. He was the

youngest son of Mr. William McCormack of Hillhall House, Lisburn, and was educated at Lisburn School and at Belfast University, where he graduated M.B., B.Ch., and B.A.O. in 1914. He took a commission as lieutenant in the R.A.M.C., Special Reserve, on February 5th, 1914, and joined for duty on August 6th, 1914. During the war he had joined the regular R.A.M.C., in which he held the rank of captain and of acting major. In January, 1916, he was mentioned in dispatches, and on September 22nd, 1916, he received the Military Cross. He was slightly wounded not long ago.

CAPTAIN K. MCA. ROSS, R.A.M.C.

Captain Kenneth McAlpine Ross, R.A.M.C., was killed in action on September 17th, aged 26. He was the second son of the late Dr. Ross of Ibrox, Glasgow, and was educated at Glasgow University, where he graduated M.B. and Ch.B. in 1915. He joined the R.A.M.C. as a temporary lieutenant immediately after he had qualified, and was promoted to captain on completion of a year's service.

#### *Died of Wounds.*

MAJOR J. HUGHSTON, R.A.M.C.

Major J. Hughston, R.A.M.C., was reported as having died of wounds, in the casualty list published on September 28th. He joined the R.A.M.C. in 1915, was promoted to captain after a year's service, and subsequently to temporary major.

#### *Wounded.*

Major A. R. Dale, M.C., R.A.M.C.(S.R.).

Major C. B. Davies, M.C., R.A.M.C. (temporary).

Major W. Russell, M.C., R.A.M.C.(T.F.).

Major E. S. Sowerby, M.C., R.A.M.C. (temporary).

Captain E. C. Bowden, R.A.M.C. (temporary).

Captain R. H. Fleming, R.A.M.C. (temporary).

Captain W. K. Flock, Australian A.M.C.

Captain N. F. Graham, R.A.M.C. (temporary).

Captain W. H. Johnston, R.A.M.C. (temporary).

Captain H. K. Ward, M.C., R.A.M.C.(S.R.).

Captain D. R. Wark, Canadian A.M.C.

Lieutenant G. E. Birkett, R.A.M.C.(S.R.).

Lieutenant F. Cameron, R.A.M.C.(S.R.).

Lieutenant H. Chodak, R.A.M.C. (temporary).

#### *Missing.*

Captain W. C. D. Wilson, R.A.M.C.(T.F.).

#### *Prisoner of War.*

Major (Quartermaster) E. J. Tilbury, R.A.M.C.

### DEATHS OF SONS OF MEDICAL MEN.

Arnott, Robert Louis Irving, Second Lieutenant Indian Infantry, younger son of Lieut.-Colonel Arnott, I.M.S.(ret.), of Edinburgh, and of Wyseby, Dumfriesshire, killed September 19th. He was educated at Edinburgh Academy, and got a King's cadetship at the Indian Military College at Wellington, Nilgiri Hills, from which he joined the Indian army in February, 1918.

Atkinson, Frederick Batty, Second Lieutenant R.F.A., younger son of Dr. Atkinson of Newnham-on-Severn, killed September 25th, aged 19. He was educated at St. Lawrence College and Cheltenham College, where he was a house exhibitor and in the Upper Sixth, finally passing 38th into Woolwich. He was in the XXII, played several times for the XV, and won the Eton Fives (Pairs) Championship, and also played full back for Woolwich.

Aymer, Alfred Ireland, Lieutenant Indian Army Reserve of Officers, youngest son of the late Dr. James Aymer of Bervie, died of wounds on September 25th, aged 25.

Daunt, C. O'Neill, Lieutenant South Lancashire Regiment, younger surviving son of Dr. F. E. H. Daunt of Clapham Road, S.W., killed September 29th, aged 27. He came from Canada with the second Canadian contingent, got a commission in the South Lancashires, with whom he served throughout the fighting in 1917, and was transferred to the Royal Air Force and promoted to lieutenant in 1918. His younger brother, Second Lieutenant Giles Daunt, was killed in Mesopotamia on April 19th, 1916. Both were educated at the City of London School.

Doyle, Eric Douglas, M.C., Lieutenant R.F.A., elder son of Mr. A. A. Doyle, F.R.C.S.I., of Brisbane, Queensland, killed in action on July 29th, 1917, aged 23 years.

Forbes, William Guthrie, Major Royal Garrison Artillery, younger son of the late Dr. W. G. Forbes and of Mrs. Forbes of Stokesley, Yorkshire, died of wounds on September 26th, aged 28.

Jakins, Harley, Queen's Westminster Rifles (16th County of London Battalion, London Regiment, T.F.), only son of Dr. P. S. Jakins of Harley Street, died on July 11th as a prisoner of war at Parchon, Mecklenburg.



Knight, Robert Halley, Captain Wiltshire Regiment, killed in Palestine September 19th, younger son of Dr. A. A. H. Knight, formerly President of the Border Counties Branch of the British Medical Association, who for fifty years practised at Keswick and recently retired to Bolton-le-Sands, Lancaster. He was educated at Fettes College, and afterwards articled to Messrs. Fletcher, chartered accountants, Salisbury. He got a commission on October 7th, 1914, and was sent to India early in the war, subsequently serving in Egypt and Palestine. He had twice been wounded.

Rennie, Edward Clement, Lieutenant Royal Air Force, whose death we announced in our issue of July 13th, died of injuries at Salonica, June 16th, 1918, aged 21 years. He was the third son of Dr. George E. Rennie of Sydney. From Sydney Grammar School he entered the University of Sydney. He went to England with his elder brother, Lieutenant Cyril T. Rennie (who was killed in September, 1916), and obtained his commission in the Royal Garrison Artillery. After training in England he was sent with his battery to Salonica, and was transferred to the Royal Air Force last April.

Sheridan, John W., Lieutenant Royal Air Force, son of the late Dr. J. W. Sheridan of Stowmarket, accidentally killed September 27th, aged 29.

Thomson, Cyril Ground, Lieutenant Yeomanry, attached Prince Albert's Own Somerset Light Infantry, only son of Dr. E. B. Thomson of Plymouth, killed September 22nd, aged 27. He got a commission in the West Somerset Yeomanry on April 10th, 1915.

Thursfield, John George Havard, gunner, South African Horse Artillery, youngest son of the late Dr. T. Greville Thursfield, J.P., of Broseley, Shropshire, died of accidental wounds on September 13th, aged 34. Before joining the army he was assistant resident magistrate at Boshof, Orange Free State.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]

## HONOURS.

AMONG the additional awards for services in the battle of Jutland on May 31st, 1916, the Distinguished Service Cross has been conferred upon Surgeon Probationer Alexander Joe, R.N.V.R., medical officer of H.M.S. *Nestor*.

He behaved with the greatest coolness under fire, tending the wounded single-handed both in *Nestor* and later on board a German destroyer. His conduct was highly praiseworthy throughout.

Surgeon Probationer Charles C. Elliott, R.N.V.R., has been awarded the Distinguished Service Cross for services in the destroyer action in the Adriatic on the night of April 22nd-23rd, 1918.

He carried out his duties in attending wounded under heavy fire and difficult conditions. Although he was suffering from a painful sprained wrist, his skilful work undoubtedly saved several lives. His conduct was an example and encouragement to all on board.

Surgeon-Probationer Joseph E. Deane, R.N.V.R., has been mentioned in dispatches.

Major-General W. G. A. Bedford, C.B., C.M.G., A.M.S., is included in a further list of officers brought to the notice of the Secretary of State for War for valuable services rendered in connexion with the war.

The following medical officers are included in a list of names brought to the notice of the Secretary of State for War for valuable services rendered in connexion with military operations in Hedjaz (Supplement to the *London Gazette*, October 7th): Major W. McConaghy, R.A.M.C.; temporary Captain W. N. Montgomery, R.A.M.C.

An additional list of names brought to notice for distinguished and gallant services and devotion to duty by Field Marshal Sir Douglas Haig, Commander-in-Chief of the British Armies in France, in his dispatch dated April 7th, 1918 (*BRITISH MEDICAL JOURNAL*, June 1st, p. 630), includes the following medical officers: Colonel R. M. Simpson, C.A.M.C.; temporary Captain A. C. Mann, M.C. R.A.M.C., attached to South Wales Borderers; and Lieutenant (temporary Captain) W. H. Ferguson, R.A.M.C.(S.R.).

A further list of officers brought to notice for distinguished and gallant services and devotion to duty by General Sir E. H. H. Allouby, Commander-in-Chief of the Egyptian Expeditionary Force, in his dispatch dated April 3rd, 1918 (*BRITISH MEDICAL JOURNAL*, June 22nd, p. 709), has been published, and includes the following medical officers: Colonel E. G. R. Evatt, R.A.M.C., Lieut.-Colonel (temporary Colonel) G. A. T. Bray, R.A.M.C., temporary Lieut.-Colonel H. Wade, R.A.M.C., Major (temporary Lieut.-Colonel) M. Dunning, R.A.M.C., temporary Major J. J. Abraham, R.A.M.C., Captain (acting Lieut.-Colonel) E. C. Lambkin, R.A.M.C.

The names of the following medical officers have been added to those brought to notice for distinguished services by Lieut.-General J. L. Van Deventer, Commander-in-Chief of the British Forces in East Africa, in his dispatch of January 21st, 1918 (*BRITISH MEDICAL JOURNAL*, August 10th, p. 144): Lieut.-Colonel R. T. Brown, D.S.O., R.A.M.C., Lieut.-Colonel P. W. O'Gorman, I.M.S., Major (temporary Lieut.-Colonel) P. S. Clarke, S.A.M.C., Major R. S. Kennedy, M.C., I.M.S., temporary

Major W. J. Gow, R.A.M.C., Captain (acting Lieut.-Colonel) J. A. Manifold, R.A.M.C., Captain T. S. Dunn, E.A.M.S.

Captain B. A. Odium and temporary Captain M. B. Arnold, of the R.A.M.C., are mentioned in dispatches for valuable special services on the Mediterranean lines of communications.

## ORDER OF THE BRITISH EMPIRE.

A Special Supplement to the *London Gazette*, dated October 4th, contains a list of promotions in, and appointments to, the Most Excellent Order of the British Empire for services in or for the Overseas Dominions and Protectorates in connexion with the war. The list includes the following members of the medical profession:

To be O.B.E.: Dr. Mary Beath, Organized Friendly Union of Soldiers' Wives and Soldiers' Club, Sydney; Lieut.-Colonel Arthur S. Herbert, N.Z.M.C. (for special services in connexion with military hospitals in Rotorua); Lieut.-Colonel Herbert H. Y. Hearsey (P.M.O. to the Civil Government and Assistant Director of Military Medical Services, Nyasaland Protectorate).

To be M.B.E.: Dr. Conrad Akerman, Postmaster-General, Dr. Patrick P. J. Ganteaume (Mayor of East London), Dr. Robert Strachan (Mayor of Germiston), Dr. Joseph R. Addison (Chief Medical Officer, Colony of Seychelles, for services in connexion with war charities); Dr. Robert Howard, of the Universities Mission to Central Africa (for voluntary service in attending sick and wounded native soldiers and carriers, Zanzibar); Surgeon-Major John Hutson (Public Health Inspector, Barbados, and P.M.O. to the Barbados Defence Force); Dr. James Lochhead (Surgeon, Colonial Hospital, Gibraltar, for services to merchant-seamen).

## Ireland.

### IMMEDIATE NEED OF DOCTORS FOR THE ARMY.

A MEETING of the Irish Medical War Committee was held in the Royal College of Physicians on October 3rd, when Dr. Joseph O'Carroll, president of the Royal College of Physicians, presided, and the following were present: Dr. D. J. Coffey, president University College, Dublin; J. B. Story, president Royal College of Surgeons; the Right Hon. M. F. Cox, Dr. E. Coey Bigger, Lieut.-Colonel F. Conway Dwyer, Lieut.-Colonel M. L. Hearn, Dr. E. MacDowel Cosgrave, Colonel Hodgetts, Dr. R. J. Rowlette, T. Hennessy, F.R.C.S.I., Irish Medical Secretary, British Medical Association; M. R. J. Hayes, F.R.C.S.I., Honorary Secretary.

Owing to the heavy fighting which is at present taking place on the Western front the resources of the R.A.M.C. have been taxed to the uttermost, and at the moment there is a very urgent need for young doctors at the front. An urgent appeal has been made to this committee to supply the great additional need which at present exists, and in co-operation with the principals of all the medical schools and licensing bodies in Ireland, this committee now submits the most earnest request to all recently qualified doctors to enter the service in which their professional knowledge and skill are so urgently required. For obvious reasons the actual shortage may not be stated, but the information supplied to the committee leaves no doubt that the need for doctors is very great.

Bearing in mind the ready response which its former appeals have received, and acknowledging the valuable service which the Irish doctors have hitherto rendered in the war, the committee believes that this appeal will not be made in vain, and that the call of suffering humanity will find a ready response from Irish medical men, whose sympathy and generous self-sacrifice in alleviation of suffering have become traditional. Apart altogether from the appeal which is made to them from the wounded, those who help will have the opportunities of great experience, and of laying the foundations of a successful career.

Commissions in the R.A.M.C. will be given on the following conditions:

1. The period of service will be for twelve calendar months, or until service is no longer required, whichever shall first happen.
2. Pay shall be at the rate of 24s. a day, inclusive of all money allowances except the regulated travelling allowances and expenses when travelling on duty.
3. In addition to such pay a free passage to and from any country abroad to which they may be sent.
4. On completion of service a gratuity of £60.
5. An allowance of £37 10s. for military outfit and camp kit.

Forms of application for commissions and conditions of service will be supplied by the Honorary Secretary, Irish Medical War Committee, 16, South Frederick Street, Dublin.



## Scotland.

In his annual report of James Murray's Royal Asylum, Perth, Dr. Robert Dods Brown, physician-superintendent, expressed great satisfaction that a crusade had been instituted against venereal disease, which, often contracted innocently, was the source of a great amount of insanity of an incurable nature affecting men and women in the prime of life, and of mental deficiency in the young. No less than 15 per cent. of the deaths in the asylum were due to syphilis. From the statistical part of the report it appeared that there was no definite evidence that the war was the exciting cause in any case admitted.

The Shakespeare Hospital for discharged disabled sailors and soldiers, established in a school handed over by the Glasgow School Board to the Joint (Disablement) Committee for the South-West of Scotland, was formally opened on October 4th by Sir Arthur Griffith-Boscawen, Parliamentary Secretary to the Ministry of Pensions, who said that by the generous help of the Scottish Branch of the Red Cross Society and the Soldiers' and Sailors' Help Society, the building has been converted into a hospital at a cost of £10,000 without calling upon the Ministry of Pensions or the public. Accommodation is provided for 200 patients.

### A SCOTTISH CHELSEA HOSPITAL.

At a meeting in Edinburgh on October 4th it was resolved to establish an institution in Scotland on the lines of Chelsea Hospital as a provision for disabled men. The Lord Provost said that while too high a tribute could not be paid to the work of the various regimental associations for the care of discharged soldiers, it was intended to place a considered scheme before the authorities for the establishment of an institution for Scotland of the kind indicated. Lord Scott Dickson, in moving a resolution affirming that the time had come when honourable and adequate provision should be made for Scottish soldiers disabled in the service of their country or who attained old age without the means of providing a comfortable home and obtaining the attention their infirmities or disablement demanded, said that the first thing was to get State recognition of the duty; that recognition ought to imply State support. Scotland's share in the war had been something like 800,000 fighting men, and the regimental associations of the district were strongly in favour of the scheme. Mr. C. E. Price, M.P. for Edinburgh (Central), said that all his colleagues in Parliament were enthusiastically in favour of the proposal that there should be one great representative institution in Scotland. It had been suggested that Craiglockhart Hydropathic building would be very suitable. On the motion of Mr. J. F. Arthur, of the Regimental Associations Council, seconded by Mr. J. Budge, Scottish Federation of Discharged Sailors and Soldiers, a representative committee was appointed to draw up a scheme.

## India.

RAO SAHIB DR. M. C. KOMAN, of Madras, has been placed on special duty for six months to investigate the value of drugs used in the indigenous systems of medicine.

Influenza was imported into Bombay by shipping early in June, and spread rapidly to all the great towns. The incidence has been very heavy but the mortality low.

### KALA-AZAR IN ASSAM.

The latest annual sanitary report for the province of Assam shows that kala-azar has spread to areas in Upper Assam hitherto immune. A conference called by the Chief Commissioner in Shillong framed a plan of campaign which was accepted by the local administration, and is now in active operation under the control of the sanitary department.

### THE ECONOMICS OF THE RAT QUESTION.

An instructive estimate of the direct economic damage occasioned by rats is contained in a memorandum on

plague preventive measures issued by the Sanitary Commissioner with the Government of India. An adult rat, it is stated, consumes upwards of three quarters of an ounce of grain a day. Indian towns with a human population of a quarter of a million will at a low estimate contain half a million rats, and, supposing the rats to have a preference for grain selling at 10 seers for the rupee, they would consume food each day of the value of Rs.1,170 apart from doing a vast amount of damage to property of other kinds. This is equivalent to Rs.1,11.0 per head of the population a year, an amount which, if devoted to public health, would ensure freedom from plague and many other diseases. This aspect of the rat question deserves attention. The occurrence of plague cases on board ships sailing from Bombay has led to a trial of improved rat guards to prevent the access of rats to vessels lying in Indian ports.

### BILHARTZIOSIS.

The Zoological Survey of India has been invited to co-operate with the medical authorities in an investigation into the molluscs of the peninsula. The troops in Egypt have been suffering from bilharziosis, and the object of the proposed investigation will be to discover whether molluscs capable of spreading bilharziosis are to be found in India.

### THE RED CROSS IN INDIA.

At the annual meeting of the Indian Council of the St. John Ambulance Association at Simla, over which the Viceroy presided, it was announced that a project is under consideration for carrying on the Indian Red Cross after the war. The Bombay dépôt will be continued and there will also be Red Cross stores at stations, such as Rawal Pindi and Quetta, which are likely to be of the utmost value in frontier operations. Hitherto India has entirely lacked the help of the Red Cross in all her little wars.

## Sydney.

### RED CROSS SOCIETY.

The last annual report of the Red Cross Society, presented at the recent annual meeting, showed that the total expenditure from the Australia Day account was £189,000, of which about £125,000 had been for the supply of overseas needs, while £64,000 was spent within the State. These figures do not include the value of goods provided by Red Cross workers throughout the State. Over 10,000 men had passed through the convalescent department, receiving aid in varying degrees, and 2,504 had been treated in convalescent homes, representing an increase of 100 per cent. on the figures of the previous year. There were 500 tuberculous cases on the list, of whom 188 had been cured in the sanatoriums. Many returned sick and wounded soldiers and their families participate weekly in the distribution of fruit and vegetables from the dépôt. Large quantities of goods have been regularly shipped overseas for prisoners of war and hospitals. The report of the tobacco department showed that some 2,000,000 cigarettes and 6,000 lb. of tobacco were shipped during the year, in addition to about the same number of cigarettes and 4,000 lb. of tobacco made available for the use of men in local hospitals and homes. The various industries have done very useful work, and the information bureau had been able to assist a very great number of persons seeking for news of soldiers overseas.

### ROYAL PRINCE ALFRED HOSPITAL AND MILITARY PATIENTS.

Negotiations have been in progress for some time past between the Defence Department and the directors of the Royal Prince Alfred Hospital with the object of arranging for the continuous treatment of returned soldiers at this institution. As a result, about 100 returned men were received into the wards of the hospital during July. The hospital agrees to receive into its wards all suitable cases sent for treatment by the military authorities, excluding infectious cases, under the ordinary hospital conditions, and the Defence Department pays to the hospital a daily specified sum to cover treatment, maintenance, and medical attention.



There is to be a daily minimum number of patients of 80, and the agreement is to hold good for at least six months. It has been arranged that these military patients should occupy practically the whole of Albert Pavilion; they will thus all be together, and will not interfere with the general work and routine of the institution on the civil side.

In view of the probable admission of a certain number of shell shock cases amongst the soldier patients, the chairman of directors, Sir Anderson Stuart, recently suggested that a Department of Psychotherapy should be established, and the matter was referred to the Medical Board of the hospital. After discussion it was decided that this scheme could only be carried out if suitable accommodation could be provided. The Minister of Health subsequently expressed the desire that the question should be considered by a joint committee of medical representatives of the Royal Prince Alfred, the Sydney, and the Coast Hospitals, which would discuss the question whether it was desirable to erect a special hospital, or whether it would be better to devise a scheme for such a department to be carried out in connexion with one of the existing hospitals. At a meeting of this committee it was resolved that, while the committee recognized the necessity for the proper treatment of nervous diseases and the early stages of mental disorders, it was of the opinion that none of the three hospitals mentioned was suitable for the purpose, and it therefore recommended that steps should be taken to establish a special hospital for the purpose; with this object it urged upon the Minister of Health the advisability of appointing a committee to consider the whole question and make recommendations. The meeting affirmed the principle that such a hospital should be so situated as to be readily available for the teaching of medical students in these important subjects. So far no definite steps have been taken to appoint such a committee.

#### INFECTIOUS DISEASES AND SCHOOL CHILDREN.

During the year 1917 the number of school children absent from school in consequence of infectious disease was 27,532. This constitutes nearly 10 per cent. of the net enrolment in the primary schools. In addition to the children who were actually suffering from diseases, 11,000 were prohibited from attending school because they were contacts. The average period of absence for patients was 4.3 weeks, and for contacts 3.8 weeks, so that 13 out of ever 100 children lost four days' schooling on account of infectious diseases during the year. Fewer children were absent on account of measles, whooping-cough, scarlet fever, and ophthalmia than in 1916. It was predicted in 1915 that the severe epidemic of measles then experienced would not recur for a few years. So far this has been borne out by the fact that the figures for measles showed a decrease of 3,370 on those of the previous year. An epidemic of mumps was experienced last year, over 15,000 pupils being absent for a period of 3.4 weeks each. Of the other infectious diseases, whooping-cough was responsible for nearly 4,000 children being absent for a period of 6.2 weeks; 5,400 were absent on account of chicken-pox, over 2,000 for ringworm, nearly 4,000 for diphtheria and croup, nearly 1,800 for scarlet fever. During the year 16 patients and 97 contacts were absent owing to cerebro-spinal meningitis, and 6 patients and 5 contacts were absent for infantile paralysis; 12 patients and 4 contacts were absent for an average of 11.8 weeks on account of tuberculosis.

During the same year the dental officers in the Department of Education treated nearly 20,000 school children, and in addition 13,000 were attended by either private or hospital dentists. The principal medical officer, Dr. Willis, draws attention to the number of children with carious teeth, and the number of children with dirty mouths is almost beyond belief. It is, he says, not uncommon for ignorant parents to refuse to allow the local dentist to do more than attend to the front teeth of children, and frequently the school dental officers have to refuse to do any work at all unless they are allowed to do all that is necessary. Of every thousand children needing dental treatment less than half have ever been to a dentist, and less than 5 per cent. have received any conservative treatment. The departmental dental officers work in all parts of the State. The work in Sydney is performed at a clinic, while the work in the country is performed by six travelling clinics and a travelling hospital.

## Correspondence.

### MEDICINE IN PARLIAMENT—MEDICAL RECONSTRUCTION.

SIR, There are two important points to which I should like to call attention.

1. I am afraid that I did not make my meaning clear at the meeting at Steinway Hall on October 1st, and as the matter is very important I shall be glad if you will allow me to explain it further. The chief point I wished to emphasize was that, whether the medical representatives in Parliament were many or few, it was most important that the profession should keep them thoroughly informed of the views of practitioners following different lines of practice and practising under different circumstances (for example, country or town), and of the reasons for these views. In this way their representatives in Parliament would have before them the various sides of the problems, and would therefore be able to decide with some degree of certainty and unanimity, after consideration of the various points, what is the most suitable line to take when these matters come before Parliament, and what lines will most closely represent the considered experience of the various classes of practitioners.

During the year that I have been in Parliament I have only twice had views brought before me in connexion with medical subjects which were under discussion. This is not the way in which other professions or trades manage their business; there is no important subject, with the single exception of medicine, which has come before Parliament in my short experience with regard to which we have not received many reasoned letters and leaflets from the parties concerned. To keep the medical members in Parliament fully informed as to facts and views is really as important a matter, and possibly more important than that of the actual number of members of the medical profession in Parliament. I hope therefore that, during this reconstructive period, men in different branches of the profession and practising in various parts of the country will come together and place their views and experience before the medical members in Parliament in connexion with any medical subject which is under discussion.

2. The time is approaching when civilian medical men who have been serving for a long time abroad will be coming back, and it behoves those of us who have remained in England to do our best to help them out of the difficulties in which their long absence from their practices may have placed them. This matter was, I believe, discussed some considerable time ago by the British Medical Association, but was dropped for a time; I think, however, that it must be taken up again without further delay.

The needs of these men will be various. Some who have partners who have been keeping things together may be able to resume their practices without requiring any help, and the same applies to those who have some private means. There are many others, however, who, if they are not helped to re-establish themselves, will be in very serious trouble. Such are:

A. Men without partners who have been absent for a long time and who may find that, in spite of the best services of their neighbours, their practice has more or less disappeared, at any rate for the time being; but still, if they can settle down again in the same place, a good deal of it may return and a fresh practice may be established. But I fear that a good many of the men of this class will find it difficult to wait long enough and may require some temporary financial assistance to enable them to regain their position.

B. A good many will have lost their practices altogether and will have to start afresh. Two things may be required for such men: in the first place, information as to suitable places to settle in—for example, where doctors are most needed; and in the second place, temporary financial assistance.

C. Men who have not previously been in practice will require advice and guidance on the same lines as B, but I hardly think that they have the same lien on the medical profession for financial assistance as men who have been taken away from their practices. Incidentally it may no doubt be said with truth that it is the State who ought to help financially to reinstate the medical men whom they have taken away, but the time for action



would probably have passed before any tangible result could be got in that direction.

As to the body or bodies who might undertake this work it seems to me that as all the information as regards practices is already in the hands of the various war selection committees, or can be most readily obtained by them, they would be the natural bodies to take up the matter of medical reconstruction. There would be no charity in what I am suggesting; no doubt funds for expenses would need to be collected, but beyond that all that would be required would be a large guarantee fund for the loans. This fund would probably never be called on—or only to a small extent—as I believe that those who received loans would look on it as their first duty to pay interest punctually, and to repay the loans by instalments as soon as possible. If this suggestion is taken up I for one—and I am sure many others—would be glad to join in forming a guarantee fund, and in subscribing towards the expenses.—I am, etc.,

Chatham, Oct. 7th.

W. WATSON CHEYNE.

SIR,—If any proposal comes from the Committee which may be formed as the result of the meeting held at the Steinway Hall on October 1st to the British Medical Association for *liaison* or any kind of official combination I would urge the Association to have nothing whatever to do with it. The impression which I formed of the meeting was that we were being treated to a very poor kind of reactionary farce. The Minister of Reconstruction was dismal and uninspiring; the chairman talked harmless constitutional heresies; the effective motions as originally submitted breathed a spirit of tepid Kaiserism, and the plot of the whole affair revealed itself in the mild machinations of a few London consultants who appear to be groping for some backdoor entrance to the House of Commons. They call a meeting of the medical profession, submit their names (camouflaged by five names from the P.M.P.U. and two from the British Medical Association) for election as a committee, and, doubtless, by and by the half-dozen will in committee "nominate" themselves as the chosen representatives of the medical profession. I wonder if any of the whips of any political party will be deluded by these farcical proceedings.

Now, Sir, the British Medical Association is a democratic body, and can have no association or union with a committee which approves of occupational representation and of the creation of a caucus which arrogates to itself the right of selecting or nominating medical men to represent the medical profession in Parliament. The Association proceeds on this matter along sound lines. It seeks no caucus; it regards alike all political parties; it hopes soon to be in the possession of funds for the assistance of medical men who are candidates; and it connives at no pact with party whips for the nomination of this or that candidate.

Much hostility was shown at the meeting to the British Medical Association, and I think only one name of any prominence in the Association figured *by consent* upon the list of names "nominated" as a committee; but apart from this, and solely upon the grounds of divergent and irreconcilable principle, I would urge the Association to have nothing to do with the evolutions or manoeuvres of the Steinway Hall harlequinade.—I am, etc.,

October 7th.

POLITICUS.

SIR,—It is beyond dispute that medical science is not adequately represented in the State councils of Great Britain. In the House of Lords who can speak with authority on any phase of medical science? The Privy Council has but one competent authority. In no other legislative assembly in the British empire is there such a striking dearth of experts in medical science as in the House of Commons.

It is the clear duty of our profession to wake up and educate public opinion, not by urging claims for special consideration or privileges, but by exploiting the existing and usual avenues for enlisting sympathy and support. That is the way in the distant dominions, and that is the only wise way in this country. Seats in the House of Commons are to be had. They will not be thrown at us. We must win them by energy and enterprise. It will be a turning point in our history when we take a deep and

direct interest in the political destinies of our race. Not till then will medical science find its proper place in promoting the physical well-being of the nation.

I speak with some experience. For three years I sat in an Australian parliament and retired because I was entrusted with the task of building up out of nothing the Department of Pathology in the Sydney University. Later I took an active interest in the campaign for the federation of the Australian colonies. Later still I entered the Municipal Council of Sydney as an alderman, for the purpose of educating public opinion on the problem of tuberculosis.

I attended the meeting of the medical profession on October 1st at Steinway Hall and was shocked by the glaring lack of political *savoir faire* manifested in every line of the programme submitted to the meeting. Trammelled by traditions, habits of thought, and the exigencies of practice, our profession has eschewed political activities and thus missed many golden opportunities of influencing public opinion upon the paramount importance of medical science in national life.

To gain our ends, it is but necessary to present the case of medical science as an indispensable factor in promoting and maintaining a high standard of national health upon which all other national activities essentially depend. We must present our case in season and out of season, and slowly but surely educate public opinion to adopt our views and act upon them.

In my judgement a nondescript, conglomerate, parti-coloured committee might be an encumbrance and nuisance on the hustings. A constituency might well resent interference or dictation of this origin, and a candidate might be handicapped by such intrusion from the outside. Certainly such a committee would be ill advised to assume the invidious task of discriminating between one medical man and another. Any well-trained, honest medical man who offers himself as a candidate should need no recommendation from a medical committee in order to win a seat on his own merits and the merits of his case. Already organizations exist, and it is better to seek the assistance of these bodies, which have both money and machinery.

The one thing needful is to find medical men possessing knowledge and intelligence and some gift of expression, who are ready to sacrifice leisure, time, and energies, and appeal to the people at the next election. We want candidates first, not committees. The necessary local committees will spring up automatically in every constituency.

The constituency *par excellence* for medical representation is East Marylebone, and, others failing, I shall offer myself as a candidate. St. George's, Hanover Square, is another. Haggerston is another, since Mr. Chancellor has crude notions upon medical subjects. I would place national safety, unity of the British empire, reunion in sentiment of Great Britain and America, and solidarity of the allies in the cause of humanity, justice, and liberty above any fiscal shibboleth. I would fight for the universal principle that the health of the people is a nation's best asset, and medical science is the greatest factor in improving the capital value and increasing the dividends of this magnificent asset.—I am, etc.,

LONDON, W., Oct. 8th.

W. CAMAC WILKINSON, M.D.

SIR,—I shall be obliged if you will announce that in accordance with the voting of those who attended the meeting of the profession at Steinway Hall on October 1st, the following have been invited to serve on the committee appointed for the purpose of "taking such steps as may be possible to further the election of medical men to the House of Commons":

Representatives of the Royal College of Physicians, the Royal College of Surgeons, the Royal Society of Medicine, the Medical Department of the Royal Navy, the Royal Army Medical Corps, the Royal Institute of Public Health, the British Dental Association, the British Medical Association, the Incorporated Society of Medical Officers of Health, the Medical Society of London, the Medico-Political Union, the Medical Women's Federation, the National Medical Union, the Poor Law Medical Officers' Association, and the State Medical Service Association; the Editor of the BRITISH MEDICAL JOURNAL, the Editor of the *Lancet*, the Editor of the *Medical World*; Mr. Ernest Clarke, Dr. W. F. H. Coke (Ashford), Dr. R. A. Gibbons, Dr. William Hodgson (Creve), Sir Thomas Horder, Mr. Lockhart-Mummery, Dr. Arthur Latham, Dr. R. W. Logan (Ashby de la Zouche), Dr. J. C. Lyth (York), Dr. R. H. Moreland McCrea, Dr. J. A. MacDonald-Taunton, Dr. Howard Marshall (Cirencester), Sir Henry



Morris, Bt., Dr. E. H. M. Stancomb (Southampton), Dr. Barbara Tchaykovsky, Mr. E. B. Turner, Dr. Jane Walker, Colonel A. S. Woodward, C.M.G.

—I am, etc.,

London, W., Oct. 8th.

ARTHUR LALAN.

### THE FUNCTION OF THE CARDIAC VAGUS.

SIR,—The confusion which appears to exist on the problem of inhibition is mysterious to me. It seems to depend to some extent on the use of the word in a sense foreign to that of the physiologist. Thus, when H. O. Thomas says that it is "the suspension of life," he is not speaking of the same thing as the slowing of the heart by the vagus. There is no need for a special word to mean "suspension of life." Inhibition means the diminution or stopping of some functional activity, but in such a way that the cells concerned suffer no injury, and resume their activity in a normal way as soon as the inhibiting influence ceases.

For my part I have no difficulty in admitting the development of a function for *depressing* activity. A chemical reaction going on at the ordinary temperature can be increased in rate by raising the temperature, decreased by lowering the temperature. Take the case of the heart. There is a certain rate at which it beats automatically. This rate has doubtless been developed in accordance with the average need of the organs for supply of blood. But under some conditions, as in complete bodily rest, this degree of activity would be wasteful. Hence we find a nervous control developed which slows the rate and diminishes the strength of the beat. This control is also of value when the arterial pressure rises to a dangerous height from any cause. On the other side we have the accelerator or augmentor nerves for use in increasing the rate or strength of the beat. Similar considerations apply to all cases where it is of advantage to the organism that tissues should be in a state of activity without the continuous supply of impulses from the central nervous system. These are cases where organs or tissues are always in a state of more or less activity, such as the various structures in which smooth muscle is found—arterioles, intestine, etc. The voluntary muscles are not automatically active, and stop contracting as soon as innervation ceases. The necessity for inhibition is not so obvious here, but it is nevertheless present in the nerve centres controlling these muscles. The reflex discharge of a centre, as Sherrington has shown, is apt to last longer than the stimulus exciting it, and, in order that the cell may be used for another reflex, this discharge must be stopped promptly. It is done by inhibition.

As yet we know no more and no less of the nature of inhibition than we do of that of setting into activity. But whatever the change produced in the one case may be, that in the other case must be of an opposite kind.

The experimental evidence as to the function of the vagus is so clear and unequivocal that I am astonished to see it doubted, except that it seems to be rather the fashion to attack old work. I am not aware that the brothers Weber had any particular theory about the vagus. They described an experimental fact. Although an electrical stimulus may not be an exact counterpart of the natural one, the work of Keith Lucas and his colleagues has shown that the process in a nerve is identical, however it may have been set in action. It is merely a question of the ease with which it is set going. To deny results obtained by artificial stimulation of nerves is to throw over experimental physiology and pathology altogether, not to speak of the whole practice of electrotherapeutics.

"Shock" is such a complex state, and the name is used so inaccurately, that to explain inhibition by it is to explain a simple process in terms of a more complex one. An animal under an anaesthetic is not in a state of shock. In fact, when one requires to produce this state in order to investigate it, it is found to be very difficult, and somewhat drastic procedures have to be resorted to.

As to slow working being necessarily better functioning, it is an unfortunate necessity that if a muscle is to contract powerfully it must have a certain time for recovery. It is the powerful action that involves slowness, not slowness that causes the powerful action. If the labourer's muscles were able to work as well fast as slow, he would do more work, but they are not sufficiently well con-

structed, if it may be allowed to say so. The heart does more work beating rapidly under adrenalin.

The remarks of Mr. Morley Roberts on the reflex functions of the vagus and accelerators are perfectly to the point, and in no contradiction to the experimental facts of artificial stimulation. The introduction of digitalis confuses the issue, because the action of this drug is so manifold, and not yet completely understood. It is incorrect to say that the heart does its work better when slowed. That is only if it has been beating abnormally fast. Are we to suppose that the vagus can only act under such conditions? But I can see no misuse of language in speaking of inhibition, even if that were so.

It is no wrong belief that such nerves exist. The evidence is beyond question. If H. O. Thomas has not met with any that convinces him, I fear that he must be convicted either of ignorance or prejudice. What he says about atropine protecting the vagus from the shock of mechanical disturbance is nonsense. Atropine prevents the action on the heart because it paralyzes the structures which intervene between the nerve fibres and the heart muscle; it does not act on the vagus itself.—I am, etc.,

St. Bartholomew's College, London, Sept. 21th

W. M. BAYLISS.

### CARDIAC INFECTIONS IN CHILDHOOD.

SIR,—Dr. F. J. Poynton's valuable contributions on this subject end in rather a note of doubt as to the value of present-day treatment. May I therefore be allowed to strike a more optimistic note? In my opinion rheumatism occurs only in mouth breathers—that is, in children and adults who breathe through the mouth by day and by night, or in people who do so at night only. The *preventive* treatment of rheumatism and its consequent cardiac conditions (so ably mapped out by Dr. Poynton) is therefore the prevention of mouth breathing, and enucleation of the tonsils does not always effect this. On the other hand, the *curative* treatment of rheumatism is the employment of gargles (in addition to salicylates) to strike as far as possible at the root of infection. And I venture to give the following prescription as the most satisfactory ally to the salicylates in the treatment of acute and subacute cases of rheumatism, and as the best preventive of recurrent attacks in rheumatic patients who still persist in taking in fresh infection, or stir up the old infection in the tonsils, by the vicious habit of breathing through the mouth:

R. Acon. carboli. 3j.	3iv
Aq. chloroformi	at 3viii
Ft. garg.	

Use half a teaspoonful in a glass of water as a gargle, or swallow frequently in acute cases, and as a tooth wash and gargle night and morning in case of recurring attacks.

I have got better results from this gargle alone than from the use of salicylates alone in some cases of rheumatic sciatica and lumbago, and, when combined, they have given excellent results in acute cases.—I am, etc.,

T. M. ALLISON,

W. H. L. College, Sept. 21th

Major R.A.M.C.F.D.

### THE CENTRAL POOL.

SIR,—The sum due to the Central Pool could be determined with a very slight margin of error from the sale of stamps if every person entitled to medical benefit were to return a card or cards stamped for each week (Monday) for which we are "at risk" whether he were well or ill, working or not working. Besides the ordinary insurance contribution stamps, there might be "sickness relief" stamps and "arrears" stamps which would be in the hands of the approved societies and affixed by their agents in the spaces not occupied by contribution stamps. Thus each card would be entirely filled with stamps of one kind or the other, and the number of stamps used in the year divided by fifty-two would give the number at 9s. due to the pool. During the first year more stamps would be sold than would be used, and allowance could be made for this by withholding an estimated sum from distribution and carrying it over to the next year, but after the first year the number sold and the number used would be for practical purposes identical, and the figures could always be checked by an actual count after all the cards had come in for the year. The "arrears" and



"sickness relief" stamps might be sold to the societies at cost price, and new contribution stamps of a different colour or design would have to be issued at the beginning of the first year, for which the old stamps left over in the hands of insurers might be exchanged. The aged and disabled would have relief stamps on their cards (they might have cards for a whole year instead of a quarter), and doctors might satisfy themselves from time to time that their cards were being duly stamped, and all suspicion of a "shortage" on that head could be allayed. —I am, etc.,

Swinton, Oct. 6th.

J. PRICE WILLIAMS.

SIR,—In saying that "areas whose index register is kept as accurately as possible are penalized in favour of areas where the register is kept carelessly" I did not, as Dr. Brackenbury supposes, refer to the suspense slips. Obviously it is in the interests of every area to translate these into index slips as soon as possible. What I did refer to was the index register. If any area is careless about removing the names of persons who have died, or gone out of benefit, or have got upon the register by mistake through living close to the border of the area, then I repeat that such areas gain at the expense of others where the register is more carefully kept. I know of a case where one area lost a considerable sum in this way.

Dr. Brackenbury says that if the new suggestions with regard to the sale of insurance stamps are accepted the Central Pool will, as now, contain a sum calculated at the rate of 9s. per annum for every insured person in medical benefit; and that the result will be arrived at eighteen months sooner. But he does not explain why. I may be dense, but it passes my comprehension to guess how the sale of stamps can give the slightest cue to the number of persons in benefit. There may be 52 stamps on one card, 42 on another, 32 on another, none at all on some. And a quite indefinite number may be retained in the hands of employers for future use. The best suggestion I have heard so far is that we be paid in full on the basis of the last completed year, and the slight differences settled afterwards.

By working the Act through approved societies there is endless delay and confusion, besides the unnecessary expenditure of 3s. 8d. per insured person for salaries, etc. The work could be done much better, and at a quarter the cost, by the Insurance Committees; and if a central clearing house were established the registers would cease to be inflated, and panel practitioners would have the satisfaction of being paid on a count that was admittedly correct. This is a matter we ought to urge upon the Government when the Act comes up for revision and extension. —I am, etc.,

North Shields, Oct. 7th.

F. C. MEARS.

#### THE FUTURE OF THE MEDICAL PROFESSION.

SIR,—In my letter of September 28th the words "Imperial Medical Council" seem to have given rise to some misapprehension. May I at once explain that only a temporary and consultative body is suggested? The word "conference" would have been better. Such a conference would in no way limit the future liberty of action of the countries taking part in it. It would merely ensure that, in grappling with so vital a matter as the relations of medicine to the State, England would have the considered views of the whole empire; also that the whole empire would have the opportunity of expressing its considered views on legislation, which, inaugurated to-day in England, will to-morrow form a precedent, splendid or disastrous.

There is, I understand, a movement on foot to bring about a "fraternity of medicine among English-speaking peoples." Could such a fraternity begin more suitably than with a conference which may determine the future well-being of all? —I am, etc.,

Exeter, Oct. 7th.

W. GORDON.

#### REMUNERATION OF RURAL PRACTICE.

SIR,—I hope all rural Panel Committees will strongly oppose a uniform capitation grant at the forthcoming congress unless they receive a definite promise from the Government that their claims for mileage will be met by an adequate grant.

The present grant is irritatingly small, and fails absolutely to satisfy the vast majority of country practitioners. —I am, etc.,

Aldershot Oct. 7th.

T. CUMING ASKIN.

#### RANK IN THE R.A.M.C.

SIR,—In the BRITISH MEDICAL JOURNAL of August 3rd p. 123 Dr. Eales laments that practitioners of over fifteen years' standing are obliged to enter the R.A.M.C. as lieutenants because they may have to act under a junior man who has a captaincy. Some of us have been in the army for years, had over fifteen years' experience when we started, and were lieutenants for a year. Why, in the name of all that is fair, should men who are forced to join up now grouse because they must serve under the same conditions as men who volunteered two, three, or four years ago?

I am a middle-aged practitioner myself, but my experience is that stereotyped elderly practitioners, coming new into army routine in the fifth year of war, do not make the best medical officers, even in base units. I can assure your correspondent that quite as good medical work can be done with two pips up as three: for the rest, it is pure snobbery. —I am, etc.,

F. M. GARDNER MEDWIN.

Exeter, Sept. 9th.

Capt. R.A.M.C.

### Obituary.

ROBERT DONALD KEITH, M.A., M.D. ABERD.

THE death of Dr. Robert Donald Keith, Principal of King Edward VII Medical School, Singapore, at the early age of 41, will cause great sorrow in the Straits Settlements, where during the last ten years he had raised himself to a high position of professional skill. Dr. Keith, who was a brother of Professor Arthur Keith of the Royal College of Surgeons of England, was born at Turiff, N.B., and was educated at the Grammar School and University of Aberdeen, passing through the Arts as well as the medical curriculum, which he did with honours. He was subsequently elected a Carnegie Fellow, and studied in Leipzig, Tübingen, and London, devoting himself especially to pathology and bacteriology. Although he had originality and a fine scientific judgement, his inclinations were towards medical practice. At the early age of 30 he was appointed teacher of anatomy and physiology in the medical school at Singapore, and soon became its Principal. He also held the post of consulting physician to the Tan Tock Seng Hospital, and later was lecturer on clinical medicine. He devoted himself heart and soul to the work of elevating the medical standards among the natives and had the satisfaction at the end of ten years to see his efforts crowned with success. At the outbreak of the war he commanded the Singapore Field Ambulance Company and had charge of the Military Hospital. During the serious mutiny in Singapore he took an active part in the protection of the lives of the Europeans. All these manifold activities told on a constitution which had been enfeebled by systematic overwork and a tropical climate, and he arrived home two years ago in a serious state of health. After an operation improvement took place, and he was able during some months to hold an important appointment in a military hospital, but ultimately got rapidly worse and died on October 2nd, after months of acute suffering which he bore with uncommon courage. In the intervals of pain he was able to complete a small but important work on *Clinical Case Taking*, reviewed in our columns on August 24th. Dr. Keith was married and has left three boys. He was a man of most simple character, trusting and sincere, and he conducted all the intercourses of life with the greatest openness and with a loyalty which made him respected wherever he went.

SIR DOYLE MONEY SHAW, K.C.B., Inspector-General of Hospitals and Fleets, Royal Navy (retired), died in London on September 30th, aged 87. He was born in 1830, the fifth son of Surgeon David Shaw, H.E.I.C.S., educated at Edinburgh Academy and University, and took the L.R.C.S. Edin. in 1854. Entering the navy in the same year as assistant surgeon, he attained the rank of inspector-



general on May 7th, 1898, and retired in 1892. He had a long list of war services. He served in the Crimean war at Eupatoria, in H.M.S. *Spitfire* at the bombardment of Sebastopol, and at the capture of Sebastopol, receiving the Crimean medal, with the clasp for Sebastopol, and the Turkish war medal. He next served with the marines in China, from 1857 to 1861, when he was present at the capture of Canton, the Taku forts, and Peking, at the unsuccessful attack on the Peiho forts, and in the actions of Sihho, Tongku, Chanchiawan, and Paliko, gaining the China medal with three clasps, being promoted to staff surgeon, and mentioned in despatches. In the Abyssinian war of 1868 he was senior medical officer of H.M.S. *Octavia*, the flagship, and received the medal. In the Egyptian war of 1882 he served in the flagship, H.M.S. *Scylla*, at the bombardment of the forts of Alexandria, when he got the medal with a clasp, the Khedive's bronze star, and the C.B. He subsequently filled the posts of deputy-inspector-general at Plymouth hospital from 1884 to 1886, and at Malta from 1886 to 1888, and of inspector-general at Haslar from 1888 till his retirement in 1892. He was created K.C.B. at the Coronation in 1911.

**THE LATE DEVEREUX MARSHALL.**—A Fleet Surgeon writes: The death of Staff Surgeon Marshall, R.N.V.R., will bring a feeling of bereavement to his former messmates. In my twenty or more years in the navy I have never met any man who so completely won the esteem and the really genuine affection of every one in his ship. It was to Marshall that we naturally turned when down on our luck. The depth and genuineness of his religious convictions influenced his whole life; he was a tender-hearted doctor; he loved his life at sea; he was father and mother to every youngster on board, and he had a very real influence on all who knew him. On that ghastly night following the landing at Gallipoli, he heard that an attempt was to be made to evacuate the wounded from the *River Clyde*. She was, at the time, under musketry fire from both sides, and the noise of it was not comforting, but though he had been at work continuously for eighteen hours and was quite exhausted he at once volunteered to go—and went.

## Universities and Colleges.

### UNIVERSITY OF LONDON.

The following awards have been made:

*St. Mary's Hospital Medical School.*—University Scholarship, Mr. R. X. Paton (£52 10s.). Open Scholarships: Mr. R. M. Fry (£15), Mr. D. Levi (£20). Palmer Scholarships: Mr. R. W. Scarff (£25). Epsom Scholarship: Mr. J. A. Walker (£52 10s.).

*University College Hospital Medical School.*—The two Goldsmith Entrance Exhibitions have been awarded to Mr. H. Spry and Miss K. Galt.

*London Hospital Medical College.*—The "Price" and Entrance Scholarships in Science (£100 and £70) have been divided between Messrs. G. N. Golden, J. H. Andre, and K. W. Todd.

### UNIVERSITY OF GLASGOW.

The following degrees were conferred on October 7th:

M.B., CH.B.: J. Nicol, Elizabeth C. Gordon, A. S. S. Graham, R. P. Smith, W. J. S. Cameron, A. C. Connell, J. S. McLaughlin, James W. Haggart, H. J. Hodge, J. P. Kirby, P. McEwan, Miss J. Macdonald, Maud E. D. Macdonald, A. W. McRorie, Margaret G. McVey, I. L. Olmsted, Vida J. Perry, Marjory M. Scanlan, J. C. Vaughan, H. Ward, W. Young.

The Brunton Memorial Prize of £20, awarded to the most distinguished graduate in Medicine of the year, has been divided between Mr. J. Nicol and Mr. J. G. Harrower.

\* With honours. † With commendation.

DR. JOHN DAVID WALTHER of St. Leonards left £34,226; Dr. C. E. Glascock, for thirty-five years honorary surgeon to the Royal Eye Hospital, Manchester, £18,621; Dr. Richard Walter Owen Withers of Weston Rhyn, Salop, £13,299; Mr. H. Betham Robinson, senior surgeon to St. Thomas's Hospital, £11,195; Dr. Frederick Roberts, £10,374; and Dr. H. Macnaughton-Jones £5,971.

The Council of National Defence of the United States has enlarged the scope of the Volunteer Medical Service Corps, making eligible for it all practitioners, including women, holding a degree in medicine from a legally chartered medical school, provided that he or she is not already commissioned in the Government service. It is estimated that more than 60 per cent. of medical practitioners will be required to remain at home continuing their ordinary professional work and caring for industrial workers.

## Medical News.

A MEETING of the medical profession of the Home Counties has been arranged by the Metropolitan Counties Branch of the British Medical Association, to be held in the Tophady Hall (Whitefield's), Tottenham Court Road, on Tuesday next, October 15th, at 4 o'clock, when a discussion on the proposed Ministry of Health in its relation to the health of the people and the future of the medical profession will be opened by Dr. M. G. Biggs, president of the Branch, Major-General Sir Bertrand Dawson, G.C.V.O., and Dr. H. B. Brackenbury. At the close of the discussion resolutions, the terms of which were printed in the SUPPLEMENT last week, will be submitted to the meeting. It is hoped that all medical men and women will make an effort to attend.

THE annual general meeting of the Auxiliary Royal Army Medical Corps Funds will be held at 11, Chandos Street, W.1, on Friday, October 25th, at 4 p.m.

THE Royal Sanitary Institute will hold a discussion at the College of Technology, Manchester, on October 18th, at 6.30 p.m., on welfare work in factories and workshops, under the chairmanship of Dr. Philip Boobbyer, M.O.H. Nottingham.

THE Ingleby Lectures for 1918 before the University of Birmingham will be given by Dr. Peter Thompson, Professor of Anatomy in the University, on Thursdays, October 17th and 24th, at 4 p.m. The subject is "Some problems in embryology."

DR. MAGNAN, the distinguished French psychiatrist, left £1,000 to the Paris Academy of Medicine, to be applied to the foundation of a triennial prize for the best work on mental medicine.

THE annual meeting of the National Association of Insurance Committees will be held at the house of the Hearts of Oak Benefit Society, London, on Thursday and Friday next. Papers will be read, and a number of motions will be submitted by the executive council. One of them expresses the hope that substantial agreement may be obtained by the Ministry of Reconstruction in regard to the establishment of a Ministry of Health, and calls for immediate introduction of a bill as an urgent war measure. Another deplores the unsatisfactory housing conditions from which many tuberculous cases are taken to sanatoriums and to which they return. Still another motion favours the inclusion of maternity services within the range of medical benefit.

THREE Chadwick Lectures, illustrated by the epidiascope, on "The Story of a New Disease," are being delivered by Dr. F. G. Crookshank, at 5 p.m., on Thursdays, October 10th, 17th, and 24th, at the rooms of the Medical Society of London, Chandos Street, Cavendish Square, W.1. The first lecture dealt with (a) Chadwick and the study of epidemiology, (b) The Heine-Medin conception and synthesis, (c) Some Early English and Continental epidemics; Dr. W. H. Hamer took the chair. The second lecture will deal with (a) The "nervous fever" of Thomas Willis, (b) Spinal typhoid, (c) Epidemic encephalitis; Sir Richard Douglas Powell will take the chair. The third lecture will deal with (a) Baphania, (b) Botulism, (c) The theory of the Heine-Medin disease; Sir William J. Collins will take the chair.

THE Local Government Board in a leaflet dated October 2nd states that cases have occurred in which applications for the grant of exemption to a duly qualified medical practitioner have been made to the ordinary tribunals. Local and appeal tribunals are reminded that such applications must be made direct to the Medical Tribunal for England and Wales, at 429, Strand, W.C.2, specially appointed for the purpose; and if an application is made to an ordinary tribunal, it should be returned to the applicant with an explanation. Each practitioner is notified by the Ministry of National Service when his case comes under consideration as to the time within which an application for exemption may be made, and the application cannot be lodged until the notification has been received. A special form of application has been prepared for the use of medical practitioners which may be obtained by them from the Medical Tribunal at 429, Strand, W.C.2.

AN exhibition to illustrate women's work in war time was opened at the Whitechapel Art Gallery on October 9th. It has been arranged by the Women's Work Subcommittee of the Imperial War Museum, and we understand that some of the exhibits, notably a number of personal memorials of the late Dr. Hirst Inghs, are likely to find



a prominent place in that collection. Every phase of women's work is represented, including marmion making and aircraft construction, but the work of the military hospitals and dressing stations occupies the major space and is illustrated chiefly by photographs and by small plaster models, extremely well executed, as well as by a display of the decorations which are open to women in the nursing services. The industrial exhibits include various kinds of protective garments for women engaged upon work which is dangerous either on account of machinery or the nature of the substances with which they have to deal.

At a meeting held at the Mansion House, London, three months ago, a London Memorial Fund was inaugurated for the purpose of establishing a chair of medicine in the University of Belgrade in memory of the late Dr. Elsie Inglis. The Serbian Minister of Education, M. Trifunovitch, recently said, addressing the Committee of the London Units of the Scottish Women's Hospitals: "Ladies, your friendship is, believe me, a great support in our advance towards our goal, towards the victory of Right, which will enable us to unite, to return to our ruined homes and to develop in peace, for we are a peace-loving people." It is hoped that the Fund may be complete by the time the victorious Serbs re-enter their capital, Belgrade. Of the £12,000 needed, more than £2,500 have been promised or subscribed. Further contributions should be sent to the Elsie Inglis London Memorial Fund, 66, Victoria Street, London, S.W.1. The joint treasurers are the Countess of Selborne and Miss Teresa Gosse.

The opening meeting of the thirty-seventh session of the West London Medico-Chirurgical Society was held at the West London Hospital on October 4th, when the retiring president, Dr. A. J. Rice-Oxley, inducted his successor, Lieutenant-Colonel E. M. Wilson, C.B., C.M.G., D.S.O., R.A.M.C., who presented to Dr. Rice-Oxley the Keetley Memorial Medal, and expressed the appreciation of the society for his work during the past session. Lieutenant-Colonel E. M. Wilson then delivered the presidential address on Ancient Physic. Beginning with trephining in the Stone Age, "to allow the escape of the evil spirit," he traced the development of medical art through the Chaldean and Egyptian epochs. Owing to the prohibition of the study of anatomy at this era, clinical knowledge made greater advances than surgical methods. It was doubtful whether Egyptian surgeons removed cataracts, although they probably operated for pterygium and pannus, whilst prescriptions for eye lotions and salves were frequent. The rudiments of public health were discoverable in the Mosaic Law, the connexion between mice and plague being indicated. Chinese and Indian medicine were then reviewed, the Hindus claiming that Hippocrates derived his knowledge from India. The change from superstition to rationalism was initiated by Pythagoras into Greek medicine. A vote of thanks to the president for his address was proposed by Major McAdam Eccles, seconded by Dr. Clippingdale, and carried by acclamation.

## Letters, Notes, and Answers.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Antiology*, Westrand, London; telephone, 2631, Gerrard.
  2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2630, Gerrard.
  3. MEDICAL SECRETARY, *Medisecra*, Westrand, London; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.
- The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### QUERIES AND ANSWERS.

CAPTAIN HARVEY DAIRD, M.D., R.A.M.C. (Ham Common), writes: With reference to the inquiry of "Hexamine" as to 10-grain doses of urotropin thrice daily harming the kidneys. I may say that in studying the effect of the drug in general paralysis I gave those doses for long periods to many paralytics, and have never observed any bad effects. My

observations were published in the *Journal of Mental Science*, January, 1913. In this hospital I have given hexamine 10 gr. thrice daily, in several cases with benefit.

DR. PERCY NEWELL (Margate) writes: In reply to "Custos" (BRITISH MEDICAL JOURNAL, October 5th, 1918), a 5 per cent. solution of aluminium acetate is surely too strong for burns. Usually a 1 per cent. solution is used. This is made by adding a drachm of the liq. alumin. acet. of the German Pharmacopoeia (which is 7½ per cent.) to an ounce of water. It is said there is no danger of poisoning from its use, but after some weeks it causes a ligneous hardness of the tissues. Twenty-four hours' immersion in normal saline solution largely removes this.

### LETTERS, NOTES, ETC.

#### THE EXERCISE BLOOD PRESSURE TEST OF MYOCARDIAL EFFICIENCY.—A Correction.

DR. GORDON LAMBERT calls attention to an error in the line explaining the signs used in the charts illustrating his paper on this subject published in the JOURNAL of October 5th (p. 367). The sign at B indicates the *pulse*—not the *last* systolic pressure, which is indicated by the sign at C.

#### A1 AND C3.

DR. BINNIE DUNLOP (London) writes: The Prime Minister well said the other day that we cannot have an A1 empire on a C3 population. Then why aim at reproducing the race mainly from the C3 population? Why ignore that the survival rate (excess of birth over death rate) is limited by the food or trade rate, and that even in the prosperous years before the war it was only about 10 per 1,000 per annum? Alas! few people realize, as Sir James Barr seems to do, that most of the current reform proposals are strongly in the direction of taxing the A and B population to extinction—the population which has maintained the independence and prosperity of the medical profession—in order to enable the least fit C population to bring up families under better conditions. Fortunately for the race, however, there is at least a rapidly growing appreciation, on the part of those who work among the poor, of the direct benefits to women and children of a spacing out of births.

#### V.A.D. MEDICAL OFFICERS.

"V.A.D. MEDICAL OFFICER" writes to call attention to the lack of recognition of the valuable and arduous services given by medical officers to voluntary aid hospitals for wounded soldiers, and suggests that the British Medical Association should bring this matter to the notice of the war authorities. Our correspondent maintains that every medical officer of an auxiliary hospital should receive recognition according to his length of service, whether paid or unpaid, but voluntary work for a year or longer should be taken into special account. He deprecates the system of giving invidious distinctions to a few only of the many who have loyally performed these duties. In his opinion it is most unjust that while nearly every other war worker has received some sort of badge, the great majority of those who have undertaken the responsible and trying work of treating the wounded in the auxiliary hospitals should be left out in the cold.

#### LIQUOR CRESOL SAPONATUS (LYSOL, ETC.).

MR. SYDNEY DUNSTAN, F.C.S. (pharmacist to the Royal Victoria Infirmary, Newcastle-upon-Tyne), sends the following formula for making liquor cresol saponatus, which he devised and has had in use for over six years:

Cresol	...	...	...	...	...	50
Linseed oil	...	...	...	...	...	25
Caustic soda	...	...	...	...	...	q.s.
Distilled water to	...	...	...	...	...	100

He finds that this solution if properly made works very satisfactorily, both from a pharmaceutical and bacteriological point of view. The advantage is that soda is used in place of potash; the cost of the former is 1s. per lb., while that of the latter is 14s. The cost of the liquor in the *British Pharmacopoeia*, 1914, is, he states, approximately 12s. a gallon, and the revised formula published in the *London Gazette* of March 29th, in which linseed oil is used in place of castor oil, a little less. The cost of the formula he gives is 3s. 3d. a gallon. Another great advantage, he adds, is that potash is controlled and difficult to obtain, whereas the soda is not controlled and fairly plentiful.

#### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	...	...	0 6 0
Each additional line	...	...	0 0 9
Whole single column	...	...	4 0 0
Whole page	...	...	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restantes* letters addressed either in initials or numbers.



# THE PREVENTIVE AND CURATIVE TREATMENT OF GAS GANGRENE BY MIXED SERUMS.

BY

FRANCES IVENS, M.S.,

SURGEON-IN-CHARGE, SCOTTISH WOMEN'S HOSPITALS, HÔPITAL AUXILIAIRE 5-1, ROYALMONT, HÔPITAL AUXILIAIRE D'ARMÉE No. 50, S.P. 172.

In a paper written in 1916<sup>1</sup> on cases of gas gangrene treated in the Scottish Women's Hospital, Royalmont, I indicated that I had obtained some good results in a few cases where I utilized as a curative measure the anti-*perfringens* serum prepared by MM. Weinberg and Séguin at the Pasteur Institute. In these cases the infection was already established even to the stage of intoxication and septicaemia. At that time I expressed a hope that the preventive treatment of gas gangrene by serum would become as universal and as satisfactory as that of tetanus. It has been a disappointment to see how little progress has been made in this direction compared with other improvements in the treatment of war wounds, for it is practically certain that cases of gas gangrene will always occur during periods of great military activity.

Convinced by my previous experience of the curative value of serum, I determined that, should the opportunity arise, I would test also the preventive use of anti-gangrenous serum. From March 21st to September 6th, 1918, 3,660 recently wounded received their first operative treatment in the hospitals under my care, and in this short note I propose to state the results obtained.

The investigations of the flora of gas gangrene pursued by the bacteriologists who have worked in our laboratories have confirmed the observations of those scientific workers who have specially occupied themselves with the question, and it has been shown that in the majority of cases this is very complex. By the side of *E. perfringens* one finds other pathogenic microbes which cause the death of the patient. Among these are the *Vibrio septique* and the *E. oedematiens*.

The association of the streptococcus, which flourishes in increased luxuriance where the ground is prepared for it by these bacilli, is a highly important factor in the ultimate prognosis. I expected therefore to get better therapeutic results by the employment of mixed serums, or a polyvalent serum active at once against the principal pathogenic microbes of gas gangrene.

I have employed in three series of cases:

- (a) The mixed serums anti-*perfringens*, anti-*Vibrio septique*, anti-*oedematiens*, prepared by MM. Weinberg and Séguin.
- (b) The polyvalent serum of MM. Leclainche and Vallée.
- (c) A combination of the two.

In a communication to the Société de Chirurgie de Paris on July 31st, 1918,<sup>2</sup> P. Delbet reported the results I had obtained at the Scottish Women's Hospital, Royalmont, by the preventive use of the mixed Weinberg serum, in a series of 157 cases, in which no death from gas gangrene had occurred, although 8 who had received no prophylactic dose had died from gas gangrene in the same period.

Owing to the rapidity of evolution of gas gangrene, isolation of the specific microbe in the majority of cases is not possible, and it is necessary to act energetically long before the complicated bacteriological researches necessary for the identification of the microbe have been completed. Should this, however, be possible, adequate doses of the specific serum can be given, as in the following case:

## CASE I.

II. was admitted with a penetrating shell wound of the pelvis and fracture of the left ischium. A piece of shell had been removed with some fragments of bone before admission.

On April 14th the wound was drained and cleaned and two Carrel tubes inserted; 30 c.cm. Leclainche and Vallée serum were given, the bacteriological report being *B. perfringens*, streptococcus, *Vibrio septique*. The x rays showed no further foreign body.

On April 18th the patient still had fever, the wound was dirty, and gas bubbled out. Difficulty of micturition existed; 12 c.cm. anti-*Vibrio septique* serum were given and a further x ray photograph asked for. This showed a piece of shell near the bladder.

C

On April 25th the wound was opened up, the shell and sequestra were removed with long forceps from the pelvis. The wound was cleaned and four Carrel tubes inserted; 20 c.cm. anti-*Vibrio septique* serum were given with 10 c.cm. Leclainche and Vallée. The patient had a septicæmic appearance (temperature 103°, pulse 140) with extreme anaemia.

On April 29th and on April 30th 10 c.cm. anti-*Vibrio septique* serum were given. The blood gave a pure culture of *Vibrio septique*, but a second examination on May 2nd was negative.

After a very protracted illness the patient recovered and was discharged on July 23rd in good condition.

During the period from March 21st to September 6th, anti-gangrenous serums were given preventively in 433 cases, all of a severe type, including nearly 300 fractures, many cases already presenting one or other of the clinical signs of gas gangrene, such as crepitation, discoloration of muscle, bronzing of skin, oedema, and bad odour. A large number were wounds of the lower limbs. Nearly all were received within the first twenty-four hours after being wounded. The serum was given subcutaneously in one pint of saline at the time of the operation. This duration, it is believed, has averted the anaphylactic phenomena which have been observed in cases in which this method of procedure has not been followed.

## SCOPE OF THE INQUIRY.

The investigations fall into three groups:

- I.—222 cases (126 fractures): *Mélange* of 10 c.cm. each of anti-*perfringens*, anti-*Vibrio septique*, and anti-*oedematiens* serum of M. Weinberg.
- II.—154 cases (110 fractures): 30 c.cm. of the polyvalent serum of MM. Leclainche and Vallée.
- III.—57 cases (34 fractures): 30 c.cm. of *mélange* serum of M. Weinberg with 10 c.cm. of the polyvalent serum of MM. Leclainche and Vallée.

## CLASS I.

(a) *Mortality*.—Where the *mélange* was given at or before the first operation, no case died from gas gangrene, although there were nineteen deaths out of the number from the effects of shock, from multiple fractures, hæmorrhage, meningitis, or streptococcal septicaemia.

(b) *Amputation*.—In fourteen of these cases the serum was administered at the same time that amputation was performed for massive gas gangrene (it is difficult to draw the line between preventive and curative treatment). Of these fourteen cases, twelve recovered. The two fatal cases both died at the end of a fortnight from streptococcal septicaemia, all signs of gas gangrene having disappeared for more than a week.

(c) *Conservative Treatment*.—In a very large number of cases the administration of *mélange* has permitted conservative treatment to be adopted instead of the amputation which would otherwise have been inevitable; the following cases are examples:

## CASE II.

B. was admitted with a penetrating shell wound of the right thigh, having been wounded in the night of August 3rd.

On admission, during the night of August 4th, the patient was in a condition of acute toxæmia. He was vomiting; the temperature was 102°, and the pulse 150. The right thigh was tense, pale, and swollen, and the veins were much dilated. Gas bubbled from the small entry wound on the inner side of the thigh.

The patient was brought into the theatre, and 60 c.cm. of *mélange* serum were given simultaneously with two pints of saline, followed by 30 c.cm. of camphorated oil, and a rectal saline containing sodium bicarbonate. Very large incisions were made in the thigh, and a piece of shell with infected clot and gaseous infected muscle evacuated. Four Carrel tubes were inserted. The bacteriological report gave *B. perfringens* and the streptococcus from the shell. The blood culture was negative.

The patient made a good recovery.

## CASE III.

P. (American) was wounded on July 19th at 8 a.m. in the left foot by a large piece of shell which traversed the tarsus causing complete disorganization. On admission at 5.30 p.m. the smell was most offensive, the outer half of the foot was open, and a mass of comminuted bone exposed. The foot was swollen. The bacteriological report gave *B. perfringens*, streptococcus, and bacilli with terminal spores.

The wound was cleaned, loose pieces of bone removed, Carrel tubes inserted, and 30 c.cm. *mélange* given subcut.

On July 23rd the foot was swollen. Further doses of serum were given. The patient made a very good recovery.



## CASE IV.

L. was wounded on July 18th at 8 a.m., and was suffering from the effects of haemorrhage from a large open shell wound of the right calf.

On admission at 5 p.m. on July 18th the patient was given subcutaneous saline, and 10 c.cm. of camphorated oil. The wound was then excised, 30 c.cm. of *mélange* serum being given subcutaneously. The bacteriological report gave *B. perfringens*, streptococcus, and spores.

The following day the wound was dirty, and still smelling very badly. Six Carrel tubes were arranged, and 20 c.cm. of anti-*perfringens* serum given.

On July 21st masses of dead muscle were cut away, but there were no general symptoms, and the patient made a good recovery in spite of the loss of calf muscle.

## CASE V.

In another case, D. (a badly infected fracture), the use of serum was instrumental in saving the leg from amputation.

The patient was wounded on June 10th, and was admitted and operated on the same day. There was a badly comminuted fracture of the tibia and fibula. A large piece of shell was removed and drainage established by large incisions. There was bronzing of the skin, and amputation was considered; 30 c.cm. *mélange* was given.

On June 15th the muscle was much more swollen, there was gas in the deeper tissues, and the smell was foul. There was some oedema, but no crepitation of the skin. The same day all sequestra were removed and further incisions made. *B. perfringens*, *Vibrio septique*, and *B. putrificus* were reported.

Further doses of serum were given on June 16th and 18th. The patient made a good recovery with a fairly useful leg.

## Disintoxication.

The value of this serum as a disintoxicating agent has been proved in several cases. Its administration has made it possible to wait for some hours until the condition of the patient has improved sufficiently to allow of surgical measures being employed, as in the following case:

## CASE VI.

M. was wounded at 9 a.m. on August 19th. There was a penetrating wound of the thigh with fracture of femur. At 10 p.m. on August 22nd, excision of the wound, sequestromy with removal of bullet was performed. A Thomas splint was applied, and Leclainche and Vallée serum, 30 c.cm., given.

The following day there was rise of temperature and pulse, and a bacteriological report of *B. perfringens* from the wound. The wound was freely opened up and Carrel tubes inserted. At night the condition of the patient was very grave. There was great swelling of the thigh (temperature 105.6°, respirations 40), the pulse was uncountable and barely perceptible. A subcutaneous saline was given, with 30 c.cm. of *mélange* serum and 10 c.cm. of camphorated oil.

Early the following morning, though the thigh was enormously swollen, the patient was a little better. Amputation was performed above the seat of the fracture (circular with lateral incisions), while an intravenous saline was given; 30 c.cm. of *mélange* were given subcutaneously and 10 c.cm. of camphorated oil. The usual dressing of 5 per cent. salt and 2½ per cent. carbolic acid was applied. *B. perfringens* and a streptococcus were found in the wound.

The following day there was decided improvement (pulse 120, temperature 100°). A further dose of 30 c.cm. *mélange* serum was given, and on August 29th 20 c.cm. anti-*perfringens* serum.

The patient made an excellent recovery.

Infected cases, where *mélange* serum was omitted either by accident or from the meagre supply, have not done as well as others.

## CASE VII.

R. There was a large perforating wound of the left arm with a comminuted fracture of the humerus by *bombe d'artion*. The artery was intact, but there was much destruction of muscle.

The patient was wounded on June 10th. The wound was excised on the following day. The bacteriological report was negative, and no serum was given. Four days later the arm was swollen and showed much yellow serosity in the wound. Large incisions were made and all sequestra removed. *B. perfringens* and *Vibrio septique* were reported. In the absence of anti-*perfringens* serum, a mixture of anti-*oedematis* and anti-*Vibrio septique* was given.

On June 21st the arm was still much swollen, and the shoulder was also involved, a solid oedema running up along the course of the vessels. The bacteriological report gave *B. perfringens*, *B. putrificus*, spores, and streptococcus. Amputation in the upper third was performed. The biceps and coraco-brachialis muscles were infected in their whole length and were dissected out; 30 c.cm. of anti-*Vibrio septique* serum were given.

The patient made a good recovery.

## CASE VIII.

There were multiple infected shell wounds, with several of the left popliteal vein. The patient was admitted on 3.30 a.m., and was admitted and treated.

Numerous projectiles were

removed, including a large superficial one from the right thigh. Unfortunately no serum was given. The following morning the patient presented a blanched appearance. In the early afternoon the right thigh began to swell, crepitation extending on to the abdomen. A high amputation was performed, gas bubbling from the divided muscles; 30 c.cm. of *mélange* were given, with two pints of saline intravenously at the time of operation, but had no effect on the ultimate issue, death taking place in a couple of hours. *B. perfringens* was isolated from the piece of shell and from the blood.

## CLASS II.

In 154 cases (110 fractures) a trial was made under the same conditions of the polyvalent serum prepared by MM. Leclainche and Vallée, who kindly placed a sufficient quantity at my disposal. In 10 of these (all amputations), the ultimate result could not be ascertained as the patients, for military reasons, were evacuated within a few hours of operation.

(a) *Mortality*.—Of these 154 cases 19 were fatal—6 of the deaths being due to gas gangrene. Of the 6 fatal cases of gas gangrene 3 had also a concurrent streptococcal septicaemia.

(b) *Amputation*.—In 15 of the 154 cases amputation was performed for massive gas gangrene, with 11 recoveries and 4 fatal results. Of these fatal cases 2 were also associated with streptococcal septicaemia.

## CASE IX.

In one of these cases the administration of 30 c.cm. of serum the day before amputation did not prevent the onset of gas gangrene. As the *B. oedematis* was found in the wound (against which the serum Leclainche and Vallée does not protect), it is possible that the severe symptoms were due entirely to this organism. After the administration of *mélange* serum, the patient made a wonderful recovery. In his case oedema of the limb with toxæmia was the most prominent feature.

## CASE X.

Le B. was wounded on August 31st by shell, receiving a penetrating wound of the right knee-joint with transverse fracture of the femur immediately above the condyles. Arthrotomy had been performed before admission by a horseshoe flap containing the patella. The limb was immobilized for transport in plaster.

On removing the dressing a very foul-smelling discharge was present, but there was no swelling. The bone was discoloured. The wound was cleaned and placed on a Thomas splint. The following day, September 10th, there was pyrexia; Carrel tubes were placed in the wound and 30 c.cm. Leclainche and Vallée serum were given subcutaneously in saline.

On September 11th there were symptoms of toxæmia. The temperature was 105°, pulse 140, and respirations 40. The patient was jaundiced and vomited brownish material several times at 8 p.m.

Amputation was performed above the fracture. There was no collection of pus in the knee-joint, but the fractured ends of the femur were extremely dirty, and there was general swelling of the thigh in the neighbourhood of the fracture. The bacteriological report was *B. perfringens* and streptococcus. The skin and cellular tissue of the abdomen at the site of the subcutaneous injections were swollen, and an incision was made, but only oedema found. On the following evening the amputation stump was enormously swollen, the swelling extending on to the buttock and lower abdomen. The patient was very ill and extremely yellow. The pulse was small, 144, and the temperature 101°. A large dose of serum was given, consisting of 10 c.cm. anti-*oedematis*, 20 c.cm. anti-*Vibrio septique*, and 30 c.cm. anti-*perfringens* in subcutaneous saline. The patient was very restless and sleepless, and morphine, ½ grain, was given.

The following morning, to my surprise, the patient was still alive. There was still a great deal of oedema, and a red spot appeared on the inner side of the stump. Anti-*oedematis* serum ran short, but on September 15th 20 c.cm. Leclainche and Vallée were given and 10 c.cm. of anti-*perfringens*.

On September 16th there was cracking in the abdominal wall, and multiple incisions were made, releasing greenish gaseous pus, which contained the streptococcus and *B. perfringens*; 20 c.cm. anti-*perfringens* serum with 20 c.cm. anti-*Vibrio septique* were given. The stump was rather less swollen.

On September 17th the general condition was better, but the pulse was still very rapid. The last 20 c.cm. of anti-*perfringens* serum were given. The laboratory reported the presence of *B. oedematis* in the wound. I was fortunately able to secure more Weinberg serum during the afternoon, and 30 c.cm. of *mélange* were given in the evening. On the following day (September 18th) gas and pus poured out from the abductor muscles through the skin, which had given way; this persisted until September 20th, when 30 c.cm. *mélange* were again given.

On September 22nd, under an anaesthetic, the thigh was cleaned, masses of the necrotic adductor muscles washed out and the cavity well drained. On September 26th the wounds were healthy and all oedema had disappeared. The patient looked much healthier, the skin had lost its yellow tint. The pulse was still rapid.



## Influence on Streptococcal Infection.

It was generally noticed during the period in which the Leclainche and Vallée serum was given preventively that, except in gas gangrene, the cases seemed to run a straightforward course, without severe streptococcal infections, and that secondary operations on this score were infrequent.

Among 15 cases of streptococcal septicaemia which occurred in patients admitted during this period, only four had received preventive doses of Leclainche and Vallée serum. Seven patients who had all been treated with fairly large doses of Leclainche and Vallée serum recovered.

## CLASS III.

Believing that the Leclainche and Vallée serum might have an inhibiting action on the streptococcus, in a third series of cases (57, with 36 fractures) 10 c.cm. of Leclainche and Vallée serum were added to the initial dose of 30 c.cm. of *mélange* serum. Although in ten of these cases gangrene was already present in the form of cellulitis or abscess, in only one did massive gas gangrene develop—namely, after ligation of the external iliac artery, fifteen days after the preventive dose of *mélange* had been given.

## CASE XI.

J. was wounded on September 2nd, at 4 p.m., a bullet perforating the left thigh and pubic ramus, fracturing the femur and pelvis, and reaching the pelvic peritoneal cavity.

At 9 p.m. on September 3rd the bullet was removed by laparotomy, the pelvis drained, and the thigh wound excised and drained (Carrel tubes). *B. perfringens* and the streptococcus were reported in the thigh wound; 50 c.cm. *mélange* and 10 c.cm. Leclainche and Vallée serum were given subcutaneously.

The patient did fairly well until September 15th, when some slots appeared in the thigh wound coming from the softened femoral artery near the point of division. Amputation was performed, followed by ligation of the external iliac immediately above Poupart's ligament. The patient bore the operation well, but in thirty-six hours gas gangrene (*B. perfringens* and streptococcus) occurred in the external thigh muscles, and death took place in a few hours.

(a) *Mortality*.—Two cases were fatal in this series, one already mentioned (Case XI, J.) and another who, after amputation for gas phlegmon associated with streptococcal osteomyelitis, died from intestinal obstruction due to old appendicitis.

(b) *Amputation*.—Although many of these cases have been badly infected fractures of the lower limb, only three have been amputated, one for streptococcal infection, two for secondary haemorrhage.

Not only has it been possible in these cases to adopt conservative lines in fractures of the diaphysis, but, in addition, wounds involving the articulations—hip, knee, shoulder, ankle, and tarsus—have run an unusually favourable course.

In secondary operations, where latent microbes in sequestra so often cause a disappointing result (secondary suture, reamputation, etc.), a preventive dose of Leclainche and Vallée serum and *mélange* has been found useful; and it is possible that its systematic use will make it possible to operate in such cases earlier than one would otherwise think safe, even with negative bacteriological findings. There is a tendency for anaërobic infection to linger in sequestra for a surprisingly long interval.

## CASE XII.

B. In May, 1917, a gas abscess came under my care. The patient had been wounded in September, 1914, by a bullet with fracture of the femur; he lay for five days without dressing, and the thigh was badly infected. Recovery took place, and the man was discharged from the army in May, 1915.

Working as a wood-cutter in the neighbourhood of the Scottish Women's Hospital (Hôpital Auxiliaire d'Armée 30) for some days, he noticed that his thigh was swollen. There was no history of recent injury. The leg was fomented; the night before admission one of the old scars gave way with some relief.

On admission the patient was jaundiced, with dry furred tongue. There was much swelling of the thigh. Gas bubbles exuded from the posterior scar, and a dark anchovy-coloured discharge. A large foul-smelling sequestrum was in the mouth of the wound. The adductor muscles were swollen and infected. The x-ray photograph showed gas in the thigh and many small fragments of bullet.

The abscess was thoroughly drained, and gangrenous muscle cut away. From the sequestrum *B. perfringens*, *B. sporovorus*, and *B. oedematiens* were identified. The latent period exceeded two and a half years.

## CONCLUSIONS.

1. That the administration of a powerful anti-gangrenous serum such as that of MM. Weinberg and Séguin is of real value in preventing the incidence of gas gangrene, not replacing but assisting surgical treatment.

2. That employed as a curative agent in cases of advanced infection it is a disintoxicating agent of great value if used in sufficient quantities.

3. That the polyvalent serum of MM. Leclainche and Vallée has a marked influence on the after-history of the cases with coincident streptococcal infections.

4. That the dilution of the serum by normal saline solution and its subcutaneous administration has made anaphylactic phenomena extremely rare.

5. That in cases where the special microbe can be isolated, or in blood infections, the appropriate serum can with advantage be pushed. The length of time necessary for these examinations makes it wiser to give the *mélange*, especially in cases where sporulated bacilli are present in the original bacteriological preparations.

6. That before secondary operations in infected cases a further dose should be administered by preliminary fractional dose.

## REFERENCES.

<sup>1</sup> *Proc. Roy. Soc. Med.*, Lond., vol. x, pp. 29-110. \* *Presse méd.*, August 29th, 1918.

## ON THE TREATMENT OF PNEUMONIA.

A SERIES OF 67 CASES WITH 2 DEATHS.

BY

D. ELLIOT DICKSON, M.D., F.R.C.S. EDIN.,

MAJOR R.A.M.C. (T.F. RES.).

THE problem of pneumonia for the general practitioner is the same to-day as it has been for many years. It is still the "Captain of the men of Death," and it is one of the few diseases in which advance in knowledge, and therefore in treatment, cannot be made by the general practitioner. Its invasion is too sudden for specific prevention, its symptomatology and clinical manifestations are the most self-evident of all diseases, and its morbid anatomy is well known. The recent bacteriological advances, with the differentiation of four types of pneumococci, are scarcely for the man at the cross-roads. And so, pending the development of a real scientific treatment, probably of the vaccine variety, we are still, as of yore, dependent on what is truly, and perhaps medico-humorously, named "expectant" treatment. This gives great play to individual fancy, and hence we find recorded an almost infinite variety of remedies in pneumonia. In spite of all, the mortality to-day is, speaking generally, the same as it has always been in the past.

Yet it seems to me that there is one principle in the treatment of pneumonia which is not appreciated to the full, and on which enough stress is not laid in the textbooks, and that is the enormous importance of rest. One of the chief dangers in pneumonia is cardiac failure, and I have never forgotten seeing, while an undergraduate, a patient with pneumonia sat up in bed for examination, and laid back dead. That was an extreme illustration of the failure to carry out the principle of rest, and it is also evidence for the second great principle in the treatment, which is laid down more fully in textbooks—"to support the circulation."

While in charge of medical wards at a general hospital in France for twelve months, I had under my care sixty-seven cases of acute lobar pneumonia. Of these only two died, a mortality of 3 per cent. The mortality in the hospital area for the same period, including my cases, was 12.25 per cent. My cases were not, of course, selected in any way, most being admitted as local sick.

They were all treated on the same principles, with variations and additions as necessity arose. I first heard these principles laid down by Professor Greenfield, Professor of Pathology in Edinburgh University, ten years ago, and I have adopted them ever since. There are two essential parts of the treatment.

1. After the diagnosis has been definitely made, the patient is kept *absolutely at rest*; especially is he not allowed to sit up on any account or for any purpose, nor even to turn himself in bed without assistance. I make no further physical examination of the chest until after



the crisis, unless some special indication calls for it. The value of absolute rest cannot be over-estimated; time and again I have seen cases where it was apparently obvious that even one unnecessary movement during the course of the illness would have turned the scale between life and death in favour of the fatal issue.

2. And this is the novel part—all cases are given tincture of strophanthus from the time the diagnosis is made in sufficient doses to keep the pulse satisfactory so far as that is possible. It is given from the very beginning of the illness, and is prophylactic rather than curative. One should not wait until there are signs of heart failure. The idea is to get the active agent of the strophanthus into action before the pneumotoxin; there is little use, as Sir James Mackenzie says, in giving cardiac stimulants when the heart muscle is in the grip of another poison, and it seems to me that it is a question of "getting there first" with the helpful drug, rather than leave a clear field for the hurtful toxin. The cardiac muscle is stimulated so that it responds to a feeble call from the vasomotor centres, while, as the strophanthus has no effect on non-striated muscle, the blood pressure is not at the same time raised.

The exact dose of strophanthus varies with individual reactions to the pneumotoxin. I begin with a full dose,  $m\ v$  of the new *B.P.* tincture, every four hours; if the frequency of the pulse increases to 120 per minute, or over, I give the same dose every two hours, and even hourly if necessary. One of my cases, with a migratory pneumonia, in whom the crisis did not occur until the sixteenth day, had a full dose every two hours for three and a half days, and a full dose hourly for other three days during that time; he swallowed altogether almost 2 oz. of the tincture, and ultimately made a complete recovery. Tincture of capsicum,  $m\ ij$ , is combined with each dose, to guard against any possible digestive disturbance, although I have never experienced any such; nor have I ever seen any sign of toxic effects of the drug. Alcohol I rarely use, and then only as an explosive stimulant—that is, in small quantities, neat, and repeated at short intervals.

Strychnine, I think, is positively harmful, and I gave instructions that on no account was it ever to be given. Heroin, grain  $\frac{1}{2}$ , hypodermically was freely used if the cough was very troublesome, and also to procure sleep, which, of course, is absolutely necessary. I used cold sponging if the temperature rose to over  $104^{\circ}$ .

It is essential, if this method is to be given a fair trial, that the strophanthus should be of good quality. I am well aware that it is rarely used outside the Edinburgh school, where it was first introduced by Sir Thomas Fraser, and the explanation is that the old *B.P.* (1898) tincture was most inefficient. The new *B.P.* is more explicit in the directions as to its pharmacy, and it is now much more reliable, as are also the standardized preparations made by various manufacturing chemists.

Strophanthin is very diffusible and is not cumulative, and so can be administered over a long period without toxic effects being produced. One important point in prescribing is to remember that the active principle readily undergoes decomposition when the tincture is diluted with water; so it should be prescribed as the tincture alone or with other alcoholic preparations, and not made up with water in bulk.

Clinically there was nothing particularly out of the common in my cases. The more important of the notes I have made are as follows: Seven were over 40 years of age (the oldest was 46); in two the whole of one lung was involved. In three the pneumonia was double; in six it was definitely apical; hiccup was very severe in one case, and was only controlled by morphine. Four cases had severe earache, one being actually admitted as a mastoid case; two had arthritis, one being admitted as acute rheumatism; one case followed acute alcoholic poisoning; three had pleural effusions, two of them very slight, and all sterile. One had "green oyster" sputum, the pneumonic type of purulent bronchitis, the sputum showing large numbers of a Gram-negative diplo-bacillus. One had haemorrhagic sputum all through the course of his illness. In only two cases was the "epaulette pain," significant of involvement of the diaphragm, present. Seven cases terminated by lysis. Of the two fatal cases, one was admitted on the fifth day of his illness with the whole of the right lung solid, and died on the twelfth day. *Post mortem* the lung was completely hepatized, and

weighed 7 lb. 1 oz. The other was intensely jaundiced during most of the illness, the colour resembling the jaundice occasionally seen in cases of anaerobic infections.

I am much indebted to Major-General Sir John Rose Bradford, our consulting physician, for his interest in many of these cases and for his stimulating and helpful advice on many occasions; also to Colonel H. E. Croo, A.M.S., O.C. of the hospital, for the ever-ready way in which he granted any facilities which made for the benefit of the patients.

It is also my privilege to pay the highest compliments to the nursing staff who carried out my instructions so perfectly and performed their own, and possibly more important, part of the treatment in such a manner as to lead to the result that so many of the cases were able to "acquire brightness."

## LOBAR PNEUMONIA COMPLICATED BY PLEURISY TREATED WITH POLY- VALENT SERUM.

By A. COWAN GUTHRIE, M.B. EDIN.,

LONDON.

THE object with which the following case is described is to contrast the findings in it with the contentions laid down by Rufus Cole in his most interesting article on the neutralization of antipneumonia immune bodies by infected exudates and serums.<sup>1</sup> After a review of the literature of the subject, he states that sterile filtered inflammatory exudates have long been known to modify the course of infection. Bail thought that the hypothetical substances existing in these fluids, designated by him aggressins, were secreted by the bacilli during their growth in the animal body, and acted by inhibiting or by neutralizing the defensive mechanisms of the body. Wassermann and Citron, who have opposed Bail's view, believe that his aggressins merely represent bacterial substances which may go into solution either within the body or during autolysis *in vitro*, and that they act by fixing the humoral immune bodies, so rendering them ineffective.

Cole's first observations were made on the fluid removed from the chests of persons suffering from empyema. Tests of the patient's blood showed that it possessed well marked protective and agglutinative properties. The empyema fluid possessed no such powers; it was tested after the removal of bacteria to determine whether or not there might be present soluble substances which would fix or divert immune substances contained in immune serum. One experiment showed the inhibiting action of empyema fluid on the agglutination of pneumococci by immune serum, and another the inhibiting action of empyema fluid on the protection of mice by immune serum. A series of further experiments gave similar results. Cole considers it probable that as soon as bacteria begin to grow in tissue spaces these inhibiting substances appear in the inflammatory exudate, and that when the fluid is not readily absorbed the substances accumulate in large amounts; so that, finally, as in empyema, it is practically impossible to produce a focal immunity reaction until the focus is opened up, and the fluid, with its contents of neutralizing substances, removed by drainage, when the bacteria remaining are no longer protected from the natural or artificial defensive mechanisms of the body, and so may be overcome. It is with regard to the conclusion found in the last sentence I wish now to give the history of my own case.

Some years ago I was called to see a child, aged 5 years, suffering from lobar pneumonia. Patches of consolidation were found at base of the right lung; the pulse was 150, the temperature  $104^{\circ}$ , and the child was unconscious. The swab from the throat teemed with pneumococci; the child was in a state of pneumococcaemia. An injection of 10 c.cm. "Pne" polyvalent antipneumococcal serum was given. The following day the child had regained consciousness, temperature and pulse had improved, and it seemed altogether better; two days later the patient became worse, and a second 10 c.cm. of serum was injected subcutaneously. There was now extensive dullness over the right lung posteriorly. After the serum injection the patient again improved; the temperature and pulse kept down, but the dullness increased, and the liver was markedly



displaced downwards. On aspiration a pint and a half of sero-purulent fluid was removed from the chest: this shown on microscopical examination pneumococci in pure culture. As this fluid rapidly accumulated again it was found necessary, under local anaesthesia, to remove it more thoroughly than by aspiration. Through the opening formed by the aspirating needle a probe was passed, and then Sir St. Clair Thomson's needle tonsil forceps were introduced, which, when opened, allowed a sero-purulent fluid to pass away very freely. The opening was enlarged by the little finger, and lastly two drainage tubes were passed in. These drained the chest satisfactorily. The child was carried out into the fresh air the following day and went on to complete recovery.

What I wish to point out is the marked effect for good of the serum injections. The fluid in the pleura accumulated after the pneumonia appeared to be subdued, but notwithstanding the undoubted presence of soluble poisonous substances in the blood the antipneumococcal serum was effective. Lastly, it was not necessary to verify the type of pneumococci according to the method of Dachez and Amery, and use large quantities of this specific and modified serum intravenously. The serum was effective although used subcutaneously. If Cole's contention were correct, serum treatment would be quite useless in the stage of grey hepatization in pneumonia. My experience in many cases is quite the opposite.

REFERENCE.  
 1 *Journ. Exper. Med.*, 1918.

## ABLATION OF THE LABYRINTH IN A CASE WITH MÉNIÈRE'S SYMPTOMS.

BY

COURTENAY YORKE, M.D., L'POOL, M.B., B.S. LOND.,  
 F.R.C.S. ENG.,

HONORARY LARYNGOLOGIST TO THE LIVERPOOL HOSPITAL FOR CONSUMPTION AND DISTASTS OF THE CHEST; HONORARY AURIST AND LARYNGOLOGIST TO THE VICTORIA CENTRAL HOSPITAL, LISCARD, AND TO THE BIRK BEHEAD BOROUGH HOSPITAL, ETC.

In 1861 Ménière published a case of sudden deafness, with severe dizziness and vomiting. The patient died, and at the autopsy a reddish plastic exudate was found filling the semicircular canals and extending into the vestibule.

This was the first case of the kind in which a *post-mortem* examination had been made and a relationship established between an acute disease of the labyrinth and a group of symptoms similar to those caused by an injury of the semicircular canals in animals.

Ever since Ménière's publication it has been customary, in strict nomenclature, to designate by the name of "Ménière's disease" a sudden haemorrhage (?) into the labyrinth, causing the violent onset—sometimes apoplectic in character—of deafness, tinnitus, vertigo, nausea, and vomiting. It is now well known, however, that a combination of symptoms similar to the above may result from other causes than haemorrhage. Vascular disturbances of the labyrinth—hyperaemia or anaemia—which occur in many local and general conditions, cause temporary disturbance of hearing with transient tinnitus, vertigo, nausea, and vomiting. Again, in infective processes in the inner ear, these symptoms occur in a severe form, while in chronic middle-ear catarrh, otosclerosis and syphilitic disease of the labyrinth, Ménière attacks are not uncommon.

It must be remembered, also, that the exact pathology of Ménière's symptom-complex is often very uncertain, which is but to be expected when one considers the rarity of the opportunity for a detailed examination of the inner ear in a recent case and the difficulty of the technique involved.

Having regard to these considerations it would thus, both on clinical and pathological grounds, be more scientific and less confusing to discontinue the term "Ménière's disease," but to retain Ménière's name for the symptom-complex, which has its origin in the internal ear, and which is evoked by various states of the organ—namely, by injury, hyperaemia or anaemia, haemorrhage, serous or inflammatory effusion, and by degenerative changes and new growths.

It is of course obvious that, before a definite diagnosis of Ménière's symptom-complex can be made, the cochlear and vestibular functions must be carefully investigated on

both sides, and all other possible causes of similar symptoms eliminated. In cerebellar and other diseases of the nervous system, vertigo, nausea, and vomiting occur, and these are also common in many general disorders, particularly those of renal, cardiac, and gastric origin.

The case to be described was a man, W. E., 51 years old, who has been engaged for many years as a house steward, in which position he has had a quiet, leisurely life. He has always been very temperate in his habits, has never smoked or taken alcohol, and has never had syphilis or any serious disease.

The first symptoms commenced in May, 1913, with an attack of vertigo and sickness. Six weeks later he had a second similar attack, which left him with nausea and giddiness for three days. The attacks now recurred regularly every month or so, coming on suddenly and lasting for several minutes to several hours. The typical attack was ushered in with a "feeling of sea-sickness," which gave sufficient warning to enable him to lie down on the ground. This prodromal stage lasted only a minute or two, and then the attack set in acutely, with intense vertigo, nausea and vomiting, and subjective sensations of the ground rising and objects rotating. During the progress of the attack, which in some cases lasted six hours, he felt quite helpless and was obliged to lie motionless, with the eyes closed, as the slightest movement, or any attempt to look at objects, greatly aggravated the symptoms. Following the attack a state of prostration ensued, and a sick, dizzy feeling continued, often lasting for several days. In August, 1914, whilst blowing the nose, he became suddenly deaf in the left ear, with the onset of loud tinnitus. He states that, previous to this, he had observed nothing abnormal with the hearing. The deafness on the left side soon became almost complete and the Ménière attacks now steadily increased in frequency and severity.

The general health consequently became impaired. He lost weight and was reduced to a depressed and neurasthenic condition, which entirely unfitted him for any kind of work and made life almost unbearable. In February, 1917, he had two attacks of unconsciousness, which lasted, on the first occasion one hour, and on the second occasion two hours.

I first saw the patient on March 7th, 1917, when I made the following record of his hearing on the two sides.

**Left Ear.**—Almost completely deaf to air conduction, only just hearing the loud voice close up to the ear. Bone conduction markedly reduced (20 seconds). Rinne negative. Weber to the right. Drum normal.

**Right Ear.**—Slight deafness to air conduction. Bone conduction slightly reduced (5 seconds). Rinne positive. Drum normal.

On testing the vestibular functions by means of the caloric test, it was found that both labyrinths gave normal reactions, the left, however, being somewhat more sensitive than the right. The nose and throat were healthy, and there were no signs of catarrhal changes in the tympana. There was no spontaneous nystagmus and no Romberg's sign.

A review of the case showed it to be one of bilateral labyrinth disease, very considerably more advanced, however, on the left side than the right. The Ménière paroxysms were, no doubt, occasioned by slight vascular or mechanical stimuli acting on a vestibular end-organ rendered morbidly sensitive by chronic inflammatory or degenerative changes.

When considering the expediency of an operation to destroy the labyrinth the important question arose as to which ear was the real source of the Ménière attacks. It was of course impossible, apart from operation, to determine this with certainty, but it was felt that there was sufficient presumptive evidence in favour of the left side to warrant one assuming that it was the side which gave origin to the Ménière attacks. Every other consideration favoured operation, namely:

1. The hearing on the left side was, for all practical purposes, lost, and therefore could not be made any worse by operation.

2. The vestibular function on the left side was still active.

3. There was no infective disease in the ear and therefore no special risk of sepsis in operating.

4. The symptoms were steadily becoming worse and the patient's life was becoming intolerable.

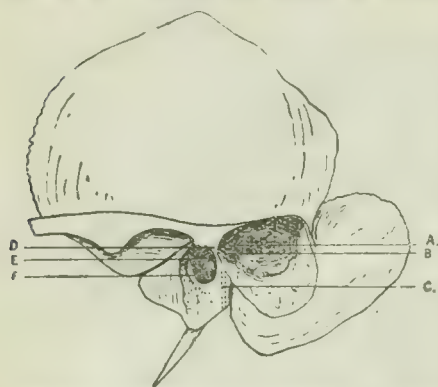
On April 13th, 1917, the operation was performed, with the assistance of my partner, Dr. J. E. McDougall, and the labyrinth on the left side completely destroyed.

Chloroform anaesthesia was used throughout to minimize bone haemorrhage, which would have added greatly to the difficulty of the operation. The pinna was turned forward and the antrum opened. The bone cavity was made with a broad base superficially, so as to allow easy access to the deeper parts. The posterior mental wall was partly removed, but not wholly, so that a slender bridge of bone remained as an outer wall to



the aditus. As soon as the antrum was opened a minute plug of gauze was inserted into the aditus to prevent blood or minute fragments of bone entering the tympanum during the subsequent stages of the operation. By proceeding in this way the tympanic cavity was not disturbed, and thus a considerable amount of trauma was avoided, and the risks of sepsis reduced. The prominence of the external semicircular canal was now distinctly seen in the depths of the wound and an opening made into it with a very narrow gouge. This is the most critical step of the operation and should be done slowly, with good

illumination and a dry field. The facial nerve lies immediately below and in front (see drawings), so that the gouge must be very carefully applied in the first stroke of the mallet, as then the prominence of the canal is easily discernible and the landmarks undisturbed. The lumen of the canal is very small—about one-twenty-fifth of an inch—and lies very close to the surface. In order to



*Drawing illustrating the Operation:* A. Arrow passing through aditus; B. Opening in external semicircular canal; C. Facial nerve; D. Bridge forming outer wall of aditus; E. Foramen ovale; F. Foramen rotundum.

make sure of striking it only very small scales of bone should be removed at a time and a strict adhesion to the original starting point observed.

When the canal was entered the opening was enlarged forwards and the conjoined ampullae of the external and superior canals opened up. A sufficient access to the vestibule was thus obtained to allow the introduction of the end of a piece of fine steel wire with which the membranous labyrinth was "pithed."

This method of destroying the labyrinth is, so far as I know, original, and was adopted as the one involving the simplest operative technique and the minimum of trauma. It presented less danger to the facial nerve than the usual superior vestibulotomy, and yet at the same time offered a very certain way of destroying the labyrinthine functions, for, even assuming that minute parts of the membranous labyrinth escaped direct destruction by the end of the wire, it is not to be supposed that such highly specialized sense organs could long survive the replacement of their normal endolymph medium by organizing blood clot.

The operation was concluded by stitching the pinna in position, and a small drainage tube was inserted into the lower end of the wound. The tube was removed in twenty-four hours, and healing occurred by first intention.

Subsequently to the operation the patient exhibited the typical clinical picture which results from traumatic destruction of the labyrinth. Vertigo was severe at first, and was accompanied by subjective sensations of rotation, photophobia, and defective accommodation. Nystagmus was marked to the right side, with a tendency to fall to the left side. He was able to sit up in bed in a week, and in fourteen days could walk about the room with support. The hearing on the left side was entirely absent and the tinnitus was greatly reduced. There was no reaction to the calorific test on the operated side, prolonged syringing with cold water producing no response. As time went on the vertigo and nystagmus steadily diminished, and the sense of balance became restored. Within three months of the operation he was able to do light work, but was obliged to avoid anything causing head congestion, such as stooping or lifting, which produced vertigo.

At the time of writing it is nearly a year and a half since the operation. The patient states that during the whole of this time he has never once vomited, nor had any return whatsoever of the old attacks of dizziness. His balance has so far improved that he can cycle with ease, while the tinnitus in the operated ear is much subdued. It is felt that sufficient time has now elapsed since the operation to justify the view that the patient is permanently cured of the Ménière attacks and that the operation has been entirely successful.

## A CASE OF ACUTE YELLOW ATROPHY.

BY

A. C. ROXBURGH, M.B., B.Ch. CANTAB.,

TEMPORARY SURGEON R.N.

In view of the rarity of this disease in men, apart from those cases in which it follows the intravenous injection of arsenical compounds or trinitrotoluene poisoning, the following case, for permission to publish which I am indebted to Fleet Surgeon P. H. M. Star, R.N., seems worth putting on record:

C. H. S., aged 20, a stoker from a destroyer, was admitted to the Royal Naval Hospital, South Queensferry, on July 26th, 1918. There was no history of syphilis or other serious disease since he joined the service. In the latter part of May, 1918, he began to have pain in the left hypochondrium, which lasted until he came under observation. On June 27th he reported sick, complaining of abdominal pain, of passing very little urine, and of having passed blood in the urine on June 23rd. The urine had a specific gravity of 1030, but contained no albumin and no blood. On June 29th he returned to duty.

On July 2nd he reported sick again and was found to have influenza (which was then prevalent) and was noticed to be jaundiced. The influenza soon subsided but the jaundice remained. On July 9th he had pain in the right hypochondrium with dullness for two inches from the right costal margin towards the umbilicus, and tenderness on pressure over the region of the gall bladder. He vomited on this day, and on July 12th. He had been on full diet, but was now put on a milk diet with sodium bicarbonate, and given a mixture containing sodium salicylate and sodium bicarbonate.

On July 18th the jaundice appeared to be fading and he was allowed up, but on July 20th he was not so well, vomiting again and being more depressed. The sodium salicylate was discontinued and he was given grey powder and an acid mixture containing tincture of nuxvomica.

On July 25th he had an epileptiform seizure and was semi-conscious for some time afterwards. He became drowsy and was sometimes delirious. The jaundice was deepening, he had incontinence of urine, and the bowels were not open. The abdomen was flaccid and not tender.

When admitted to hospital, in the afternoon of July 26th, his temperature was 98.2°, pulse 92, and respirations 17. He was deeply jaundiced, semi-conscious, and though he could be roused he could not be made to speak. The first sound of the heart was short and sharp, but otherwise nothing abnormal was found in heart or lungs. The liver dullness in the nipple line extended only from the sixth to the seventh rib. The abdomen was otherwise natural. There were a few small petechial haemorrhages on the arms.

The urine was acid; sp. gr. 1026. It contained a trace of albumin, a large amount of bile pigment, but no blood or sugar. The deposit contained many cellular and granular tube casts, and some sheaves of needle-like crystals which resembled those of tyrosin. On evaporation unmistakable leucin cones were seen. At 8 p.m. he was still unconscious and could not be roused. The pupils were dilated, equal, and inactive; there was an external squint. He lay on his back making chewing and biting movements with his jaws and uttering at intervals a cry like the "meningeal cry" of children. He resisted attempts to feed him. At 8.30 p.m. lumbar puncture was performed. The fluid was under increased pressure and a test tube full was removed before the normal rate of flow was established. The fluid was clear and straw-coloured; no cells could be found in it. He was much quieter for an hour after the lumbar puncture, breathing regularly and quietly and appearing to be asleep. During the night, however, at intervals, he made gasping motions with the jaws and uttered the same peculiar cry. The pulse-rate varied from 96 to 136, but the volume and tension were quite good.

At noon on July 27th, when the nasal tube was passed, he vomited a few ounces of fluid, nearly black, and containing some red blood. He had been given *mistura alba* at 11 a.m. and at 1 p.m. the bowels were opened for the first time since admission. The stool was small, formed and brownish-grey. There was no smell suggestive of phosphorus poisoning. At 5 p.m. he was still unconscious, sweating profusely, and a good deal of mucus could be heard in the air passages. The temperature and pulse and respiration rates began to rise about this time. At 8 p.m., when the nasal tube was passed, he vomited 2 oz. of brown treacly fluid with a few streaks of blood. Temperature and pulse and respiration rates continued to rise during the night, reaching 103°, 136, and 44 respectively at 5 a.m. on July 28th.

He died at 6.30 a.m. on July 28th, after an illness lasting about nine weeks in all, and about twenty-four days from the onset of jaundice. Treatment had consisted chiefly of rectal salines and nasal feeding.

He passed only about eighteen ounces of urine during the forty hours he was in the hospital. He never vomited except when the nasal tube was passed. It is regretted that a Wassermann reaction was not done nor a blood culture made.

### Post-mortem Examination.

The skin was jaundiced and showed hypostatic post-mortem staining.

Both lungs were congested and oedematous. The right lung



was firmly adherent to the pleura over most of its outer surface; base nearly airless. No evidence of tuberculosis at apices. The heart was normal.

The liver was very small and flabby; weight 2½ oz. Capsule wrinkled; greenish discoloration on part of upper surface. Cut firmly; the cut surface showed scattered areas of orange-yellow colour, and yellow mottling all over. The gall bladder contained about two drachms of thick bile-stained mucus; no stones.

The stomach contained about one ounce of black grumous material like altered blood and a good deal of tenacious mucus. There was an area of submucous petechial haemorrhages on the lesser curvature, but no evidence of corrosion of the mucous membrane.

Intestines: Haemorrhages beneath the peritoneal coat, especially in the pelvic colon. Scattered petechial haemorrhages in mucous membrane. No evidence of corrosion. Contained black semi-fluid material like altered blood. The pancreas appeared normal. One mesenteric gland was calcareous. Spleen somewhat enlarged and soft.

Both kidneys were rather large and bile stained, with yellow streaks in cortex and pyramids.

The meninges were bile stained, but the brain appeared normal, with no visible haemorrhages, either on the surface or on section.

#### Microscopical Examination.

Sections of the liver and kidney, kindly made for me by Mr. C. Y. Wang of the laboratory of the Royal College of Physicians of Edinburgh, were sent subsequently to Professor F. W. Andrewes, who made the following remarks upon them:

"The liver shows no sign of pre-existing disease such as cirrhosis or syphilis. The degeneration is very advanced but not quite complete everywhere. The only sign of attempted regeneration I can see is that a few of the surviving liver cells are large and fairly well stained, as if they might have been the starting point for regeneration if the patient had lived. The whole thing is typical of acute atrophy. If the kidney had been stained with Sudan III you would probably have found intense fatty changes. There is a little congestion, but no sign of a true nephritis. The epithelium of the convoluted tubules is in that state of acute toxic degeneration which is usually seen in acute yellow atrophy of the liver."

Miller and Hayes<sup>1</sup> have reported a case of acute yellow atrophy also associated with influenza, but in a different way.

A girl of 19 who had had a secondary syphilitic rash in November, 1907, had influenza in February, 1908. On April 11th, having completely recovered from influenza, she had slight jaundice which steadily deepened. On April 21st the urine was very dark coloured. On April 22nd she began to have uncontrollable vomiting. On the following day she suddenly became violently delirious, and, in a few minutes, semi-conscious. She never regained consciousness, and died on April 26th after an illness lasting fifteen days.

Before death the temperature, which had been subnormal, rose to 102°. *Post mortem*, the liver weighed only 25 oz. and presented the appearances usual in this disease. The lungs showed recent adhesions at bases and active tuberculosis at apices.

In this case the influenza preceded the jaundice with a clear interval between them of over a month, whereas in mine there were abdominal symptoms for over a month before the onset of the influenza, which appears to have coincided roughly with that of the jaundice. Miller and Hayes refer to three previously recorded cases of acute yellow atrophy after influenza, and in discussing the relation between the two diseases conclude that it is impossible to say with certainty whether the influenza infection furnished the toxin which caused the acute yellow atrophy, or whether it merely acted as a disposing factor, preparing the way for a more virulent poison.

It may be pointed out that the extreme rarity of acute yellow atrophy, and the frequency of influenza, militate strongly against the view that uncomplicated influenza is prone to attack the liver so severely as to cause acute yellow atrophy; there has not been any obvious increase in the number of cases of acute yellow atrophy in connexion with the recent pandemic of influenza.

In favour of the alternative hypothesis that influenza opens the door to more virulent infections which may cause acute yellow atrophy, it may be pointed out that during the recent pandemic there were numerous cases of secondary streptococcal infection, especially empyema. It is possible, though in the absence of a blood culture there is no proof, that a secondary streptococcal, or mixed, infection occurred in my case.

#### REFERENCE.

*Journal of Pathology and Bacteriology* vol. xiii 1908-9, p. 53.

## THE CURATIVE EFFECTS OF KHARSIVAN AND NEO-KHARSIVAN IN DISEASES OTHER THAN SYPHILIS.

By G. STOPFORD-TAYLOR, M.D.,

LIVERPOOL.

THE wonderful improvement seen in the general health of those who have had a course of salvarsan or its compounds for syphilis being an established fact, I was led to use the remedy in other intractable and chronic disorders of the skin, such as lupus, sycosis, and constitutional eczema.

#### CASE I.—Tuberculous Skin Ulcers.

A commercial traveller, aged 52, suffering from tuberculous ulcers of the right arm, stated that he had always been healthy, and gave no history of tuberculosis in himself or any member of the family, nor of syphilis.

Twelve months later inflammatory growths, eight in all, circular in outline and raised from the surface, appeared on the right forearm gradually in the course of six months. They ended as irregular ragged ulcers which proved intractable to all methods of treatment.

On June 1st, 1918, the patient first applied at the Liverpool Skin Hospital. The ulcers had then assumed a chronic tuberculous appearance; they were of a violet hue, and granular in character, varying in size and having a tendency to spread.

Kromayer's lamp and x rays were employed on July 2nd. Immediate improvement was noticed as the result of the reaction set up by the lamp.

In addition injections of neo-kharsivan were commenced on August 6th. After five weekly injections the improvement was nothing short of marvellous. The ulcers were healed; their sites presented an uneven appearance, with the characteristic tags seen in the healing of tuberculous scars.

The patient's arm was still very weak on September 6th, but remained sound and was steadily getting stronger.

#### CASE II.—Lupus; Tuberculous Glands.

A lady, over 60 years of age, with a life-long ulcerating lupus of the face and tuberculous glands and elbow, had been under my care at regular intervals for many years. She returned at the end of July for further treatment, when Kromayer's lamp effected some improvement, but the progress was very slow. Three injections of neo-kharsivan were then given and effected a speedy change, the ulcers being almost completely healed when the patient returned home after the third injection.

#### CASE III.—Sycosis.

A soldier came under my care in November, 1917, with severe sycosis of two years' duration. He had had much treatment without success; I transferred him to my hospital as an in-patient on April 27th, 1918. There he improved somewhat with x-ray treatment and other measures, but then relapsed, as these cases usually do. At my suggestion my colleague administered two doses of kharsivan and two of neo-kharsivan at fortnightly intervals. The patient improved to such an extent after the first dose that we continued the treatment; at its termination he was quite well and able to use his razor. He has remained well up to the present—that is, upwards of six weeks.

#### CASE IV.—Eczema and Blepharitis.

A woman, aged 35, with recurring eczema of the scalp from childhood and blepharitis since measles, presented such a weakly appearance that neo-kharsivan was given, since the reaction after this is not usually so severe as after kharsivan. Six weekly injections produced a complete cure of the disease and considerable increase of weight and good looks.

These cases were chosen haphazard from the outdoor department of the Liverpool Skin Hospital, and the improvement was as marvellous as that in typical syphilides, although no venereal taint was evident or suspected.

It is apparent that the medical properties of kharsivan and neo-kharsivan are not confined to its effect upon the spirochaetes, and for this reason we are continuing our experiments with this drug in dermatology.

I am much indebted to my colleague, Dr. Arkle, for his valuable assistance in giving the injections to these patients and therefore enabling me effectively to carry out this line of treatment.

THE work of the Italian Committee for the promotion of social hygiene after the war, over which Professor Durante of Rome presides, is divided among three groups. One is concerned with social prophylaxis against tuberculosis, malaria, syphilis, and various neuroses; a second with the sanitary and physical education of the people, and the hygiene of workers; the third deals with problems of a strictly hygienico-economic nature and of infancy, and with social assistance, especially in connexion with hospitals.



## ADENOMA OF SMALL INTESTINE IN AN INFANT, WITH RESULTING VOLVULUS.

BY  
J. S. MANSON, M.D.,  
WARRINGTON.

The condition encountered in the following case seems a rare addition to the intestinal troubles of infancy.

On July 4th, 1918, during the height of the influenza epidemic, a female infant, aged 8 months, was brought to me with a history of vomiting on the previous day. The bowels had not acted, and the temperature was raised. A simple laxative mixture was given. On July 8th the child was visited at home. The bowels had not acted; the mother had given castor oil, and vomiting had recurred. Next day a simple enema was given, with no result. Milk and water were retained with difficulty, and there was great restlessness at night, but no rise of temperature and no abnormal signs in the lungs.

On July 11th a napkin was shown containing a small quantity of dark coagulated blood and some inspissated mucus. This was the result of a second enema given on the previous evening. A fairly firm mass was felt in the right lumbar and umbilical regions, while towards the left side, at the same level, two undulations which might result from a rigid spasm of the small intestine could be seen. A diagnosis of intestinal obstruction, possibly due to intussusception, was made, and the child was admitted to the Warrington Infirmary.

Mr. E. E. Bowden operated two hours later. On opening the abdomen by a median incision above the umbilicus, an empty plum coloured loop of intestine twisted to half a turn, and covered by adherent lymph, presented itself. The twist was undone, and a small hard tumour was felt at the commencement of what was apparently the proximal part of the loop. As this mass was firmly attached to the intestinal wall, it was clear that it was not a foreign body. The infant being now in rather a collapsed condition, it was decided to return the bowel and close the abdomen. The patient died during the night.

The bowel was examined *post mortem* through the operation wound, and it was found that the volvulus had occurred about four feet from the ileo-caecal valve. The bowel was opened and the tumour found to be cylindrical in shape,  $\frac{1}{2}$  in. in its minor axis and projecting  $\frac{1}{2}$  in. into the lumen of the bowel. Its base could be made out very distinctly on the peritoneal surface of the intestine. Proximally from the growth for about a foot the bowel wall was hypertrophied and the lumen narrowed. The growth was examined by Professor Delépine, who reported that it was an adenomatous polypus.

The difficulty of diagnosis between this condition and other forms of intestinal obstruction is obvious. In doubtful cases the passage of a small quantity of dark coagulated blood and inspissated mucus will serve to distinguish it from intussusception, where there is fluid, mucus, and bright blood. The question also arises whether the small growth in itself was sufficient to cause obstruction to the onward flow of the intestinal contents. The hypertrophy of the intestinal wall proximal to the growth shows that this was so, and that the volvulus probably arose from a violent peristaltic wave induced by an effort to overcome the obstruction. My thanks are due to Mr. E. E. Bowden for the details of the operation and for kindly looking over this report.

## THE WORK OF A VENEREAL DISEASE CLINIC.

THE FIRST FIVE HUNDRED MALES.

BY  
OWEN L. RHYS, M.D.,  
MEDICAL OFFICER TO THE CARDIFF CLINIC.

The following details of the first five hundred male patients treated at the Cardiff clinic at King Edward VII Hospital may be of interest for purposes of comparison with those of similar institutions.

Of the 500 cases there were 328 of syphilis, 174 of gonorrhoea, and 25 of soft sores. The excess figure is explained by the fact that 27 cases suffered from more than one of these diseases.

As regards the sources of infection, it was prostitutes in 279, amateurs in 183, and in 38 it was of doubtful origin. Of the "doubtful" cases many denied any known cause, many blamed their wives, and two men's infections had occurred years before, one by a bite on the hand during a fight and one the result of a criminal offence. Two patients were deaf and dumb, three were blind. The ages varied from a boy of 11 with a primary genital sore to a man of

81 with a week old gonorrhoea. The class of the patients attending was, with a few exceptions, entirely mining or artisan. It was noted that a greater percentage of colliers was infected by prostitutes than by amateurs, the explanation being, I think, that the collier is generally infected away from his own village, and that the professional prostitute, knowing the high wages he earns, is on the lookout for him.

The earlier cases were largely of a chronic kind, but during the last few months a greater percentage of recent infections has come under treatment. Salvarsan substitutes have been used entirely intravenously, the drugs employed being nov-arsenobillon (in the vast majority), galyl, and neo-kharsivan.

The only ill effects noticed have been mild dermatitis in some three or four cases, and one extraordinarily severe case of exfoliative dermatitis after the second dose of the second series of injections. This occurred at an interval of three months after the first six injections. In this man exfoliation was general from forehead to feet, and he was a month in recovering.

The purpose of the clinic—namely, to treat cases—is only a part of the object of the Local Government Board, which is to treat and to prevent; and the latter is the more difficult and the more important part. Were all infections caused by prostitutes the task would be simple, but how can the non-professional infections woman be dealt with? By "prostitute" in this note is meant a woman who receives a money payment, but many so-called amateurs allow complete strangers to go with them. One patient said that a young woman infected him with syphilis the first evening he met her, and he was aware of four other men infected by this same person. Another case while under treatment for syphilis went with a prostitute, who gave him gonorrhoea. Altogether seven of the 500 cases have been reinfected while not completely cured, and this in spite of verbal and printed warnings. No amount of lecturing, either by scientists or religious bodies, has any bearing on such cases. To the average man there are two causes of anxiety when he goes with a woman—namely, the fear of impregnating the female and the fear of infection. He is suspicious of the prostitute but not of the girl he casually picks up. He will sometimes take precautions in the former case, but in the latter he has no anxiety. In a divisional hospital for venereal disease, of which I had charge for five months, only two cases were infected by prostitutes. Again, in two brigades in the Eastern Command every unit adopted the measures suggested—namely, a mildly antiseptic irrigation apparatus and an antiseptic ointment. They were never used. The brigadier was surprised at this, but no medical officer was. It is surely an axiom that no man will go with a woman who he suspects may be infected. Consequently the infected amateur often infects a number of men before she is aware of her complaint.

I submit that the only rational way of preventing the spread of venereal disease is to make the wilful communicator a felon. The law punishes the man or woman who inflicts bodily harm, and it should treat any communicator of these diseases in the same way. There is a very small number of men who do not know they have such a disease, and possibly a larger number of women, but the vast majority knowingly inflict their disorder on the opposite sex.

THE members of the medical and pharmaceutical profession who have seats in the Spanish Chamber of Deputies have formed themselves into a group to deal with questions affecting public health and their special interests. The chairman is Dr. F. Rodriguez, the secretary Dr. Villalobos. The medical members of the Spanish Senate have formed a committee consisting of Drs. Cortezo, Gimeno, and Angel Pulido to co-operate with the group of deputies.

THE Paris Society of Biology has instituted a series of monthly meetings to be devoted to the discussion, in common with men of science of allied countries, of questions connected with the war. At the first meeting a report on anaesthesia of wounded men in a state of shock was presented by Major Cannon of the American army. The second meeting, to be held in November, will deal with the conditions of infection in armies; the third, in December, with antiseptics. The president of the society is Professor Charles Richet, and the general secretary Dr. Aug. Petit, 7, rue de l'École de Médecine, Paris.



## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

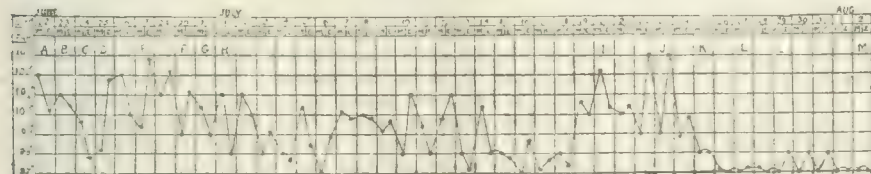
#### CEREBRO-SPINAL MENINGITIS TREATED WITH AUTOGENOUS VACCINE.

GEORGE L., aged 16, was admitted into Hitchin Rural District Isolation Hospital on June 22nd. He had been ill for one day, and on admission was very ill with delirium, severe pain and tenderness in the neck and head, retraction and rigidity of the neck.

During this and the following nine days lumbar puncture was performed six times, cerebro spinal fluid drawn off, and serum injected. Urotropin was also given by the mouth. A pure culture of the meningococcus was obtained from the fluid. After a time he began to have haematuria and the urotropin was stopped.

For seventeen days after this the patient improved. Then his condition got worse and the temperature went up. Lumbar puncture was performed again, and more serum injected, but no marked improvement took place.

An autogenous vaccine was then kindly prepared for me by Captain Allan of the Lister Institute. As the patient's



A. Lumbar puncture, no fluid; 10 p.m., morphine gr.  $\frac{1}{2}$ . B. Morphine gr.  $\frac{1}{2}$  at 5 a.m.; in the afternoon, lumbar puncture, 20 c.cm. fluid withdrawn, 10 c.cm. serum injected. C. Morphine gr.  $\frac{1}{2}$  in the morning. D. Lumbar puncture, 30 c.cm. fluid withdrawn, 15 c.cm. serum injected. E. Lumbar puncture, 40 c.cm. fluid withdrawn, 15 c.cm. serum injected. F. Lumbar puncture, 20 c.cm. fluid withdrawn. G. Strychnine gr.  $\frac{1}{2}$  at 2 a.m. H. Lumbar puncture, 40 c.cm. fluid withdrawn, 15 c.cm. serum injected; perspiring. I. Lumbar puncture, 10 c.cm. fluid withdrawn, 10 c.cm. serum injected. J, K, Vaccine, 50 million. L, Vaccine, 100 million. M, Vaccine, 50 million.

condition was rapidly getting worse,  $\frac{1}{2}$  c.cm. of the vaccine containing 50 million was injected. This was followed by four other doses as shown by the chart.

After the second dose the patient made an uninterrupted recovery and was discharged quite well after ten weeks in hospital.

Those who watched this case had no doubt that the vaccine turned the scale.

Letchworth.

NORMAN MACFADYEN, M.B., D.P.H.

#### TREATMENT OF ANKYLOSIS OF THE ELBOW-JOINT.

SIR ROBERT JONES, in his book on *Injuries to Joints* (pages 100 and 101), lays down, I think, a rather too hard and fast line of treatment to be adopted in cases of injury to the elbow-joint, when ankylosis is likely to result—namely, that the angle of flexion of the forearm should be a little more than a right angle, say 100 degrees, and that the hand be supinated so that the palm faces upwards—that is, complete supination.

The angle of flexion will be generally accepted, but complete or nearly complete supination of the hand is, I contend, inadvisable in many cases in times of peace, and in a much larger proportion of cases in war time, when multiple injuries to joints and wounds necessitating multiple amputations are common. The question of supination or pronation, or rather the amount of supination or pronation, which should be aimed at becomes a question of much complexity and importance, and each case must be treated on its merits. The following case is a good example:

A. B. was very seriously wounded, and after about two years of unremitting care by the surgical and nursing staff he unexpectedly recovered, but with the loss of his right leg at the hip-joint, with bony ankylosis of his right elbow-joint, and the loss of his left hand at the wrist. A. B. is legally inclined and is right-handed. Present condition: Forearm flexed to an angle of 115 degrees and the hand is neither supinated nor pronated, the thumb faces directly upwards.

In this position he is able to write as he did before the wound, to reach and take hold of things on a table, to feed himself fairly well, to complete the toilet after the bowels

have acted, to manipulate the mechanism of his leg placed on the outside of the thigh piece. Though he has lost his right leg and left hand he is able to grasp a crutch or stick, bearing the weight on the palm of the hand—an important matter during the early stages of recovery. He cannot do his hair or button his collar.

A. B. and I are agreed that the usefulness of his right hand would have been very seriously curtailed had it been supinated. In writing, about 30 degrees of pronation can be obtained by abducting and carrying the arm forward, with rotation inwards.

Why should any one who is right-handed and whose only disability is ankylosis of the right elbow have to learn to write and to do shorthand with the left hand and at the same time be disabled for typewriting?

Streatham, S.W.

J. F. STEEDMAN, F.R.C.S.Eng.

#### SUCCESSFUL CAESAREAN SECTION FOR ECLAMPSIA.

I was much interested in Dr. E. W. G. Masterman's account of his case of Caesarean section for eclampsia, in the *JOURNAL* of September 28th, and venture to add a similar case to the records of this form of treatment.

On February 24th, 1913, in the early hours of the morning, I was called to a primipara pregnant eight months, said to be suffering from suffocation. On arrival I found her unconscious, and in a continued series of eclamptic fits, with hardly a minute's interval; labour had not begun, and there was no dilatation. I sent the husband for chloroform, which I administered, whilst he returned to the hospital for an ambulance. She was removed to the Carshalton and District Hospital under the anaesthetic, and put at once on the table. My colleagues Dr. Gripper and Dr. Passmore had arrived to assist.

I performed abdominal Caesarean section and delivered a dead baby; after removing the afterbirth and membranes I sewed up in the usual way. As the pelvis was normal, though the woman was very small in stature, I did not remove the tubes. The patient made an uninterrupted recovery, had no more fits, and left the hospital on March 27th, 1913.

I have since attended her in two ordinary confinements. I come to the conclusion that Caesarean section was very suitable treatment for eclampsia, and shall certainly perform it again in similar circumstances. I also think that it is called for in *ante-partum* haemorrhage in the latter months of pregnancy when there is little or no dilatation. I endorse Dr. Masterman's remarks and agree that the operation is quite straightforward, but decidedly consider that it is one of the major abdominal operations.

Wallington, Surrey.

A. Z. C. CRESSY, M.R.C.S., etc.

#### SOME USES OF MENTHOL.

SOME years ago I suggested that the vapour given off from crystals of menthol might be tried instead of various sprays, and would be more convenient, as they could be carried about in the pocket. The crystals should be ground and kept in a tin box in the waistcoat pocket, so as to be ready for use when the nasal respiration becomes difficult and troublesome. All that is required is to wet the fore or little finger so as to get a small quantity of menthol to adhere to it, and then rub the inside of the nostril as far only as the edge of the cartilage. After this a forced nasal expiration should be made so as to get rid of any loose crystals, and in about a minute the air passage will feel quite free. There is little or no reaction as a rule.

Ground menthol is also particularly useful in the treatment of inflamed sebaceous follicles; it should be rubbed in with a damp finger, and the inflammation will subside in from twenty-four to forty-eight hours.

In nasopharyngeal irritation strong peppermint lozenges I found in my own case particularly useful.

Bexhill-on-Sea.

F. P. ATKINSON.



## THE FUTURE OF MEDICINE.

At the first meeting for the session of the Medical Society of London, held on October 14th, Sir ST. CLAIR THOMSON resigned the presidential chair to Major A. F. VOELCKER, R.A.M.C.(T.), who delivered an address in which he said that no man could be satisfied with the position the medical profession now occupied. It had allowed, and was allowing itself to be exploited by almost every branch of social reform. Matters which affected the health and, with it, the morals of the community, should be dealt with primarily by the profession, whilst the means and machinery for carrying out such measures might be left to the politician and social worker. He urged the Fellows of the Society to be prepared to take their part as leaders and not as appendages in the numerous fields of activity concerned with the health and welfare of the community. He hoped that the establishment of a Ministry of Health would ensure co-ordination and prevent overlapping and redundant activities. The Minister should be a man appointed by His Majesty after election by the qualified medical practitioners of the United Kingdom. A Ministry of Health could not ensure health; the personal factor in medicine would ever be the moving power, and every medical practitioner should inculcate the virtues of temperance, patience, charity, and sympathy. A question for the near future was the place of specialism. In a regenerated condition of medicine it might be hoped that specialists would be those who, by their work and ability, had won the confidence of the medical profession, and that the practice of specialists would flow to them through the channel of the practitioner and not through the press or the public. There would always be the need for specialism, but the specialist must follow and not precede the generalist. The increased cost of treatment and maintenance had compelled the managing bodies to realize that some change must take place in the finance of hospitals. The State, through such agencies as the Local Government Board, the county councils, the universities, and the Board of Education, already made financial grants, and if they were not accepted other bodies would be enabled to compete under more favourable financial conditions, and would be able to divert from the hospitals and medical schools the material desired both for scientific and educational as well as for humanitarian interests. It was said that with State control would come remuneration for the time and labour devoted to the treatment of hospital patients and the education of the future medical practitioners, but it was possible to pay too dearly for financial relief. Apart from hospitals, it was urged that under such a system every medical man would be able to rely on securing a living wage, in return for which he should render medical service to the individual and to the community. This would undoubtedly be advantageous, but the object of a State service should not be to secure a definite benefit for the doctor unless a corresponding benefit accrued to the patient or the community. In a regenerated state of the profession there should be a juster arrangement of fees, both in the direction of raising the low fees and in mitigating the high. He trusted that the low scale of fees at present ruling in some practices would not be allowed to continue. The profession of medicine was so eminently human and the services so personal that some felt that it would be an evil day when the State by its medical service undertook the care of the health of the individual. Promotion in a State service, if it became merely a matter of seniority, would cease to be striven for and be merely waited for, and, if made the reward of real or imagined merit, might lead to intrigue and abuse. The strikingly brilliant achievements of our medical services in this war might be explained as being due to the temporary incorporation of civilian practitioners in these previously State-restricted services. In conclusion, he said that the medical profession should see to it that the remuneration of nurses did not remain on the present scale. The salaries paid both by hospitals and in private were miserably inadequate. A woman who took up nursing, after training three or four years, was able to earn a wage which a parlour-maid would scorn.

## ARMY SANITATION IN THE FIELD.

*Field Sanitation*,<sup>1</sup> a book of nearly 200 pages, is an official publication of the Canadian Army Medical Service. Major MACDONALD's career is an illustration of the adaptability of that service. He came overseas early in 1915 on the staff of No. 3 General Hospital, a product of McGill University, of which he is a graduate. He proceeded to the front as sanitary officer, and after two years' service transferred to a stationary hospital, of which he is now second in command. The book has an extremely neat preface, written by Major-General G. L. Foster, Director of Medical Services, and as he has chosen his words with more skill than any hasty reviewer could, no apology need be offered for quoting them:

"This book," General Foster explains, "has arisen out of a series of lectures by Major R. St. J. Macdonald, M.D., Sanitary Officer, Canadian Army Medical Corps, attached to the Third Canadian Division. The lectures were given at the Divisional Sanitary School to officers, non-commissioned officers, and men engaged in sanitary work. The school was held in the field as a matter of routine, and the various appliances, described and depicted, were on exhibit for purposes of illustration. The lectures are printed as they were spoken. They are the outcome of Major Macdonald's three years' service on the Western front from Ypres to the Somme. They retain the flavour of the field and are reproduced in all the simplicity of the crude, but efficient, surroundings in which the school was held. In the absence of books no literary references were possible, even if these had been desirable. With the illustrations, which were drawn by Corporal Sefton of the Sanitary Service, these lectures give a faithful account of the measures which are in daily use—and with so great success—for the prevention of disease in the army. It is the intention that all medical officers shall be supplied with this book for their information and guidance in the discharge of their important duties."

The whole field of sanitation is covered in a syllabus under the following heads: Prevention of disease, water and water supplies, air and food, disposal of waste products, flies and lice, infectious diseases and disinfection, duties of sanitary personnel, sanitary appliances.

The book contains seventy pages of illustration and gives description of all the appliances which are commonly used in the field; these are constructed from such simple materials as are available on the spot. Much ingenuity is exercised in constructing these contrivances, and the book affords an explanation of the almost complete immunity of the troops from disease. One can readily assent to the suggestion of General Foster that the book may be read with profit by officers in other arms of the service.

## POLYNESIAN FOLKLORE.

MEDICINE is the most universal of the professions; the lawyer is limited by his local law, the priest by the canons of the church, and the sailor is but a bird of passage. If a man wishes to dwell in the remoter places of the earth, medicine will give him his chance, and if he be of inquiring mind and sympathetic temperament, and endowed, moreover, with the industry to record his observations and impressions, he may write such a book as *The Lau Islands*.<sup>2</sup> This group of small islands to the east of Fiji and the west of Tonga is inhabited by a race which is Polynesian, or has at least many Polynesian affinities; the author believes that it is to a large extent on the example of the more intellectual and higher type which inhabits the Lau Islands that the future of the native races of Fiji depends. The author is now a Major R.A.M.C., but before the war was a member of the Colonial Civil Service, Fiji, and District Commissioner for Lau for nearly ten years. Major ST. JOHNSTON's book will appeal to the general reader for the mere sake of the stories and for the atmosphere of space and sunlight in which they are steeped. It

<sup>1</sup> *Field Sanitation*. By Major R. St. J. Macdonald, C.A.M.C. London: Henry Frowde, Hodder and Stoughton. 1918. (Cr. 8vo, pp. 194; 60 figures. 6s. net.)

<sup>2</sup> *The Lau Islands (Fiji) and Their Fairy Tales and Folklore*. By T. B. St. Johnston, F.R.G.S., F.Z.S. London: The Times Book Co., Ltd. 1918. (Demy 8vo, pp. 145. 5s. net.)



will appeal also to the ethnologist as a collection of first hand records, and all the more because Sir J. G. Frazer's published studies stop short in Fiji before reaching the Lau Islands. Lauans, like other Polynesians and like the races to the west of them, have the idea of an original home across the sea to which the spirits of the dead may return. The belief probably has a basis of historic fact, remote ancestors of the present Lauans caught at sea by a westerly gale being swept for perilous days and nights before it, and finally cast on shore. There is good evidence that involuntary migrations have occurred in the Pacific in comparatively recent times. The Lauans still believe in magic, though, as professing Christians, they seek to conceal the fact; as happens with the people of neighbouring islands further west, a man who thinks himself bewitched may give himself up as dead and die, such is the force of auto-suggestion. The great merit of Major Johnston's book from both points of view is that he has set down the tales and legends as told to him by the people among whom he lived and worked. The volume has several good illustrations from photographs, and two maps. It is well printed.

### NOTES ON BOOKS.

THE publication by Dr. MAY DICKINSON BERRY of a short account of *Austria-Hungary and her Slav Subjects*<sup>3</sup> is opportune. After a brief review of the Austrian empire from 800 to 1900 and of the history of the Slavs in Europe in the Middle Ages, a short account is given of the vicissitudes of the Austro-Hungarian empire in the nineteenth century and of its present constitution, and there is a final chapter which throws much light on the Czech and Southern Slav questions in relation to the settlement which seems to be at hand. As Sir Willoughby Dickinson points out in a short introduction, the problems of self-government and nationality in the Austrian and Balkan States have troubled Europe for more than a century, and unless there is now a settlement of the claims of the nations inhabiting these regions on a satisfactory basis, it will be hopeless to expect a lasting peace. The Southern Slavs, Czechs, Poles, and Rumanians will never willingly form part of the Austrian empire, or of any new empire under Teutonic hegemony. The book itself, short as it is, will help towards an understanding of the problem, and Mrs. Berry provides a short bibliography for those who desire to go into the subject more fully.

*Race Regeneration*<sup>4</sup> is the subject of a popularly written book by Mr. E. J. SMITH, the chairman of the Health Committee of the Bradford Corporation, and the remedial measures are freely illustrated by what has been done in Bradford. In the chapter on a Ministry of Health the passing during the war of an Act to establish it is very strongly opposed, and it is asserted to be "significant that the people who have adopted these rushing tactics represent three sections: First, the great financial corporations who have most to gain; second, those with least experience of the vital issues involved; and third, those with none at all." The contents of the book read like popular lectures, and the author's portrait as a frontispiece is compatible with this impression. Much contained in the book may be useful to medical men who have occasion to deliver such lectures.

<sup>3</sup> *Austria-Hungary and her Slav Subjects*. By F. May Dickinson, M.D. With an Introduction by the Right Hon. Sir Willoughby Dickinson, K.B.E., D.L., M.P. London: George Allen and Unwin, Limited. (Cr. 8vo, pp. 48. 1s.)

<sup>4</sup> *Race Regeneration*. By E. J. Smith, author of *Mathematics and Child Welfare*. London: P. S. King and Son, Limited. 1918. (1p. 22s. 85 figures. 7s. 6d. net.)

### ROYAL MEDICAL BENEVOLENT FUND.

At the meeting of the Committee held on October 8th twenty-one cases were considered, and £206 1s. voted to sixteen of the applicants. The following is a summary of some of the cases relieved:

Widow, aged 57, of M.B.Glas. who practised in South Wales and died in August, 1918. Applicant was left unprotected for at her husband's death; has three children—son 24, and twin daughters aged 22. Rent £30. Voted £5.

Widow, aged 70, of L.R.C.P.Edin. who died in June, 1918. Applicant's husband had been helped by the Fund for the last two years. She is now a confirmed invalid, and her only income is occasional gifts from her two children. Rent £14. Voted £12 in twelve instalments.

Wife, aged 39, of M.R.C.S.Eng. who is now in an asylum. Applicant is suffering from tuberculosis. Has two children,

now aged 17 and 12, living with relations, who also provide for her husband's maintenance. Relieved five times, £67 10s. Voted £12 in six instalments.

Daughter, aged 53, of M.D.Edin. who died in 1886. Applicant is a trained midwife, but, owing to ill-health, is unable to follow that occupation. Friends provide 12s. 6d. a week, but this is insufficient to pay for board and lodging. Relieved five times, £36. Voted £12 in twelve instalments.

Daughter, aged 52, of M.D.Glas. who died in 1897. Applicant used to earn a little as housekeeper, but owing to the severe illness of her invalid mother, aged 73, has had to give up work to attend to her. Relieved four times, £40. Voted £10.

Subscriptions may be sent to the Acting Honorary Treasurer, Dr. Samuel West, at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild is now called upon, as a result of the war, to deal with many widows and children who, in happier times, would not have thought of asking for assistance. It is glad to receive secondhand clothing and household linen. The class of clothes most wanted is that suitable for boys and girls working in offices, for women, and for old men. The gifts should be sent to the secretary of the Guild, 43, Bolsover Street, W.1.

### THE FUTURE OF THE MEDICAL PROFESSION.

BY

PETER MACDONALD, M.D.

AFTER-WAR reconstruction seems likely to involve a reconstruction of medical services, and from the amount of space devoted to the future of the profession in the recent numbers of the various medical journals it looks as if the profession itself expects drastic changes, and is not without misgivings as to their probable nature.

More particularly the profession seems to fear that it may have a "State medical service" forced upon it, and it seems generally to be of opinion that such a development would involve the profession in disaster.

It may, accordingly, be of interest to readers to have the views, so far as they can be given in a short article, of a Labour candidate who is also a doctor; all the more so as there seems to be a widespread, though erroneous, idea that the Labour party is committed to the establishment of a State medical service.

No definition of a "State medical service" has been authoritatively laid down, and the term may have varying significance as employed by various users, but for the purposes of this article it will be taken to mean, among other things, (1) that under it medical men are employed for either whole time or part time to give services for a salary; (2) that the employer is the State or one or more of the local authorities.

It is assumed for the purposes of this article that some reconstruction in the more or less near future is certain. If this is granted, then a constructive policy in medical politics—not on a niggardly but on a grand scale—is a necessity of first-rate importance to the medical profession.

Either a *non pressamus* attitude or the attitude of a Gallio will, if taken up by the profession generally, result in disaster to it and incidentally to the community, for no reconstruction in medicine which is not directed from within can turn out satisfactorily to the profession; and any scheme of medical reconstruction which is not satisfactory to the profession will in the end be much more unsatisfactory to the community.

What, then, should be the profession's constructive policy? In formulating this it were well shortly to consider the basis, or bases, on which the profession renders service to the community at present, and these services can be classified under four heads according as they are rendered under conditions of—

1. Salaried service, whole time or part time—for example, public health appointments, tuberculosis appointments, school medical appointments, etc. (military medical services are not under consideration). These are conditions of "State medical service."

2. Part time contract service—for example, national health insurance work.

3. Voluntary service—for example, work done at charitable hospitals.

4. Individual service—for example, private practice. This can be divided into two heads, according as it deals with (a) general work, (b) consultant and specialist work.



Within the memory of most of us by far the most important form of service was that rendered under head 4, but it has gradually and continuously been losing ground to classes 1 and 2; while that form of service given under head 3 supplied services which the poorer patients were unable to afford from those who rendered individual service; now this same voluntary service is the only thing which prevents the breakdown of national health insurance work, inasmuch as it provides some of the most important of the medical services rendered to insured persons, and for which there is absolutely no provision made in the National Insurance Acts.

I would have liked to emphasize the importance of these voluntary services, or quasi voluntary services, given by the medical profession and received by the bulk of the community as a charity, but space does not permit me to say more than that I regard charity in medicine as an anachronism, and that the time for it is passing, if not past.

What, then, is to be the constructive policy of the medical profession? A return to the days of "private practice" all round is unthinkable, and two alternatives, and only two, are left:

### 1. A State Medical Service.

The first alternative is the establishment of a "State medical service" for all forms of medical service. Whilst the services classified under head 1 will and ought to be greatly increased, I am of opinion that, so far as general medicine is concerned, a State medical service would mean disaster to medicine and consequently disaster to the community.

Space does not permit the giving of all reasons for this opinion, but one may be touched upon:

The well-to-do would have none of the State service but would continue to employ the private practitioner and pay him by fee, and it would be impossible to prevent their doing so. An England that could dream of preventing this is unthinkable.

What then would be the result of the establishment of a State medical service? The result would be the prompt dichotomy of the medical profession into the doctor of the rich and the doctor of the poor. But this would not be the end. One service would soon come to be regarded as better than the other, with the result that it would necessarily and inevitably become better than the other. Which would become so better? The question needs no answer. A State medical service would inevitably result in two services, a better for the rich and a worse for the poor, a condition of things which no medical politician could regard with equanimity.

The solution of the problem of medical reconstruction, so far as it consists in a State service for the general practitioner, must accordingly be rejected, although I am of opinion that the solution of the supply of consultant and specialist services may best be arrived at by making them salaried services in connexion with a scheme of hospital reform, and so far as possible part time salaried services, so that the same persons may give services to rich and poor—as indeed they do now. But the services to the poor are now gratuitous, or quasi-gratuitous, and the payment for both is extracted from the well-to-do.

### 2. A National Medical Service.

The second alternative, and the one I favour, is the extension and improvement of the contract service now rendered under the National Insurance Acts.

Although received at their inception with great hostility, the medical work done under these Acts is now, apart from administrative difficulties, fairly acceptable to the medical profession, and is fairly satisfactory to the community. But if it is to be made the foundation on which a National Medical Service is to be built, many and great improvements must be made.

Space again does not permit of enlarging on these, but three minor remedies and one major remedy for defects may be indicated:

1. The present bureaucratic and irresponsible control of Commissioners must disappear.

2. If the profession is to make "free choice of doctor" its battle-cry, provision must be made that the choice shall be effectively free.

3. If the bulk of the community, including women and children, are to be included in provisions such as those of the Insurance Acts, the capitation fee must be adequate to

allow of a reasonable income for the doctor, with yet enough free time for health, recreation, and study—that is to say, the terms must be good enough to attract a sufficient number of the right men into the profession.

4. If the National Insurance Acts are to provide the medical services needed by the community their great defect must be entirely eliminated. This chief defect is their failure to provide (a) institutional treatment, (b) consultant and specialist services for those for whom they are supposed to provide—at present insured persons, in time to come the bulk of the community. Can this defect be remedied, and how?

It can, by provision of hospitals sufficient in number and size to afford room for all the institutional treatment needed by the community, at which consultant and specialist services could be given to all in need of them. From these hospitals all vestige of charity should be eliminated. The people should secure treatment there as a right as citizens, not as a charity as paupers. The medical man should receive salary for his work there.

These hospitals must not become the close preserve of the consultant, but, with safeguards as to the efficiency of the work done, should be open or easy of access to all medical men in their neighbourhood. In my opinion the establishment of such a hospital system, in connexion with an adequate "panel system," would inaugurate a new era in medicine in this country.

Apart from the possibility of treating under satisfactory conditions the working classes who form the bulk of the community, it would improve medical service beyond recognition. It would promote co-operation between doctors and further that feeling of solidarity between them which war conditions have already engendered. It would attract a good class of man into the medical profession, as it would afford him prospects of a career. Now, when a medical man takes up a practice of his own he is isolated and his further progress in medicine depends on his own individual observation and what knowledge he acquires from medical journals. This progress cannot compare with that possible in connexion with work at a hospital, where he comes into close contact with his fellow practitioners, learns and teaches new methods, and, as a consequence, remains a student throughout life.

Such a use of hospitals would introduce into medicine most of the advantages supposed in some quarters to lie in a State medical service, and at the same time leave the freedom of individual practice so prized by members of the medical profession. The hospitals could collect round them most of the varied services given by various authorities and agencies. The tuberculosis officer might do his work at them; school clinic work, venereal work, maternity and child welfare work could be done either at the hospital or in close relation with it, and a large degree of co-ordination of the work of various agencies dealing with health could thus be locally arrived at.

Such, then, is a rough sketch of my views on medical politics.

But when all is said, the important thing is not my views, or those of Sir Bertrand Dawson, or of Sir George Newman, or of Dr. Brackenbury, or of any other person. The important thing in the development of medicine is to ascertain the views of the profession. Accordingly I regard as of the first importance the establishment of advisory committees to the Government and local authorities, as advocated by Dr. Brackenbury, and, with still more weight, by Mr. Sidney Webb, which shall be free to express their opinion untrammelled by any authority.

But if such committees are to be of value they must express the opinions, not of presidents of royal colleges only, or of professors of medicine only, or of Local Government Board officials only, or of fashionable consultants only. The opinions of all these people are of value and must have due weight, but they are unimportant as compared with the opinions of the backbone of the profession—the general medical practitioner, who does the spade work.

If views such as those given above, or if any other reasonable views on medical politics, having first regard to the needs of the community, commend themselves to the medical profession, there is no doubt that their acceptance by any or every political party could be secured. But there is one proviso, and it is a big one. This proviso is that the present apathy of the profession towards medical politics shall disappear.



## THE PROPOSED MINISTRY OF HEALTH.

## MEETING OF THE MEDICAL PROFESSION OF THE HOME COUNTIES.

A MEETING of the medical profession of the Home Counties, called together by the Metropolitan Counties Branch of the British Medical Association, was held in the Topiary Hall, Tottenham Court Road, on October 15th, to consider the proposed Ministry of Health in its relation to the health of the people and the future of the medical profession. The chair was taken by Dr. M. G. BIGGS, President of the Branch, who was supported on the platform by Major-General Sir Bertrand Dawson, G.C.V.O., Dr. H. B. BRACKENBURY, Major McAdam Eccles, Mr. E. B. TANNER, and Mr. N. Bishop Harman. Between 200 and 300 were present.

The following resolutions were taken as a basis for discussion, and the CHAIRMAN intimated that they would be put at a given moment, and that no amendments could be accepted:

1. That this meeting is in favour of the setting up under proper conditions of a Ministry of Health as an introduction to a constructive health policy which shall be adequate to the national needs.
2. That it is essential that the Ministry of Health should have a Medical Advisory Council as part of the permanent organization of the Ministry. To be a reality, such council must meet frequently, be empowered to seek information from the heads of departments, have direct access to the Minister, and the right to intimate advice. The institution of such a council from the outside is vital, and any scheme which does not secure it cannot be for the benefit of the nation or enlist the support of the medical profession.
3. That any organization of the clinical services of the country should be based upon a development of independent professional work and should preserve the best features of existing methods of practice. No scheme for a wholesale salaried clinical service would be in the best interests of the needs of the people.
4. That in order to secure greater unity within the profession and organized means of voicing that unity it is important that the British Medical Association should receive a still wider adherence from medical practitioners in the Metropolitan Counties area than it now possesses.

The CHAIRMAN, in introducing the resolutions, made an appeal for a general dropping of sectional prejudice and the taking of a wide view. If the profession was not united it would never get what it wanted. Politicians would in that case set off one section against another, and the result would be a camouflaged scheme which was a scheme in name only. There was reason to suppose that a good measure was on its way, but that it would meet with opposition, and would need the active support of the profession.

SIR BERTRAND DAWSON said that the reason for the demand for a Ministry of Health was a conviction on the part of the public that a large amount of disease was preventable and should be prevented, and that the health of the community, like education, was a concern of the State. The profession had reached the same conclusion, along different channels of thought; for medical men had long been finding that measures for the prevention and treatment of disease were less and less within the compass of the single practitioner, and that combination of effort and equipment was a necessity. Any new discovery in diagnosis or treatment, instead of giving the practitioner satisfaction because another weapon was added to his armoury, only filled him with a disappointing sense of his inability to command the best for his patients. The Ministry of Health, which meant an increase of State aid and control applied to the medical services, offered a solution of the difficulty. Any bill to introduce such a Ministry must necessarily be a modest measure to start with, but the reform, beginning with a reorganization at the centre, would go on to co-ordinate the whole of the health services of the country. It would be beating the air to discuss details about this or that scheme. Rather should they concentrate attention on those conditions which were essential to any scheme of reform. Professions, like individuals, had phases in their development, and the medical profession was entering upon a totally new phase. The profession was going to occupy a position it had never held previously in this country. To maintain the health of the community would no longer be a passive but an active conception. In France he had had innumerable opportunities of seeing the British soldier, in health

as well as in sickness, and, remembering the splendid things that the British soldier had done, one could not help wondering what finer things he would have accomplished had he been better equipped physically in many cases by the early removal of preventable defects.

Sir Bertrand Dawson went on to say that one cardinal principle upon which they must insist was medical guidance in medical affairs. Around the Minister there should be a consultative medical council which was a reality and not a sham, and was representative of all sides of the profession. This should have a right of access to the Minister and be a part of the permanent organization. If they did not get that, let them say that they would have nothing to do with the bill (hear, hear). In the meantime let medical men find a means of giving collective expression to their views. Many members of the profession were detached from all organizations. In the British Medical Association they had an organization already in existence, powerful, and in earnest; its JOURNAL had the largest circulation in British medicine, and was extraordinarily ably edited. Was it not more statesman-like for as many as possible to come into that organization rather than to set up a rival body? It was quite true that many disagreed on certain points with the policy of the Association. The Association was not perfect; it would be very uninteresting if it were. To hammer out a policy for the future of the nation's health required the help and unity of spirit of as many as could be brought together. It required deep thought and much conference and exchange of ideas. This was the turning point in the history of the profession. Never before had they been faced with issues so momentous. If they had courage and a big outlook, chose their leaders wisely and followed them steadfastly, they had in front of them a nobler place in the nation's life, a larger sphere of usefulness, and a greater prosperity than ever before.

Dr. H. B. BRACKENBURY said that probably within the next fortnight a Ministry of Health Bill would be introduced into the House of Commons. Very likely that bill of itself would not be of great use to anybody, but it would be the first step towards the necessary reconstruction. Following upon that first step there would be second and third steps. It was important that they should have in their minds not only the foundation, but the superstructure. He wanted at once to go to fundamentals. They all recognized that any health legislation must be enacted for the benefit, not of the profession, but of the community. But some of those who said that seemed often to forget that the medical profession was a part of the community both by reason of the fact that its members were peculiarly fitted to determine upon the problems presented to them, and, moreover, were the actual instruments by which the legislative projects would be carried into effect. The profession, nevertheless, had certain interests of its own which it was perfectly legitimate to consider. If those professional interests ever did clash with the public interests, then the former must go to the wall, but that was no reason why they should not be safeguarded in any arrangements in so far as they were not inconsistent with the public advantage. In the matters pending, professional interests coincided with the interests of the public. The essential things for the reorganization of the health services were two: First, a well-educated and independent profession; and, secondly, such administrative machinery as would result in each person having free access to the services of practitioners. However learned and skilful the profession might be, that learning and skill would be largely wasted if there was no proper organization for making it of use to the public; and, however admirable the organization might be, it would be largely futile if as a result of it the independence of the profession was undermined, the opportunities of individual members cramped, the abilities and inclinations of medical men denied full play, and the personal relation of the medical man to his patient converted into an official relation with a client (hear, hear). The public needed from the profession two things—its goodwill and its sympathy on the one hand, its skill and knowledge on the other. If the knowledge and skill were absent nothing could be accomplished. If the goodwill were absent, whatever good might be done in spite of it would be much less than would have been done had the goodwill been forthcoming. But neither one nor the other could be secured if any attempt was made to exploit or to defy the profession. The



profession must be prepared henceforth to take a larger interest in public affairs; its members must be prepared to seek places in Parliament and on local governing bodies, but that involved a good deal of sacrifice, of money as well as time. Certain essentials must be borne in mind. In the first place, in purely medical matters medical opinion and advice must be supreme. He did not refer in saying this to the whole of the health administration, but only to those matters which were purely medical, purely professional, purely internal. There he did not think the profession would ever brook the interference of the layman. Then, if the profession was to exert itself on any local committee specifically charged with medical administration, there must be adequate representation of the profession, not necessarily in voting power, but the assurance that professional opinion would be voiced through representatives chosen by professional committees. Centrally and in every health area there must be a medical advisory committee, nominated in the one case by the central bodies of the profession, and in the other by all the medical practitioners of the area, which committees should have the right, if necessary, to make their views publicly known. Finally, in connexion with the clinical arrangements set up, private practice should be preserved, and its best features and traditions followed as far as possible, and while the services of consultants and specialists should be available the general practitioner should be the usual means of giving all domiciliary treatment. He should have his full share of the work of any clinics established, every opportunity of increasing his knowledge and skill, and be able to undertake the treatment of his own patients in any publicly supported hospital or institution in which they might be admitted at the public cost.

In the general discussion that followed, Mr. E. B. TURNER expressed the hope that the head of the Ministry would be a Minister of Cabinet rank, and a really broad-minded statesman. If there was an advisory committee, the profession should have a good deal to say in its nomination. The men on that committee must be those whom the profession trusted and who would work without fear. He also emphasized the need for unity. Sir Watson Cheyne on a recent occasion had made the pertinent remark that in Parliament he wanted the voice of the profession to come to him unitedly. Three powerful committees were engaged on this question—the committee of the British Medical Association, that of the Royal Colleges, and that of the Royal Society of Medicine. He hoped they would work upon converging lines, so as to issue in a spear-point of demand with the full force of the profession behind it. He did not look for a thoroughly united profession in his own time, but he thought they should try to achieve unity in every way that was possible. Further, medical men must get into Parliament. He believed that in a constituency evenly balanced between political parties a doctor with a strong health programme would sweep into his net the floating votes and the new votes, especially those of women, and very likely would be successful.

Dr. CLAUDE TAYLOR (Hampstead) expressed his disagreement with the last clause of the third resolution. He believed that a whole time service was bound to come, and that such a service would appeal especially to those who had not already established private practices that fully occupied them, or were newly qualified. Dr. LOVELL DRAGE (Hatfield) traversed the Prime Minister's recent statement with regard to health progress in this country, and claimed that this country had done more for the public health than any other in the world. While the health service might have been slow, it had been sure in laying the foundation for the proper work. Great improvements were not going to be made in a hurry. Major McADAM ECCLES thought that they were definitely united on the first two resolutions, though there might be a certain amount of difference of opinion as to the third and fourth. Their first aim and object was that the health of the nation should be bettered as a consequence of the sacrifices entailed by the war. Thirty-three years of practice had convinced him that they were not going to have the best if they forfeited the human touch as between doctor and patient. That had been one of the greatest assets of the British medical profession. They had admired the organization and teaching in connexion with medical work in Germany, but it was disappointing to find in that great country the lack of human touch. He did not deny that it

might be desirable to have whole-time salaried clinical officers, but he did not want to see the whole of the profession in that particular category. As to the fourth resolution if there ever was a time when the profession ought to be united it was at present. They must be united to show what they considered to be best for the nation, and if they were not prepared to work through some big organization like the British Medical Association, they would not get what they wanted, and what they believed to be in the best interests of the public as well. Captain H. B. MORGAN thought that the matter should wait until six months after the declaration of peace, when the men at present abroad might be home again, and have a say in the question. It was only the rump of the medical profession which remained in this country. He also submitted the view that every member of a committee and every official of the British Medical Association, and every member also of the committees which were furthering the election of medical men to Parliament, should pledge himself not to be a candidate, nor to accept any public office of honour. Mr. M. I. FINUCANE (Westminster) urged that the Minister should be a doctor, and instanced the analogous case of the President of the Board of Education. He himself could not conceive that the new Ministry of Health would do anything other than introduce a whole-time medical service, and what Sir Bertrand Dawson had said seemed to presuppose such a service. Dr. CAMAC WILKINSON desired to add a further resolution that steps should be taken to secure better representation in Parliament, but the CHAIRMAN ruled it out on the ground that this matter was already being taken in hand by the Central Council. Mr. BISHOP HARMAN said that his experience of life was that the lone man usually suffered. Those doctors who were in partnerships were able to safeguard their position much better than those who went on by themselves. If the medical profession wanted to protect its own interests its members should join hands in groups and companies, and he would carry the principle even further and urge that upon demobilization men who had not practices to return to should be taken into partnership as far as possible and thus undercutting might be avoided.

Sir BERTRAND DAWSON, in a brief reply on the discussion, said that he himself had made no criticism of the present health service, for which he had only unstinted admiration. In answer to Dr. Finucane, he said that he had not in mind a full-time salaried service. In the case of pathologists and bacteriologists a full-time service would be necessary, but in the case of clinicians the solution of the question would be a part-time salaried service working hand in hand with private practice. These part-time posts, moreover, should be held not by people imported into the locality from without, but by the men who as private practitioners were already looking after the health of the district. No permanent service could ever be introduced into this country without the full consent of the profession, and there was a strong and very nearly unanimous opinion within the profession that they would have nothing to do with any scheme which interfered with the freedom of thought and action so necessary in private practice. A bill for the establishment of a Ministry of Health would undoubtedly be introduced; and although it would not be passed in a moribund Parliament it would be there for discussion, and it was very important that the profession should speak with a united voice.

The resolutions were then put to the meeting. Nos. 1 and 2 were carried *nemine contradicente*, No. 3 was carried with five dissentients, and No. 4 with one dissident. In reply to a question, Mr. BISHOP HARMAN said that the resolutions would be redrafted in the form of questions, and form part of a catechism submitted to parliamentary candidates by the Divisions.

THE first number of a new review, entitled *La France*, has appeared in Holland. It is issued under the direction of a Dutch medical committee comprising some of the leading men in Holland, and it has the active support of the profession of Belgium. It is intended to supply information as to the watering places and health resorts of France. The founder and editor is Dr. Gaston Stalins, of Antwerp. A Belgian committee had been formed with the same object in June, 1914, but the war prevented the realization of the original idea, and the centre of the movement was transferred to Holland.



# British Medical Journal.

SATURDAY, OCTOBER 19TH, 1918.

## MEDICAL DEMOBILIZATION.

ALMOST a year ago we discussed in general terms the problem of medical demobilization, and indicated some of the factors which would have to be taken into consideration in devising an orderly, rapid, and equitable plan for returning medical men to civilian life after the close of hostilities. It was clear enough then that adequate steps must be taken in time, and that the broad principles at least should be settled by the professional committees, acting jointly with the naval and military authorities. The end is not yet, but recent happenings on various fronts and in enemy countries have inevitably turned men's minds towards the period of reconstruction; and demobilization, both general and sectional, has become a topic of immediate practical importance.

Stated in its simplest form the problem consists in adjusting the needs and claims of three parties—the military authorities, the civilian community, and the individual officers. It is generally conceded that during the process of demobilization military considerations must take precedence within limits, but that every effort should be made to deal promptly and fairly with questions of personal hardship, and to reconcile justice to individuals with the civilian needs of certain localities and of certain public services. Some time ago the Central Medical War Committee, recognizing that the experience it has acquired in obtaining doctors for the forces would be of the greatest possible value during the reverse process, appointed a special subcommittee to study the problem of medical demobilization and to make suggestions for dealing with it in advance. The principle seems to have been accepted that in order to deal comprehensively and justly with individual claims those who have given up most, those who have served longest, and those whose terms of service have been hardest, should hold the first title to preferential treatment so far as public needs allow.

The subcommittee on demobilization went very carefully into many aspects of the matter last autumn and winter, and shortly before the German offensive last spring a scheme had been prepared for drafting back into civilian practice medical officers serving temporarily in the R.A.M.C. This scheme was based on an able and exhaustive memorandum by Major Russell Coombe, in which he endeavoured to anticipate difficulties and suggest means for meeting them. It was assumed with good reason that the Government would wish to make the fullest use of expert advice in shaping the course of demobilization, and would, therefore, welcome the co-operation of the professional committees in dealing with the special cases of doctors. The representative status of these bodies, their special experience, and the machinery and information at their disposal, together formed an unanswerable reason why they should be consulted. During the progress of the war individual demobilization has been conducted through this machinery, and with suitable expansion and modification it should prove equal to the strain of dealing fairly and economically with large numbers when the outgoing stream from the services swells from an intermittent trickle into a

broad river. The information and experience already in the possession of the central professional bodies and their local committees must prove of the greatest value, correlated, as no doubt it will be, with the details now known to the Army Medical Department through its card index of serving medical officers. While the Central Medical War Committee, through its schedules and statistical data, has full knowledge of the doctors remaining in civil life, and of those whom it has furnished to the army, it necessarily knows little about many of the medical officers who joined the R.A.M.C. in the earlier months of the war and have remained therein ever since, and still less about those who joined soon after qualification. It is clear, therefore, that the fullest interchange of information is desirable between the civilian medical bodies on the one hand and the Army Medical Department, the Ministry of National Service, and the medical departments of the Navy and Royal Air Force on the other.

In drafting a procedure for medical demobilization the subcommittee has kept in mind the necessity for making an early pronouncement to the medical profession of the principles upon which it is proposed to base the general order of release, and for giving every medical officer an opportunity to state his case for early or special treatment. It was to the question of personal hardship, especially the case of Territorials who have served since the first days of the war, and those Special Reserve officers who are in like case, that we called attention in a leading article on November 3rd, 1917. We then expressed the hope that no military technicalities would be allowed to retain these men a day longer than is strictly necessary; nor do we think that in the case of officers who were summoned to the colours at the very beginning of the war too much rigidity should be used in estimating the civilian needs. Through the efforts of the professional committees the medical attendance on the civil population in this country has been maintained so far without breakdown. While such conditions can be maintained it would seem only fair that men who have served throughout the war with no prospect of release and with disabilities in respect of pay, gratuity, and promotion, should receive first consideration in this matter of demobilization immediately the military circumstances allow.

We believe that the Ministry of National Service appreciates the justice of these contentions and that representations on the subject have gone forward to the War Cabinet.

## THE PANDEMIC OF INFLUENZA.

INFLUENZA exists apparently in every country in Europe, and also in North, West, and South Africa, in India, and in the North American Continent. Epidemic prevalence this year was heard of first in Spain in May. At about the same time cases began to occur in the British forces both at home and in France, and within a few weeks the number became large and gave rise to apprehensions as to the effect it might have on the efficiency of the armies in France. The German and Austrian armies also, there is good reason to believe, suffered severely during the early spring. The epidemic among the civil population in Great Britain reached its maximum in July, and it is estimated that between June 15th and August 3rd it caused from 1,600 to 1,700 deaths in London, where there was the usual concurrent rise in the deaths from bronchitis and pneumonia. The epidemic prevailed at about the same time in Italy, and in a particularly severe form in Switzerland,



The disease has been generally of the respiratory type. The recrudescence of the epidemic this autumn, which in London seems to have been first noticed last week, is quite in accord with previous experience of the behaviour of the disease at the beginning of colder weather. It appears to have become serious a little earlier in Paris, and on October 8th the Académie de Médecine, at the request of the Ministry of Health, appointed a committee to recommend what prophylactic measures should be taken. The committee, which consists of MM. Netter, Chaffard, Vincent, Bezançon, and Achard, is strong on both the clinical and pathological sides, but can hardly be expected to make any very novel suggestions.

The infection appears to be conveyed as a rule, if not exclusively, by the nasal and pharyngeal excretions of infected persons, and researches carried out some years ago by M. H. Gordon and others showed how widely microbes might be spread through the air by sneezing and coughing, and even in speaking. Free ventilation is the best of all general measures of prevention, and this implies the avoidance of crowded meetings. Closure of schools is another measure which is believed to be useful, though very often the closure comes too late, teachers and pupils being attacked in such large numbers that the work stops automatically. In Switzerland not only were the schools closed, but also theatres, cinemas, and concerts, and shooting matches were suspended; these measures led to something like a panic, and to rumours—quite without foundation—that the prevailing disease was something worse than influenza. Personal prophylaxis includes the toilet of the nose and throat and the avoidance of visits to infected persons except at the call of duty. As to treatment, probably nothing equals the old prescription of two or three days in bed when the first symptoms appear. Of these often the earliest is a tickling irritation in the larynx or trachea; if combined with even a slight rise of evening temperature the diagnosis of influenza should, at least as a matter of precaution, be made.

Opinion as to the value of drugs varies a good deal, but two come to us with recommendations which make them worthy of consideration. Mr. E. B. Turner related in our columns recently (August 3rd, p. 112) his experience of the great value of large doses of salicin. He began to use it in 1891, and states that his experience now extends to upwards of 2,000 cases. He gives 20 grains of salicin every hour, and finds that rapid recovery occurs in, on the average, one day and a half, and that complications or sequelae are avoided. During the epidemic this summer he found that the first two or three doses removed all pain and discomfort and that the temperature was materially reduced. He believes, moreover, that the saturation of the system with salicin does away with the infectivity of the patient. In 1891 he rarely had more than one case at a time in a household, except, possibly, the attendant on the sick person. Recently in a hostel of which he is in charge, containing 120 young ladies in Government or other employment, only nine cases occurred, and each could be traced to infection outside the hostel. In every case salicin was administered and pressed at once, and no case of infection within the hostel occurred.

The other remedy, which has obtained a great deal of popularity with the public, and is praised by some doctors, is cinnamon. It was, we believe, first brought to notice by Dr. Carne Ross in 1858. He recommended a decoction, or the tincture, or the powder in tablets, but finally expressed the opinion that oil of

cinnamon, B.P. (made from the Ceylon bark) was the best. The dose he recommended was 5 minims in a tablespoonful of water every hour till the doses had been taken, and then every two hours till the temperature became normal; after that four times a day for three days. Doses as high as 20 minims hourly, in milk, for three hours, then 15 minims every two hours for two doses, and then 10 minims every three or four hours, have been recommended; but the patient, it is said, must be kept in bed and obedience to this injunction may account for some of the success obtained. Aspirin, antipyrin, and phenacetin have been commonly used for the relief of headache and general pains at the onset, but the counter-indications, it is said, in view of the depression which often follows the febrile period, should be used with caution. One warning given by the writer (Dr. F. E. Lord) of the article in Osier and McCrea's *System of Medicine* may be reproduced. It is that the possibility of a fatal pneumonia should always be borne in mind in children presenting severe obscure symptoms. With the predominance of such symptoms meningitis may be suspected, and temporary relief may follow lumbar puncture.

#### THE MEDICAL SERVICE R.N.

WE are glad to be able to announce that changes in the titles and uniform of officers of the Medical Service of the Navy have received the royal sanction. Similar changes are being made in the Paymaster's and Instructors' branches. In future an officer of the rank of surgeon R.N. will have the title of surgeon-lieutenant, a staff surgeon that of surgeon-lieutenant-commander, a fleet surgeon that of surgeon-commander, a deputy surgeon-general that of surgeon-captain, and a surgeon-general that of surgeon-rear-admiral. The medical director-general R.N., will have the title of surgeon-vice-admiral. Surgeon probationers will have the title of surgeon-sub-lieutenant, R.N.V.R. The changes involve consequential alteration in uniform, and the decision of the Board of Admiralty will, we believe, give great satisfaction to the medical officers of the Royal Navy, as it marks an important advance in the right direction and remedies one of the grievances which for years has been a stumbling block to the Naval Medical Service. Henceforth uniform will be identical throughout all the branches of the service, with the exception of the coloured band between the gold stripes (red in the case of a medical officer), which is necessary to distinguish the branch to which the bearer belongs. The difference in uniform has tended to produce a feeling of inferiority in the minds of medical officers. The change is a graceful and timely recognition by the Admiralty that the medical as well as the other branches concerned are part of a unitary organization, and that in a modern ship of war service is shared alike by all, as is shown by the casualties among the medical personnel during the present war. The titles of the medical branch in the past have been cumbersome and of little significance to the outsider. It has been a mystery why a four-striped naval medical officer should be designated by the quasi-military titles of deputy surgeon-general, and the next higher rank as surgeon-general. We are not enamoured of compound titles and it would have been better to have abolished them altogether, as in the Royal Army Medical Corps and the Royal Air Force, and as has recently been provided, we understand, in the American navy. Still, as we have said, the alteration is a move in the right direction, and we congratulate the Board of Admiralty on its broad-minded and far-seeing policy. Further problems remain for solution, but it is believed that the privileges now granted will go a long way to popularize the medical branch of the senior service and to attract to its ranks the type of medical officer it requires and deserves.



## THE MINISTRY OF HEALTH.

A MANIFESTO strongly appealing to the Government to introduce the Ministry of Health Bill without further delay has been issued by Sir Kingsley Wood. It is signed by Lord Sydenham, the Lord Mayors of Newcastle and Manchester, Lady St. Helier, Mrs. H. B. Irving, Mr. H. G. Wells, and other influential persons. The Archbishop of York in a special note, states that he is in entire sympathy with the manifesto, has already spoken strongly on the necessity of the Ministry in the House of Lords, and earnestly trusts that the War Cabinet will at once decide to institute the Ministry. It will be remembered that Dr. Addison stated the other day that the bill had been passed on by the Home Affairs Committee to the War Cabinet. It has, we believe, undergone some modifications at the hands of that Committee; it was originally proposed to amalgamate the Local Government Board, the Insurance Commission, and the medical department of the Board of Education, but we believe that not improbably the transfer to the new Ministry of the control of midwives and the supervision of employment of children will be suggested. Strong exception is taken by persons interested in insurance work to the proposal to transfer all the departments of the Local Government Board to the new Ministry, and more particularly to the transfer of the Poor Law branch. They decline to be satisfied with the assurance, which it is understood the Government would be ready to give, that all the Poor Law functions of the Board, with the exception of those directly concerned with health and medical administration, should subsequently be handed over to other bodies. They object to the new Ministry being saddled even temporarily with the opprobrium which attaches to Poor Law administration. The principle of appointing an advisory medical council has, we understand, been retained; the duties of such a council, which ought to meet periodically at fixed intervals, would necessarily be to report on questions referred to the Ministry, but it should also have the right of initiation—that is to say, it should have the power of calling the Minister's attention to subjects ripe for investigation, and eventually of reporting upon them. It is said that separate bills for Scotland and Ireland are contemplated. For reasons already set out at length, we venture to hope that the Medical Research Committee will be for the present retained in a quasi-independent position, and eventually associated with the Ministry of Science, which it may reasonably be expected will grow out of the Department of Scientific and Industrial Research at present under the general jurisdiction of the Privy Council.

## ARMY MEDICAL WORKERS AND THE INCOME TAX.

We have already referred on more than one occasion to the manner in which the Government has met—or has failed to meet—the insistent demand for special relief from the increased rates of income tax of persons doing medical work in the army and navy, but the whole question has become so complex that we make no apology for referring to it again. This complexity is in part inherent in the nature of the question itself, that is, in the diversity of the work performed, which varies from the medical officer on full foreign service, through the local practitioner bearing military rank and carrying on his own practice concurrently with work at the local military hospital, to the practitioner who merely attends at a convalescent hospital at more or less frequent intervals and can hardly claim a definite military status. It has been aggravated by the tentative and piecemeal manner in which the “relief” has been granted. From the introduction of the first War Budget to the present time it has been urged upon successive Chancellors that the man who is bringing into the service of the Crown trained qualifications almost invariably makes

a heavy financial sacrifice and should be freed from the burden of heavy war taxation that may fairly be placed on the shoulders of another whose age or training enables or requires him to remain in civil work, often to his pecuniary gain. In the second Finance Act of 1915 the validity of this plea was first admitted, but the ground of the “relief” then instituted seems to have been the personal risk to life and limb which military service entails, for the allowance was restricted to persons whose total incomes did not exceed £300, thus bringing in the vast majority of the junior officers of the new army but excluding higher ranks. In the following year the limit of £300 was swept away so far as it debarrd officers from assessment to income tax on their pay at reduced rates, and an attempt was made to frame a definition of the nature of the “service” which carried the special privilege. Admittedly the task was not easy. The position of the ordinary officer is of course plain enough, but the definition was apparently intended to exclude volunteer service and those forms of military enrolment which, while technically placing the man concerned in the position of an army reservist yet carried with it only a latent and not a real and present obligation and sacrifice. Such service, while unremunerated and merely nominal, might otherwise have led to claims for privileges in the matter of super-tax which had been granted in 1915 to the person serving. The test of service in the army now laid down by Section 31 of the Finance Act of 1916 is “either with the colours or as an officer on full pay or at a rate of pay” equivalent thereto, and “either out of the British Islands or at least one month continuously in the British Islands.” The effect seems to be to give the relief where there has been foreign service for however short a time and where there has been at least one month's continuous military service in the British Islands even though there has been no foreign service. The intention was apparently to exclude merely nominal or technical service as distinct from service likely to affect a year's income. The remaining portions of the 1915 enactment still hold good, “or in service of a naval or military character in connexion with the present war for which payment is made out of money provided by Parliament, or in any work abroad of the British Red Cross Society or the St. John Ambulance Association, or any other body with similar objects.” At first sight this may seem to be a reasonably correct if somewhat cumbersome description of the class of persons to be relieved of the full burden of war taxation, but we have one or two comments to offer. In the first place, the phrase “service of a naval or military character” is itself in need of elucidation or definition. Dr. Louisa Garrett Anderson drew attention to this matter in a letter published in the *Times* of October 12th, pointing out that the interpretation of this phrase by the Income Tax Commissioners excludes “women working in military hospitals,” and this is held to apply to women working full time. To refuse the relief in such cases, and to allow it to a person holding military rank but giving only a part of his time to military work, seems illogical. We suggest that it is high time that the question was dealt with on broad and equitable lines, and that the governing considerations are these: First, that whole time service in medical work for the army or navy gives a sufficient claim whether it subjects the worker to military discipline or not and whether it is in this country or abroad; and, secondly, that in view of the low rate of remuneration for medical work in the army as compared with that properly and, in the long run, necessarily obtainable for similar civil work, any apparent leniency in charging income tax would be, not generous, but less than ultimate justice. If the amendment of existing practice cannot be dealt with administratively—and the legislative enactments seem unfortunately to have rendered that almost impossible—it might, even at this late hour, be made the subject of further parliamentary action.



## LATENT SEPTICAEMIA.

At a recent meeting of the Paris Academy of Medicine MM. de Gauléjac and Nathan drew attention to a little-known form of septicaemia associated with injury of the cancellous bone. They write from a forward medical unit and presumably have in mind gunshot wounds, but they exclude cases in which the soft parts are involved, or at any rate so infected as to be the occasion for septicaemia of the usual type. In the form under consideration there is but one symptom, a frequent pulse. The temperature is approximately normal and level; there is neither pain nor discomfort, nor loss of function until the lesion has been in existence for at least ten days, and until the pathological process approaches the compact tissue or the joint cavity. The authors hold that the bacteriaemia they have found in almost all their cases is definitely associated with the cancellous lesion because complete removal of all damaged tissue is the only sure and certain method of banishing the organisms (*Streptococcus intestinalis* or *pneumobacillus* of Friedländer) from the blood stream. If the bacteriaemia be allowed to persist, progressive anaemia and emaciation appear in company with a chronic ankylosing type of osteo-arthritis. The authors also refer to an apyretic latent type in civil practice, often due, they say, to *Micrococcus tetragenus*, which results in a violent outburst akin to or identical with the ordinary acute osteomyelitis. At first sight it appears as if the authors were taking too narrow a view, from a particular aspect, of well-known phenomena. Given a bacteriaemia, and the frequency of transient invasion of the blood stream by small numbers of organisms can hardly be doubted, it is common knowledge that the cancellous tissue is a favourite settling ground for many organisms; that in this situation they may remain latent for long periods; and that the conditions favourable for their pullulation may be occasioned by slight local trauma. Even the symptomless period is not unfamiliar, but it is certainly worth noting that in this period blood cultures may be positive, and that a frequent pulse is alone enough to call for a bacteriological test. There is a considerable number of gunshot cases in which the amelioration of the patient's general condition lags decidedly behind the apparent satisfactory healing of the wounds. Often enough the bone marrow is the only tissue left to suspect; it may only need a positive blood culture to give the surgeon courage enough to explore the interior of a bone he would willingly leave alone, but may thereby abandon to chronic joint or other troubles that operation would prevent.

## GERMAN SUBSTITUTES IN WAR SURGERY.

THE last number of the *Medical Supplement* compiled by the Medical Research Committee<sup>1</sup> contains an account of a paper read by von Tobold at the third War Surgical Congress at Brussels on February 11th, 1918. It is a confession of the straits to which Germany has been reduced by lack of raw materials, but gives evidence also of much diligence and ingenuity in the search for substitutes. The organization of the campaign to find substitutes for drugs and appliances likely soon to be exhausted was undertaken as early as January, 1915. Lack of fats and oils caused many experiments to be made in the search for soap substitutes, but the soda preparations were among the few of any real value. Spirits of wine (containing 70 per cent. of alcohol) has been used for washing hands and utensils, care being taken to recover the alcohol. No satisfactory substitute for glycerin has been found, but American vaseline has been replaced by a jelly obtained from the distillation of petroleum stiffened with ozokerit. Only a little of the synthetic rubber made has been available for the Army Medical Service, and it is admitted that the cost of production is still very high. The rubber recovered from worn-out articles and worked

up again has been found unsatisfactory, as it is not sufficiently elastic for many purposes. It is, however, largely used, operating gloves, for example, being made as to one-half of pure rubber, and as to the other of synthetic rubber and "regenerat" or recovered rubber. Their elasticity is about one-third less than that of the best rubber gloves. Rubber drainage tubes have been to a great extent replaced by glass and "regenerat," but the tendency of the latter to leak is a serious objection. Rubber bulbs for nasal and dental work have been satisfactorily replaced by contrivances on the principle of the common hand fire-bellows, and the rubber in elastic bandages by spiral springs. A substitute for vulcanite dental plates has been found in aluminium. Steel for surgical instruments has deteriorated. Owing to the shortage of the metal the plating of nickel is thinner, so that it wears off sooner; it has been replaced by cobalt, which wears still worse, is less rust-proof, and blackens on boiling. No satisfactory substitute has been found with the absorbent properties of gauze, but economy has been effected in the first-aid outfit by using a pad of wood fibre and by widening the mesh of the bandage. A saving of 80 per cent. has been made by using gauze over again, and even the wood fibre pad wrapped in gauze, used for wounds of the bladder and rectum, and for suppurating wounds, is used over again. The supply of cotton-wool has been eked out by the addition of 40 per cent. of artificial cotton-wool, the composition of which is not disclosed. Nettle fibre has been found superior in many respects to cotton, but the price is high and the quantity small. Yarn spun from wood fibre has been used for a variety of articles, from bandages to sandbags, including driving bands and harness; and, in spite of their shortcomings, these wood fibre substitutes for cotton and leather appear to be in extensive use, though they make better sandbags than bandages. The wood fibre bandage, which we can state is well made and strong, can, if dry, be sterilized in a current of steam, but a serious objection to it is that it tears readily when wet. In cleaning these wood fibre substitutes they must not be boiled, but washed in lukewarm water, soaked for twelve hours in a 1 per cent. soda solution and wrung out by hand, not mangled. It is said that they will survive ten washings, and that towels of wood fibre do not begin to loosen till they have been washed a dozen times. They are, however, not to be recommended for wet dressings, and special precautions must be taken if they are used with plaster-of-Paris. They cannot be used by a surgeon who has sterilized his hands with alcohol, lest the glue in them be precipitated, but perchloride lotions and carbolic and certain other coal-tar disinfectants can be used with impunity. The wood fibre substitute for cotton-wool absorbs moisture readily and takes long to dry, as it tends to form a sticky mass. It is also dusty, but as it is only one-third of the price of cotton-wool it may have, it is thought, a future even after the war. Generally, von Tobold does not betray any ardent enthusiasm for these wood fibre substitutes.

## MURDEROUS ASSAULTS ON DOCTORS.

THE number of instances in which medical men in France have been murderously assaulted by dissatisfied patients during recent years is very considerable; some have escaped, more or less seriously injured, with their lives, while others, like Professor Pozzi, have quickly succumbed to their injuries. Assaults by inmates of asylums upon their medical officers have not been uncommon in any country, and Professor Dupré, in a recent communication to the Académie de Médecine, maintained that the attacks on surgeons and private practitioners were all made by persons whose instability of mind had passed beyond the borderline to actual madness, who are obsessed by fixed ideas of a hypochondriacal nature. The subject—who is usually a man—commonly goes to a surgeon with a request

<sup>1</sup> H.M. Stationery Office. To be purchased through any bookseller. Price 1s.



to be operated upon; sometimes the surgeon commits the fault of consenting to operate against his own better judgement, perhaps for hydrocele or varicocele. The mind of the patient is concentrated upon the pains or other troubles of which he has complained, and if, as is very likely in the circumstances, he finds that they persist he begins to besiege the surgeon with letters and visits, demanding, perhaps, a further operation. Later on the patient accuses the surgeon of having operated unskillfully, thereby increasing his sufferings. In the next stage he reproaches the operator with having deliberately failed to cure him, and, persecuted by his overmastering idea, becomes himself a persecutor. The importunities of the patient may continue for a long time, sometimes for several years, and eventually he decides to revenge himself on the surgeon. Professor Dupré's contention is that the surgeon or doctor who finds himself subjected to such persecution should regard the matter seriously and take steps to have the mental condition of his "persecuted persecutor" examined. He maintains that the diagnosis can be made, and that these cases afford an example of the regular manner in which mental disorders arise, develop, and end. The consequences ought to be foreseen, and can be foretold by the skilled alienist.

#### SYPHILITIC PERITONITIS.

In an article illustrated by seven figures Professor Maurice Letulle<sup>1</sup> of Paris has described as syphilitic the chronic peritonitis which so often accompanies portal cirrhosis commonly ascribed to alcoholism. Among 154 cases of cirrhosis 74, or 48 per cent., gave a positive Wassermann reaction. Accordingly, in such cases vigorous antisyphilitic treatment should be employed, and cure of the concomitant syphilitic peritonitis which is responsible for the ascites might result. Chronic syphilitic peritonitis eventually leads to shortening of the alimentary canal, and the appearances of the peritoneum described by Letulle seem to be identical with those usually called simple chronic peritonitis. Histologically syphilitic peritonitis differs essentially from tuberculous peritonitis in the formation of a vascular connective tissue in which the elastic tissue is destroyed, and well marked fibrosis follows. The superficial layers of the peritoneum show hyperaemia, giant cells, lymphocytic infiltration, and miliary gummas. These observations raise the question as to the share in the production of ordinary portal cirrhosis taken by syphilitic infection. Formerly a hard-and-fast line was drawn between syphilitic disease of the liver and portal cirrhosis, but recently other observers—for example, Symmers of New York—have, on the grounds of the frequency of a positive Wassermann reaction in ordinary hepatic cirrhosis, suggested that syphilis may be a causal factor.

#### FAMILY DIETS.

The Ministry of Food has issued a pamphlet, entitled *How to Feed the Family*, in response to many inquiries by housekeepers as to how far the diet they were giving their households might be regarded as sufficient or excessive. It has been drawn up under the supervision of Professor Starling, scientific adviser to the Ministry, as a guide to the amount and kinds of food necessary to maintain the health and efficiency of workers and to permit of the full development of growing children. The dietaries are devised to furnish just sufficient, with extreme economy and avoidance of all waste, for a family consisting of a married worker, his wife, and four children. To these amounts it is suggested 10 per cent. might be added with advantage, except where the father and mother belong to the class of sedentary workers; and this point gains force from a significant remark earlier in the prefatory note that in their zeal for economy some have,

perhaps, cut down their food to too great an extent. In the diet scales care has been taken to secure a sufficient calorie value of the food, and that the diet is varied, palatable, and well balanced. Copies of this useful pamphlet may be obtained gratis and post free on application to the Literature Distribution Section, Room 605, Palace Chambers, Westminster, S.W.1.

## Medical Notes in Parliament.

### Midwives Bill in the Commons.

On October 15th, the first day of the resumption of the session, the President of the Local Government Board (Mr. Hayes Fisher) moved the second reading of the Midwives Bill. He explained that the measure that was passed through the Lords earlier in the session had to be dropped because it involved a public charge; being in that sense a "money" bill it must be initiated in the Lower House. The object of the proposals is to assimilate the law relating to midwives for England and Wales to that which obtains in Scotland and Ireland—in other words, to bring up to date the Act of 1902. Mr. Fisher gave a summary of the clauses:

Clause 1 provides machinery whereby the constitution of the Central Midwives Board can be altered at times, with proper safeguards, by an Order in Council. Clause 2 is designed to apportion equitably any deficit that may be shown in the case of the local supervision authorities against the Central Board—the apportionment to be on the basis of population and not on the basis of the number of midwives who have taken out certificates. The present system is thought to penalize to a certain extent the more active authorities as against the negligent. Clause 6 amplifies the provisions as to suspension, a subsection introducing for the first time the principle of compensation. Clause 7 allows the Central Midwives Board, if it thinks fit, to pay the expenses of any midwife who may be required to appear before it to defend herself. Clause 8 empowers the Central Board, in removing from the roll any midwife, also to prohibit her from attending maternity cases in any other capacity. Clause 10 provides for the reciprocal recognition of certificates granted by the Central Midwives Board in this country, and of midwives' certificates granted by similar bodies in other parts of His Majesty's dominions, subject to the training, however, being equivalent in each case. Clause 11 empowers the local supervising authorities to contribute to the training of midwives in conformity with the resolution passed by the County Councils Association. Clause 12 (as inserted by the Peers in the earlier bill) repeals Section 9 of the principal Act—thus preventing delegation of their powers by county councils to district councils, except where they are already delegated. Clause 14 provides for the payment of medical assistance summoned in case of emergency, and makes it obligatory to summon a doctor in typical cases of emergency. Although it is obligatory for the local authority to pay the fee of the doctor, half that fee will be repaid under certain regulations issued by the Treasury.

The bill embodies the principal recommendations of the Departmental Committee, but Mr. Fisher recognized that there might be a division of opinion on Clause 12, and would be prepared to listen to objections with an open mind.

In the short debate Mr. George Thorne said that county councils very strongly objected to Clause 12, which deprived them of the power they at present possessed of delegating their authority to district councils. Sir John Harwood-Banner said that the clause was contrary to the expressed opinion of the municipal and county council associations, which felt strongly that the proposal would deprive populations of 170,000, 150,000, and 140,000 of their right to deal through their medical officer of health with this very important subject. Mr. Hayes Fisher, in renewing his promise to keep an open mind, said that at present he was against altogether closing the door to delegation. The bill was read a second time.

THE town of Bergerac in the Dordogne, the native place of the late Professor Pozzi, who at one time was its representative in the French Senate, has decided to name one of the principal streets after the famous surgeon.

PROFESSOR JOSÉ A. PRENZO of the University of Havana, in the name of the Society of Clinical Studies, of which he is President, the medical corporations, and the professional press of Cuba, has sent a sum of £275 as a contribution to the funds of the Association Médicale de Guerre in token of their admiration of the "great Latin nation" and their gratitude to French medical science.



# THE WAR.

## THE WESTERN FRONT.

### III.

#### TOWARDS THE END.

THERE is a vague and general belief that a change of some kind will follow upon the war, which, with each passing year, is working towards the end; but no two persons are agreed upon the nature of that change. It is the normal desire for better things, rather than a reasoned conviction, which makes for the belief that this change will be for the best.

England has wrought the hardest, yet England will profit least. This nation is deep-founded. It cannot be easily hurt. It can as hardly be changed even for the better. It is already very good. From what one has heard, and even from much that one has read, it would appear that England has always been upon the verge of ruin. But nothing much ever happened.

It is the nations which have borne the full physical brunt of war that will profit most. Much top-hamper has come down. They have been delivered from the bondage of material things, and the spirit of the people will have free play. After war comes peace, and with peace a new art, a new learning, and a new science. Even the enemy countries will share in these blessings if the judgement of God is made sufficiently manifest to them in devastated farms, ruined villages, and cities destroyed. So far as the allied nations are concerned, it does not appear at the moment that they have any desire to withhold from Germany and Austria these means of grace.

With the larger aspect of a new national orientation we are not at the moment immediately concerned, but rather with the humbler task of considering the influence of war upon the future of the medical profession. The medical profession is merely a part of life; it does not live for itself; it has no independent existence; it will be forced into its place in accordance with the general design which will grow up from the ruin of war. A long peace breeds an exuberance of growth, an alteration in form, and an aberration of function. The effect of war is a return to simplicity of life, to a rediscovery of the essential need which any given contrivance is meant to satisfy.

The first experience of the field is a perception of the complexity of the old life and a sense of relief upon escaping from it. In a poor feeble way men have always striven for such an escape. They went on tiresome expeditions upon the hills, the moors, or the sea, deluding themselves with the pretext that they were reverting to the primitive practice of hunting their food, or the scarcely less primitive practice of a nomadic wandering to foreign parts. These excursions were described as holidays, and the numblest person was happily never free from the desire to escape from the tyranny of things, even from his own kith and kin, especially from his women-kind, whose function in life is to bind men to a settled way of life. Any person who has adventured as far as hill or moor will remember the distaste with which he came back to the studied discomfort of the place he calls home.

War is the great holiday. There is no pretence about it. Men who have indulged in that form of voluntary labour which is known as exercise find themselves taking exercise without the additional labour of driving themselves to it. Life is made simple for them whether they like it or not, and in the end they learn to love it. Hardship is luxury, and freedom from care draws the sting from obedience.

Other and unused emotions come to the surface of the mind. There is the pleasure in the warm feel of wool, in the taste of bread unpolluted by grease, in the smoothness of hot fat taken by itself, in the simple quenching of thirst, in rest from labour. And deeper still, for the spiritual mind there is that old rediscovery of the saints that in a life of poverty, temperance, obedience, and chastity there is a joy which in still finer minds approaches to ecstasy.

In war, as in peace, men fall sick. In war there is a simple yet efficient service for their recovery. But a man must be sick before he invokes its aid. The presence of sickness is a stigma upon the service, and prevention is its main concern. It must be confessed that there are few allurements towards going sick. The medication is vigorous. A man's moral is not destroyed by an excessive sympathy. He soon perceives that a sick man has no place in the army, and to remain in good health is a matter of pride. The soldier comes to realize that minor ailments will cure themselves; and for feigned sickness there is an adequate remedy. There was a time when a visit to a doctor was an affair of some pomp. The doctor was unfeignedly glad to see his patient: the medical officer would much rather not see him.

Several millions of men have encountered these experiences, and will carry back into civil life a desire for simplicity with effect. There are certain trades which are liable to extend from necessity to luxury. A barber is not long content with removing superfluous hair. He soon adds certain attractions, and customers come more for the titillations than for the shearing and shaving. It is not for nothing that the surgeon has the barber for ancestor. Most civilian practice is an affair of cosmetics, since human nature will have it so. Visits are visits of consolation, and the doctor becomes a luxury rather than a need. He lives by the necessity he has created.

In the new simplicity of life the medical profession will be reminded of the humble origin from which it has sprung: the surgeon from the barber, the physician from the apothecary, the obstetrician from the midwife. In the larger cities it is only the very poor who have efficient medical attendance, but it rarely comes until the patient is incurable. By the time he has finished with the outdoor clinic, and the outdoor clinic has finished with him, and he is admitted to the wards, he is in the course that finishes upon the *post-mortem* table. He only becomes a subject of interest to the accomplished physician and experienced pathologist when all hope of curing him is at an end. The well-to-do are not much better off than the poor. It is only the rich who, as usual, are safe.

The fatal scepticism of Hamlet had come over the medical profession. It had lost faith in itself and the public lost faith too. An accumulation of wax in the ears produced symptoms which to the too highly trained, but too inexperienced, practitioner suggested mastoid disease or cerebral infection, and the patient was hurried to the specialist. The patient soon learned to consult the specialist on his own account and the occupation of the practitioner was gone.

The main effect of the war upon medicine will be that patients will consult the practitioner and demand such simple ministrations as he can give, and at a very moderate price. He will then regain his old confidence in himself. The practitioner, too, has been at war, and he will bring back something of the efficiency he has learned. He will do something and he will do it quick. He will desire a different scale of life. High rents and high living may be too hardly earned.

In the days now past for ever too little time was



spent upon the prevention of disease, and too much upon alleviating the ills of those who were plainly marked down for death. We have looked death in the face, and he is not so terrible. We have seen the young and the beautiful depart with smiling faces. It cannot, then, be so dreadful a thing for the aged, the worn, and the suffering to depart in peace. Too little thought was given to the quality of life. The mass was the thing. But we have had a taking of stock, and the sum was not pleasing. Health will in future be measured in terms of national safety, and the unit will be not an individual but a complete soldier. Minor ills will be borne more calmly, and they will cure themselves. In sickness there will be an inner fortitude, and less reliance upon the mere presence of the physician after the value of his drugs has become suspect. There will be more art and craftsmanship, less artfulness and learning, less of that bedside manner which in all but the most robust and genuine soon becomes tinged with quackery.

The prescriptive remedy for all ills in the medical profession was to increase the length of the course of study for those who were about to enter; and as the course was lengthened so its monstrosity grew until practically none could pass the test, although those who taught and those who tried were one and the same persons. Medicine had become too genteel a profession and the bars must be raised continually. An inner sanctuary was created and only those were held to be qualified who had penetrated the mystery in laboratory and hospital ward, whilst in reality the mystery lay within the human frame.

There is nothing new in all this. Medicine, like other human arts, has had its periods of decadence, and nothing but war could ever bring it back to reality. The outer glory of medicine has departed. War has cut it back to the roots and those roots grow in the eternal desire to minister to real human needs.

Φ.

## CASUALTIES IN THE MEDICAL SERVICES.

### ROYAL NAVY.

#### SURGEON B. LEWITT, R.N.

Surgeon B. Lewitt, R.N., killed as a result of the collision and wreck of H.M.S. *Otranto* off the coast of Ireland on October 6th, was born in Leicester, and was educated at the Wyggeston School. He entered St. Mary's Hospital Medical School with an open scholarship in natural science, and took the diploma of L.M.S.S.A. in 1900. He had been in practice at Fulham and Clacton-on-Sea, and joined the Royal Navy as temporary surgeon at the beginning of the war. After serving for some time on H.M.S. *Ganges* he was appointed senior surgeon to the *Otranto*, engaged in the transport of troops from America, and there met with his death. He leaves a widow and four daughters.

### ARMY.

#### *Killed in Action.*

#### CAPTAIN G. A. G. BONSER, R.A.M.C.

Captain Geoffrey Alwyn Gershom Bonser, the only son of Mr. G. G. Bonser, J.P., killed in action on St. Michael's Day, was born February 3rd, 1889. He was educated at Brighton College and at the King's School, Worcester, where he held an honorary scholarship, subsequently proceeding to Cambridge, where he graduated with honours in the Natural Sciences Tripos of 1910. He then entered St. Thomas's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P. in 1914. He was about to sit for his third M.B., second part, at Cambridge, when he joined up, and was appointed to the Eastern General Hospital at Cambridge. He was gazetted captain on April 25th, 1916, and proceeded to Egypt, where he served under General Allenby through Palestine. In May the regiment was moved to France, and in July he had his first home leave, during which he was married. His colonel wrote: "He was killed instantaneously by a shell while attending

the wounded. . . . He is a great loss to the battalion, and from all those who knew him I have heard nothing but words of praise." His tastes were literary and metaphysical, with a passionate love of music. During his time at St. Thomas's he edited the hospital *Gazette* and he was engaged in developing "a system of dualistic philosophy," as well as writing many essays and poems.

#### CAPTAIN R. P. YOUNG, A.A.M.C.

Captain R. P. Young, Australian Army Medical Corps, was reported as killed in action, in the casualty list published on October 10th.

#### *Died of Wounds.*

#### CAPTAIN G. M. COWPER, R.A.M.C.

Captain Geoffrey Moore Cowper, R.A.M.C., died of wounds on October 3rd. He was the son of Mr. Cowper of Darlington, was educated at Cambridge and at St. Bartholomew's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P. Lond. in 1914. He took a temporary commission as lieutenant in the R.A.M.C. on August 29th, 1914; was promoted to captain on completion of a year's service, and was recently serving in the 35th Field Ambulance.

#### CAPTAIN J. W. FREW, M.C., R.A.M.C.

Captain John Williamson Frew, M.C., R.A.M.C., died of wounds in No. 8 General Hospital on October 8th. He was the second son of the late William Frew of Edinburgh, and was educated at Edinburgh University, where he graduated M.B. and Ch.B. in 1906, afterwards going to South Africa, where he was in practice at Moshes's Ford, Barkly East, Cape Province. He took a temporary commission as lieutenant in the R.A.M.C. on October 11th, 1915, and was promoted to captain after a year's service.

#### CAPTAIN W. B. JACK, R.A.M.C.

Captain William Boyd Jack died of wounds on October 11th, aged 38. He was educated at Glasgow High School, and after a short period of business proceeded to Glasgow University, where he had a distinguished student career. He graduated M.B., Ch.B. in 1905 and M.D. in 1908. After holding house appointments at the Glasgow Royal Infirmary and serving as ship's surgeon, he settled in practice in Kendal. He was an enthusiastic student of pathology even amidst the claims of general practice. Shortly before war broke out he was appointed one of the honorary surgeons to the Westmorland County Hospital. He joined the R.A.M.C. in 1916, and at the time of his death was attached to the Leicesters and had taken part in the famous canal-crossing engagement before St. Quentin. He leaves a widow and three young children.

#### LIEUTENANT W. L. DANDRIDGE, R.A.M.C.(S.R.).

Lieutenant William Leslie Dandridge, R.A.M.C.(S.R.), died of wounds on October 3rd, aged 24. He was the youngest son of Mr. Alfred Dandridge of Beckenham, Kent, and obtained the M.R.C.S. and L.R.C.P. diplomas in October, 1917. He was appointed to the Special Reserve of the R.A.M.C. early in the present year, and was serving in a field ambulance.

#### *Died on Service.*

#### MAJOR P. T. PRIESTLEY, R.A.M.C.

Major Percival Thomas Priestley, R.A.M.C., died of influenza at Salonica on September 28th, aged 30. He was born on February 1st, 1888, the only son of the late Rev. Thomas Priestley, Vicar of Albrighton, and was educated at Birmingham University, where he graduated M.B. and Ch.B. in 1913, after taking the diplomas of M.R.C.S. and L.R.C.P. Lond. in 1912. After filling the post of house-surgeon and house-physician at the Birmingham General Hospital, he entered the R.A.M.C. as lieutenant, from the Special Reserve, on July 31st, 1914, was promoted to captain on March 30th, 1915, and subsequently to an acting majority. He went to France in August, 1914. In October, 1915, he was sent to the Dardanelles, served at Anzac until the evacuation, and subsequently on the island of Imbros and at Alexandria. After sick leave and a few months' home service in the Isle of Wight he was sent to Salonica in June, 1917.

#### CAPTAIN B. H. LEECH, R.A.M.C.

Captain Benjamin Hinton Leigh, R.A.M.C., died at Manor War Hospital, Epsom, on October 9th, of illness



contracted on foreign service, aged 51. He was educated at the universities of Manchester and Edinburgh, and took the Scottish triple qualification in 1896. He was for some years in practice in Peru, but had retired before the war. He took a temporary commission as lieutenant in the R.A.M.C. on April 1st, 1915, and was promoted to captain on completion of a year's service.

#### Wounded.

Lieut.-Colonel A. S. Donaldson, D.S.O., Canadian A.M.C.  
Lieut.-Colonel H. L. Welch, Australian A.M.C.  
Major T. Ferguson, R.A.M.C. (temporary).  
Major W. Hunt, M.C., R.A.M.C. (S.R.).  
Major T. J. Kelly, M.C., R.A.M.C. (S.R.).  
Major T. J. Lindsay, R.A.M.C. (S.R.).  
Major W. Vickers, Australian A.M.C.  
Captain M. K. Acheson, M.C., R.A.M.C. (temporary).  
Captain D. Barlow, M.C., Australian A.M.C.  
Captain J. H. Barry, Canadian A.M.C.  
Captain H. I. Berry, R.A.M.C. (temporary).  
Captain A. McA. Blakeley, Canadian A.M.C.  
Captain H. M. Cameron, Canadian A.M.C.  
Captain C. L. Driscoll, R.A.M.C. (temporary).  
Captain G. B. Egerton, R.A.M.C. (S.R.).  
Captain G. A. C. Gordon, R.A.M.C. (temporary).  
Captain K. Goulden, Canadian A.M.C.  
Captain W. C. Morgan, Canadian A.M.C.  
Captain R. J. Snider, R.A.M.C. (temporary).  
Lieutenant G. P. W. Staunton, R.A.M.C. (temporary).

#### DEATHS OF SONS OF MEDICAL MEN.

Bruce, Andrew Moffatt, Second Lieutenant Highland Light Infantry, youngest son of Dr. R. Wilson Bruce of Glasgow, killed recently. He was educated at Glasgow High School, and enlisted in the H.L.I. when war began, subsequently receiving a commission. Four of his brothers also joined; one was killed about a year ago.

Higgs, Reginald Frank, Second Lieutenant the Queen's Royal West Surrey Regiment, youngest son of Dr. A. W. Higgs of Chelsea, killed in France, September 22nd, aged 25.

Lambert, C. J. N., M.C., Second Lieutenant Royal Field Artillery, elder son of Dr. Lambert of Barnes, killed September 2nd, aged 21, as briefly reported in the BRITISH MEDICAL JOURNAL of September 28th. He was educated at St. Paul's School, matriculated at London University in November, 1915, and passed the first M.B. examination in 1916. He took a commission in the R.F.A. in November, 1916, went to France in April, 1917, and was mentioned in dispatches, and received the Military Cross in November, 1917. At St. Paul's he was captain of rowing and boxing, and a member of the Rugby fifteen. He represented his school in the public schools boxing championship.

Lee, Charles John Nairne, Lieutenant, elder son of the late Dr. C. Nairne Lee of Dunfermline, killed September 27th, aged 25. He was serving in a bank in Canada, joined the Canadian forces in 1915, got his commission in 1916, and went to the front six months ago.

Ritchie, J. J. Austin, Second Lieutenant Highland Light Infantry, only son of Dr. John Ritchie of Glasgow, killed September 29th, aged 20. He was educated at Glasgow Academy and entered on his medical course at the University of Glasgow in April, 1916. He received his commission in December, 1917, and went to France in April last.

Shepherd, Ernest Gordon, Lieutenant Canadian Infantry, only son of Dr. Francis J. Shepherd of Montreal, killed October 1st.

Staveley, Miles, M.C., Major Royal Field Artillery, second son of the late Mr. W. H. Staveley, F.R.C.S., died on September 29th of wounds received the same day, aged 23. He was educated at Tonbridge School, where he gained a scholarship, entered Woolwich in 1912, and got his commission on July 17th, 1914. He went to France in March, 1915, was wounded at Neuve Chapelle in the same month, went to Gallipoli with the 29th Division, and later returned to France. He had been mentioned in dispatches, transferred to the R.H.A., and promoted to captain, and in April, 1918, to major, and appointed to the command of a battery of R.F.A.

Stevenson, Frederick F. A., Sub-lieutenant Royal Naval Reserve, only son of Dr. Stevenson, of Galashiels, killed October 1st, aged 22.

#### MEDICAL STUDENT.

Balmain, Roy Frederick, M.C., Captain Royal Field Artillery, killed October 1st, aged 23. He was the third son of Mr. J. C. H. Balmain, of Edinburgh, and was educated at George Watson's College, and at Edinburgh University, where he had just begun the medical curriculum, when he got a commission in the R.F.A. on August 26th, 1914. He had served abroad for three and a half years, and received the Military Cross last June.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]

## HONOURS.

A SPECIAL Supplement to the *London Gazette*, dated October 15th, contains a further list of awards in recognition of gallantry and devotion to duty in the field. The following awards are conferred upon medical officers:

#### Bar to D.S.O.

Temporary Captain William Grahame Cobb, R.A.M.C., attached K.A.R.

For six hours, in the middle of a desperate fight at close quarters, he maintained his dressing station and attended the many wounded. Enemy's fire was coming from three directions, and the only cover was two ant-heaps. He frequently went forward to the firing line and brought in wounded at great personal risk. He undoubtedly saved many lives by his perseverance and determination, all the wounded being safely evacuated under the greatest difficulties.

Temporary Captain (acting Major) John Greene, M.C., R.A.M.C.

During an enemy attack, and although his advanced dressing station was heavily shelled and gassed, he continued at duty, encouraging all by his courage and resourcefulness. He worked continuously for thirty hours, visiting his bearers' posts under heavy shell fire and only rested when all wounded had been evacuated. His magnificent devotion to duty saved many lives.

#### Second Bar to Military Cross.

Temporary Captain (acting Major) Daniel McKelvey, M.C., R.A.M.C.

As liaison medical officer he constantly kept touch with brigade and battalion head quarters, moving over roads and ground exposed to heavy shelling. His tireless energy, organizing ability and disregard of danger were largely instrumental in the successful clearing of casualties from the line. (M.C. gazetted July 18th, 1917. Bar gazetted September 16th, 1918.)

#### Bar to the Military Cross.

Captain Vernon Carlisle Brown, M.C., A.A.M.C.

For great courage and resource in evacuating wounded from a forward area. The routes were being heavily shelled, and he established bearer relay posts in suitable positions after a full reconnaissance of the ground. During the whole operation his perseverance and initiative contributed largely to a quick evacuation of the wounded, while his energy and example stimulated the men. (M.C. gazetted November 19th, 1917.)

Temporary Captain John Charles Boileau Grant, M.C., R.A.M.C.

He attended to wounded men lying in the open under heavy fire, and subsequently for three days and nights, with little rest, he was constantly out with stretcher-bearers searching for and removing the wounded. He was undoubtedly the means of saving many lives, and his fine example was of the greatest value at a very trying time. (M.C. gazetted September 26th, 1917.)

Temporary Captain John Nelson Humphrey, M.C., R.A.M.C.

A bearer officer during an enemy attack he repeatedly led his men up to the front line under very heavy fire. When the normal line of evacuation was broken he carried out a reconnaissance in full view of the enemy, and established a new means of communication, himself assisting to remove a tree across a road which was being heavily shelled. By his courage and resource he contributed largely to the rapid evacuation of the wounded, and saved many lives. (M.C. gazetted January 1st, 1918.)

Temporary Captain Charles Clouston Irvine, M.C., R.A.M.C.

When the shelter in which he was working received a direct hit from a shell, the explosion of which killed his sergeant and an orderly who was helping him, he was severely shaken, but rallied himself and continued to attend to the wounded. A panic which might have ensued among the wounded and shell-shocked soldiers was averted by his courage and determination. (M.C. gazetted July 18th, 1917.)

Temporary Captain William Graeme Denroche McCall, M.C., R.A.M.C.

When the enemy put down a heavy barrage, causing many casualties in his own and other units, he arranged for the collection of wounded, and attended them with the greatest coolness in the open, which necessitated his remaining in the barrage. Throughout the operations his energy and devotion to duty were admirable. (M.C. gazetted July 26th, 1918.)

Captain (acting Major) Campbell McNeill McCormack, M.C., R.A.M.C.

During an important engagement he organized the evacuation of the wounded with great skill and devotion to duty, proceeding frequently himself in charge of bearers, through heavy shelling, to the rear aid posts. It was largely due to his able organization and fine example of self-sacrificing gallantry that the numerous casualties were evacuated so expeditiously. (M.C. gazetted September 22nd, 1916.)

#### (To be continued.)

#### FOREIGN DECORATIONS.

A further list of decorations awarded by the Allied Powers for distinguished services rendered during the course of the campaign was published in a Special Supplement to the *London Gazette* dated October 10th.

The President of the French Republic has conferred the Legion d'Honneur (Croix de Guerre) upon the following officers: Majors (temporary Lieut.-Colonels) William J. S. Harvey, D.S.O., R.A.M.C., Frederick D. G. Howell, D.S.O., M.C., R.A.M.C. Majors (acting Lieut.-Colonels) Henry H. A. Emerson, D.S.O., R.A.M.C., Philip J. Marrett, R.A.M.C. Captains (acting Majors) Edward R. Lovell, R.A.M.C. (S.R.), John J. McI. Shaw, M.C., R.A.M.C., William L. Webster, R.A.M.C. Captains Samuel R. Foster, M.C., R.A.M.C., Mervyn J. Holmes, A.A.M.C., Peter McEwan, R.A.M.C. Temporary Captains Alexander B. Cluckie, R.A.M.C., John B. McFarland, M.C., R.A.M.C., and Quartermaster and honorary Captain Robert D.



Matthews, M.C., R.A.M.C. He has also conferred the Croix de Chevalier upon Colonel Henry R. Casgrain, C.A.M.C., and Hon. Major Charles F. Skipper.

Major William H. G. H. Best, R.A.M.C. (S.R.), has received the Military Order of Avis. 2nd Class, from the President of the French Republic.

The King of Hellenes has conferred the Order of the Redeemer (3rd Class Grand Commander), upon Surgeon-General Sir Hayward R. Whitehead, K.C.B., the third class (Commander) of the same order upon Lieut.-Colonel Arthur R. Aldridge, C.B., C.S.I., C.M.G., Reserve of Officers R.A.M.C., and the fifth class (Cavalier) upon Captain John P. Litt, R.A.M.C.

Colonel Thomas J. R. Lucas, C.B., A.M.S., retired pay, receives the Order of the Sacred Treasure Third Class from the Emperor of Japan.

Dr. N. W. Kater has received authority to wear the Cross of Chevalier of the Legion of Honour conferred upon him by the President of the French Republic in recognition of valuable services rendered as honorary surgeon in a French war hospital.

Miss Lilian Violet Cooper, M.D., has received permission to wear the insignia of the Fourth Class of the Order of St. Sava, conferred upon her by the King of Serbia in recognition of her services as surgeon at the Scottish Women's Hospital at Ostrovo during the war.

## NOTES.

### DISPOSAL OF SOLDIERS AFTER NERVE SUTURE.

An Army Council Instruction [110] states that in future all patients who have been operated upon for nerve suture will remain in the hospital in which the operation was performed, or its auxiliaries, until fit for discharge, unless granted special furlough. Representations have been made to the army authorities that patients suffering from nerve injuries are frequently transferred to other hospitals shortly after an operation, and thus the surgeon taking over the case may be unable to estimate the chances of recovery. Patients desiring transfer to hospitals near their homes are to be moved before exploration of the nerve.

## Scotland.

### SIR THOMAS FRASER.

LAST spring Sir Thomas Fraser resigned the chair of materia medica and therapeutics in the University of Edinburgh, and at the last meeting of the Board of Managers of the Royal Infirmary his resignation of the post of physician was accepted with regret. Sir Thomas Fraser became assistant physician to the infirmary in 1869, and when in 1878 he was appointed to the chair of materia medica in the university he became one of the physicians to the infirmary, and has thus held that post for the long period of forty years. The managers appointed him consulting physician and placed on record their high appreciation of his services as a physician and clinical teacher.

### MATERIA MEDICA, THERAPEUTICS, AND CHEMISTRY.

Professor A. R. Cushny, who has succeeded Sir Thomas Fraser as professor of materia medica and therapeutics, gave his introductory lecture last week. After expressing his appreciation of the honour that had been done him by his appointment to Edinburgh, which, he said, had for long been the greatest of British medical schools, and, as its classes showed, was entitled to claim to be the imperial medical school, he discussed the progress of material medica, a subject, he said, which might claim to be the most ancient of medical studies. The profound faith of primitive peoples in drugs was the more remarkable because most of their remedies were devoid of healing power; their disagreeable taste and odour, in fact, seemed to suggest that the taking of medicine originated in the idea of sacrifices to some offended deity, the use of drugs being at first a penance pure and simple. Edinburgh had taken a considerable share in the introduction of new drugs or the combination of old ones, an instance of the latter being the powder so commonly associated with the name of Dr. Gregory. For a long time the teaching of materia medica was a wearisome description of the outward and visible characters of the drugs employed in disease, without any consideration of the effects they produced in the human body, little effort being made to distinguish between really efficient medicines and those whose reputation rested upon tradition. In his address at the graduation ceremony on October 11th, the principal, Sir Alfred Ewing, said that the university was fortunate in securing Professor Cushny, an Aberdonian, for the chair

of materia medica. The chair would be held in future under altered conditions, as the subject had been divided and a chair in therapeutics had been founded. It was also intended to divide the subject of chemistry and to institute a new professorship in chemistry in relation to medicine.

### INFLUENZA IN GLASGOW.

The Medical Officer of Health for Glasgow (Dr. A. K. Chalmers) reports that in the week ending September 21st several schools in one area were disorganized by a rapidly developing prevalence of influenza, and this was followed after a short interval by the invasion of schools elsewhere pretty generally throughout the city. Coincidentally the death-rate rose from 13.5 to 18.6 and 28.6 in the weeks ending, respectively, September 21st and 28th, and October 5th. This last rate has not been approached in any week since 1909, when it was associated with intense frost and fog. In these three weeks 16, 65, and 165 deaths were attributed to influenza, and 30, 65, and 107 to pneumonia, leaving 66 only to the other forms of respiratory diseases. The dislocation of school attendance could not be regarded as due to any special incidence at school ages, but rather as a part of a general distribution of the disease throughout all ages, although the proportion of deaths at ages below 5 was strikingly in excess of the proportion of children living at these ages. They formed 11.6 per cent. of the population, but the proportion of deaths among them was 20 in the week ending September 28th and 24 in the week ending October 5th. The decrease in school attendance has been fairly uniform throughout all the standards, in striking contrast to the effect produced by an outbreak of measles, which is chiefly experienced in the infant classes. This fact, which pointed to a general prevalence rather than to a special spread in individual classes, raised doubt as to the utility of school closure, but acting on the view that the risk of infection is always intensified when susceptible persons are collected together under cover, experimental closure was adopted in certain schools where the absenteeism considerably exceeded the average.

## England and Wales.

### CENTRAL MIDWIVES BOARD.

At the meeting of the Central Midwives Board for England and Wales on October 10th, when Sir Francis Champneys was in the chair, a letter was read from the Local Government Board asking that the advisability of framing a new rule, E. 22 (1) (f), in terms similar to the corresponding rule of the Scottish Board, should be considered. The Scottish rule requires a midwife to notify the local supervising authority "whenever, under Rule 19 (b) she has advised the substitution of artificial feeding for breast feeding." Consideration of the question was deferred. In reply to a letter received from the M.O.H. Durham, asking whether the Board would object to the county council supplying midwives with collosium argenteum for the treatment of the eyes of newly born infants, it was resolved to state that the Board had designedly refrained from recommending the use of any specific drugs for the purpose, but that it saw no objection to the course proposed.

### THE HEALTH OF LIVERPOOL.

The death-rate for the past nine months was 17.2 per 1,000, against 17.1 last year. The amount of infectious disease had been above the normal. The infant mortality-rate was about the same as the last three years, and that it had not increased was largely due to the care given by the augmented staff of health visitors. The decline in the birth-rate continued; 13,188 infants were born during the first nine months of this year, against 17,432 in the corresponding period of 1914. With regard to the treatment of venereal diseases the experience of the Liverpool scheme indicated that unless some measures were taken to ensure compulsorily the attendance of patients at the treatment centres until their cure was complete, the aim in view would not be attained and a large sum of money would have been spent in vain.



## LIVERPOOL MEDICAL SUNDAY.

On Sunday, October 13th, 1918, the eighteenth annual medical service was held in St. Luke's Church, when the Lord Mayor, Major Utting, R.A.M.C., was present in state with other members of the city council, and there was a large congregation. The Very Reverend Hastings Rashdall, D.Litt., Dean of Carlisle, who preached, taking as his text I Peter iii, 8, contrasted the Christian ideal with the Nietzschean philosophy. He accentuated the duty of the individual to his fellow men, illustrated by the ideas of Christian love and service to man, and pointed out how superior in results such Christian principles were over those of the gospel of valour. The preacher bore testimony to the noble efforts and self-sacrifice of the medical profession and the ancillary efforts of the nurses. These efforts were individual in essence, and brought out the noblest side of mankind. The offertory, which amounted to £132 10s., will be handed over to the Royal Medical Benevolent Fund. The honorary treasurer, Dr. J. Ernest Nevins, will be pleased to receive any donations from those members who were unable to be present.

## THE INFLUENZA EPIDEMIC IN LONDON.

At the meeting of the London County Council on October 15th a report was submitted by the medical officer of health on the summer outbreak of influenza. Since the beginning of May seventy-eight cases have come under the particular observation of the Council's medical staff, but of these only forty-nine presented the characteristic group of symptoms. The remainder were found on examination to be due to tuberculous meningitis, cerebro-spinal meningitis, or to various other conditions giving indications of cerebral irritation. In the forty-nine cases the onset of the illness was generally characterized by lethargy, accompanied by high temperature and headache, followed in a large proportion of instances by interference with the neuromuscular system of the eye or the face. A predominant feature was an interference with the lumbo-sacral enlargement, producing characteristic symptoms. Of these forty-nine cases twelve proved fatal. The cerebro-spinal fluid was clear and colourless, and under considerable pressure.

## HOUSING CONDITIONS IN LONDON.

The Housing of the Working Classes Committee of the London County Council has issued a voluminous report on the subject of the housing conditions in London as they are likely to be after the war. The population of the county is stated to be about stationary. At the 1911 census the number of people living under overcrowded conditions, if the standard of overcrowding taken was more than two persons per room, was 758,786. It was difficult to say what the figure was at the present time, but in some recent investigation under the Children Act, necessarily confined to selected cases, it was found that 917 persons were occupying 660 rooms, and that of these, 158 persons in forty-seven rooms had less than 300 cubic feet of space each, so that 17 per cent. of the occupants were sleeping under overcrowded conditions. With regard to unsuitable accommodation, it is estimated that in areas of an insanitary character about 184,000 persons are affected. No precise particulars can be given as to unhealthy houses, but there is no doubt that, while many such houses would be only fit for demolition, many others, although at present unsuitable for occupation, could be renovated and made habitable, at any rate for a limited period, by putting into operation the powers contained in the Housing and Town Planning Act of 1909.

THE Senate of the Republic of Cuba has passed a bill authorizing six hundred Cuban physicians to offer their services to the hospitals of the Allies in France.

ON May 2nd Professor Harry Lee Huber, formerly pathologist to the University of Chicago, was awarded the Ricketts prize for his research work on new methods of treating tuberculosis. The prize, which is of the value of £1,000, was founded in memory of Dr. Howard Taylor Ricketts.

THE legislature of the Argentine Republic, on the proposal of the Society of Obstetrics and Gynaecology, has decreed the creation of a National Radium Institute in connexion with the medical faculty of Buenos Aires. A sum of 120,000 pesos has been voted for the acquisition of half a gram of radium.

## Correspondence.

## EARLY TREATMENT OF MENTAL DISORDER.

SIR,—Dr. Shaw's letter (October 5th, p. 391) is very welcome to me, for some years ago I urged in a paper read before the Branch meeting of the British Medical Association at Shrewsbury the very reforms which he advocates—namely, the building of separate hospitals in connexion with the county asylums, to which all cases should be admitted, and there classified by the medical staff. In this way the asylum would become a home for incurables, and could be run at a much reduced cost, and the acute curable case could have the benefit of increased staff, medical and other.

I do not think it necessary that the sexes should be treated at different hospitals, nor do I see why the centralization of management under a Ministry of Health is necessary. We have already a central body in the Board of Control, and I think a sufficiency of legal forms without adding yet another set, or is the Ministry of Health to replace the Board of Control? and if so, why?

The other points of Dr. Shaw's letter are exactly those which I advocated and still advocate. I am sure that smaller numbers make for better recovery-rates. The best recovery-rate published in the Commissioners' blue books for many years is that for asylums of from 800 to 900 patients; but even in these it is behind the hospitals and licensed houses; this can only be due to smaller numbers and earlier treatment.

As we cannot, unfortunately, reduce the numbers, the only method is to increase the staff and concentrate on the curable cases.—I am, etc.,

Bagechurch, Oct. 10th.

E. H. O. SANKEY.

## MEDICINE IN PARLIAMENT—MEDICAL RECONSTRUCTION.

SIR,—As one who was present at the meeting of medical men at the Steinway Hall on October 1st, under the chairmanship of Sir Henry Morris, it was felt quite clearly that the meeting realized the impossibility of selecting medical men for Parliament without the need of canvassing the constituencies, and it was made definite by Dr. Addison that a medical man, if elected to Parliament, was there wholly as the representative of his constituents—the people, and "if he wisely and honestly tried to promote the public interest, then professional interests would be safe enough." It is the "will of the people" that must be the dominating factor in representation, and it is acknowledged in politics there is only one great estate of the realm—namely, the estate of free citizens.

There have been many efforts of late to give greater effect to the will of the people, as in the referendum and by proportional representation, and, if I may so call it, this newly awakened feeling of the medical profession is a reflection of the general effort to find the real and actual will of all persons represented.

It has been one of the lessons of the war that the greatest advantage to the public health is to result from some modified scheme of public medical service, and in the future it is certain that the interests as well as the security of the medical profession are about to be more intimately related with popular claims than ever before, and in any scheme of reconstruction the public health is to receive the special attention of Parliament; the profession therefore needs to present a unanimous and a united front before the Government and the country. Ours is the worst organized profession of any, partly because it has a highly sensitive ethical code and consequently the personal element—each must be the guardian of his own conscience—enters largely into this consideration and partly also because of its many intimate private relations; in consequence there is a great danger of divided ranks, and this is intensified by the various interests of the different sections of our profession. I speak as representing among others a department of medical practice which engages the undivided attention of many hundreds of medical men and women—there are considerably over 1,000 of us and over 20,000 nursing staff—who are devoting ourselves to the care of the insane, who have given our lives to this service or are still serving the cause. This department above all others is in the forefront of the programme for legal and possibly



administrative reconstruction; yet there is not a single representative of mental diseases on the list proposed at the meeting presided over by Sir Henry Morris, nor has one been added subsequently. Before reliable advice can be offered in respect to this department of medicine very special, technical, legal, and expert knowledge are necessary, yet no representation has been suggested or made, and my department feels this to be a serious omission.

Owing to the supremacy of party allegiance, of "wire pulling," and of party interests, the conditions of parliamentary life make it impossible for medical men to be selected on any scale to represent the medical profession in the constituencies; and, because medicine has no direct representation, medical interests are not only liable to be tyrannized over, but they are also in a contemptible political position.

In my opinion we already possess an equivalent to a strong "guild" in the British Medical Association, and unless we are ready to support this Association loyally and to adhere to it faithfully, we shall be in a worse position than having no representation at all. There is no other union that can help the profession as the existing "British Medical" can do, and any appeal for representation should come from a united organization such as this, with its sections and Branches throughout the empire.—I am, etc.,

ROBERT ARMSTRONG-JONES, M.D., F.R.C.P.

London, W., Oct. 13th.

SIR,—Sir William Watson Cheyne, in his interesting letter which appears in your issue of October 12th, makes a strong plea for the education of members of Parliament who are medical men in our professional affairs. He asks for the establishment of some mechanism whereby such members of Parliament may be put in touch with the conditions of all forms of medical practice and coached on such matters of professional interest as arise in Parliament. If Sir Watson Cheyne will forgive my saying so, this plea of his is an open confession of ignorance, for the mechanism for which he pleads has been in working for many years, and is not only at the free disposal of all such members of Parliament, but is pressed upon their acceptance. The mechanism exists in the British Medical Association. It is in touch with and gives expression to the doings and wants of all forms of medical practice; and in particular such professional affairs as arise in Parliament are dealt with by the Parliamentary Subcommittee of the Association. It is the rule of that committee to invite such medical members of Parliament who are more than politicians to become members of that committee, but, alas! the response is not always in the affirmative. When it has been in the affirmative, the close acquaintance of members of Parliament and the committee members resulting therefrom has been of the highest advantage to the work of both.

Sir Watson Cheyne complains that he has only been coached twice on professional affairs. His experience is accounted for by the brief measure of time he has been in Parliament, and also by the fact that during this time so few measures affecting professional interests have arisen. On one of these occasions Sir Watson Cheyne did work of the greatest value in securing amendments to the Education Bill which will enhance both national and professional interests. And I remember yet a third occasion—albeit a mere departmental affair—in which his intervention at the instance of our committee was equally successful.

But the underlying point of his confession is already dealt with in the report of my address on Parliamentary Representation before the Birmingham Central Division of the Association which appears in the same issue as his letter. I maintained that a member of Parliament who is a medical man, and who aims at being of service on health and professional matters, should be educated in these professional matters before he enters Parliament. There are now no fewer than ten members of Parliament who are medical men, and for lack of this primary essential there are few amongst the ten who can be said to speak on behalf of the profession of which they are members. Sir Watson Cheyne has the rare frankness to acknowledge the loss that the lack entails.

But the lack can be made good. It is not possible for any one man to enjoy personal experience of every form of

medical practice and activity, but he can by diligence and sympathy arrive at a close appreciation of the needs of most if not all such conditions. Not least effectively can he do this by joining himself to those workers of the profession who seek to serve their colleagues through the working of our Association. And we are keen to extend this effectiveness. At the next meeting of the Central Council of the Association a proposal will be considered whereby a still wider opportunity for securing these advantages may be offered to medical members of Parliament; if this proposal be accepted by the Council, and then by the medical members of Parliament to whom it may be offered, there cannot fail to be secured advantages on both sides of the highest order. Members of Parliament will learn what the vast majority of the profession thinks upon medical affairs, and the profession will learn much from the criticism of the parliamentarian.

There is a Pauline injunction which is very apt in this connexion: "Look not every man on his own things, but every man also on the things of others."

I will not touch on the second part of Sir Watson Cheyne's letter in which he sketches some of the problems of demobilization. This could better be dealt with by Dr. Fulton, Chairman of the Demobilization Subcommittee of the Central Medical War Committee, who has the result of studies extending over a year at his command.—I am, etc.,

N. BISHOP HARMAN,  
Chairman of the Parliamentary  
Subcommittee.

London, W., Oct. 12th.

SIR,—It was well that Mr. E. B. Turner laid stress on the fact that in order to elect medical men to Parliament they must be politicians, but I venture to say they must be of a different record to Dr. Addison, the Minister of Reconstruction, and also of a different political party. He has obtained his position simply as a politician and his support of his political leader in the forcing through of the Insurance Act without adequately consulting the principal party—the medical profession, of which he was at one time a member. He asked his hearers "to reject party labels," but where would he have been politically if he had acted on that?

He mentions "better homes," etc., for the people, but it is late in the day for him to advocate that, for if he will only refer to the figures of the construction of houses for the working classes before the war he would see that, owing to the financial policy that he supported under the Asquith Government, the building of such steadily declined each year, and then stopped practically altogether by Governmental order.

Again, take the tuberculosis rate. It is admitted that since the Insurance Act came into force this rate has steadily increased in spite of the boasted provisions of that Act.

To mention a purely professional question, Dr. Addison was a party to the reduction from 2s. 6d. to 1s. of the notification fee for infectious diseases—a most paltry payment for a professional man's written and expert opinion for the purposes of the State.

Again, the Ministry of Health is being pushed on without proper consultation of the proper body—the medical profession. Dr. Addison did let a portion of the cat out of the bag as to the limitations of this Ministry.

I do not want these remarks to be considered personal to the medical politician, but I do desire that the medical profession shall not be advised by him as to its interests, and the public interest, in the coming general election. If such advice be taken, as to not being politicians, it would be hopeless to expect medical men to be returned to Parliament. In fact, the whole tenor of the speech seems to be intended as a hypnotic to medical men.—I am, etc.,

Manchester, Oct. 9th.

C. GARRETT TAYLOR.

SIR,—At the meeting held on October 1st I ventured to suggest that some society, which included those who are interested in the care of the insane, should be among those nominating representatives to the proposed committee. This met with a very unfavourable reception from Sir Henry Morris, who did not appear to regard the matter at all seriously. With all due deference to him, I do not think this suggestion should be brushed aside lightly. The consideration of the welfare of the insane has been frequently before Parliament in the past, and, judging from



the last report of the Board of Control, is likely to be shortly before it again.

The questions of earlier voluntary treatment for the poor without certification, the prospect of the foundation of psychiatric clinics in association with the universities, are matters of vital public importance.

The Medico-Psychological Association has a membership of about 700, numbering among them practically all who are engaged in this branch of medicine, together with many neurologists, school medical officers, and others who are interested, and should, I think, be in close relationship with those representing the profession in Parliament.—I am, etc.,

M. A. COLLINS, M.D.,  
Lieut.-Colonel R.A.M.C.

Dwell War Hospital, Epsom, Oct. 7th.

#### PARLIAMENTARY REPRESENTATION OF THE UNIVERSITY OF LONDON.

SIR,—I see that a meeting has been held, under the chairmanship of Sir Henry Morris, to promote the candidature of medical men in the coming general election.

It will be important to have doctors in Parliament in view of the many questions which will press for attention concerning the prevention of disease and of infant mortality, sanitary housing, the treatment of the sick, and the establishment of disabled soldiers in suitable positions.

The creation of a Ministry of Health and the proper position of medical advisers in local administration are equally important topics.

It has been pointed out that the universities are specially suitable for our candidates, since they are, or should be, more free than other constituencies from a narrow party spirit. On these grounds I have accepted an invitation to stand for the University of London at the coming election.—I am, etc.,

W. P. HERRINGHAM,  
Major-General (temp.),  
Consulting Physician to the  
Forces in France.

G.H.Q., France, Oct. 11th.

#### REMUNERATION OF RURAL PRACTICES UNDER THE INSURANCE ACT.

SIR,—Dr. T. Cumin Askin's letter asking for an adequate mileage grant leads me to make the following observations:

1. There is no doubt that, owing to the inflation being equally spread over all practices (rural, industrial, colliery, etc.), the actual payment *per capita* is not so much as 6s. for each person, because in rural areas the inflation is much less than in other classes of areas; this again extends to drugs.

2. Again, it is conceded that the rural practitioner has to visit his patients, whilst in town areas the patients visit the doctor.

3. The number of visits paid by the rural practitioner is greater than in town practices.

4. With very few exceptions the amounts allowed for mileage are a negligible quantity towards paying the motor bill; practically all rural practitioners are obliged to use motor cars since the Act came into force.

5. There is another aspect of this mileage grant which I would wish to bring forward—that is, its distribution; this should not be left to local bodies. It is surprising the way in which county councils (I suppose necessarily) are mixed up with insurance affairs, and it is amazing to watch the number of wires that are pulled, particularly when there is a sum of money floating about waiting to be distributed, and for which there are candidates waiting.

6. Consequently it does not help the unity of the profession that the mileage grant should be a special Treasury grant, given each year, and varying year by year. I would suggest that we have arrangements made whereby its distribution, particularly to the individual practitioner, is transferred to central quarters and placed under impartial authorities, allowing each individual practitioner the right to present his case.—I am, etc.,

October 13th.

RURAL PRACTITIONER.

#### THE HOUSING QUESTION.

SIR,—In regard to your interesting article on the housing question, may I be permitted to point out that an important aspect of it is in some danger of being overlooked?

It is not enough that the 300,000 houses in contemplation shall be built on hygienic and labour-saving lines. There is a further requisite: they must conform to the elementary canons of good taste. In painful contrast to the genuine (sound to the core), beautiful, and cheerful homes of our ancestors, the houses which have sprung up in England during the last seventy or eighty years are for the most part conspicuous for their insincerity, vulgarity, and cheerlessness. I sincerely trust that in the interest of the people these blemishes will be avoided in future house construction. I submit that this is a matter which concerns us medical men, for assuredly a race, healthy alike in mind and body, cannot be reared amid vulgar and unlovely surroundings.—I am, etc.,

London, W., Oct. 12th.

HARRY CAMPBELL.

#### THE WAR EMERGENCY FUND.

SIR,—I am very glad that Sir W. Watson Cheyne has drawn attention to the urgent need of providing without delay help for the members of our profession who, on returning from the war, will have to start in practice anew. Some provision for the financial need has already been made. Two years ago the War Emergency Fund of the Royal Medical Benevolent Fund was started, and about £20,000 has already been collected and temporarily invested. This fund has been raised to help those who are in financial difficulties as the result of their war service, and to assist them in restarting in practice.

It is obviously most desirable not to duplicate funds of this kind, and I venture to urge all those who are moved by Sir W. Watson Cheyne's appeal to rally to the support of the War Emergency Fund and send subscriptions to the treasurer, addressed to 11, Chandos Street, Cavendish Square, W.1.

It is impossible to tell what amount of money will be needed; it is certain that we shall want much more than we have at present, and we are appealing now for a further £10,000. When our colleagues returning from the front need help to resume their civil work, they will want it promptly and it must be ample in amount. We must be prepared with large funds, and there is no time to lose if we are to be ready for the emergency.—I am, etc.,

ALFRED PEARCE GOULD,

Chairman of the War Emergency Fund Committee.

10, Queen Anne Street, W.1, Oct. 13th.

#### WHOOPIING-COUGH AND LYMPHÆMIA.

SIR,—I have just seen certain remarks in your issue of September 28th by Dr. Robert Craik, who makes some interesting observations and draws his conclusions in the following words, namely:

My cases prove that neither mitoses nor atypical cells, and not even a liberal combination of both, are incompatible with simple lymphocytosis.

To show that this view of his is novel, and therefore of importance, he quotes my words in *Bedside Haematology*, p. 63, to the following effect:

If a cell other than a nucleated red cell is found in any film to be undergoing mitosis there can be no doubt that a case of leukaemia is being dealt with.

He does not go on to quote the next sentence in which infective lymphocytosis and one other condition are specifically excepted. Nor, apparently, did he turn to p. 304, to which a reference is given on p. 63, and on which infective lymphocytosis is described and the presence of mitoses and atypical cells mentioned. In all this Dr. Craik does me something less than justice.

However, I did not write to complain of the misunderstanding but to ask Dr. Craik kindly to collect and publish further particulars of his cases, with special regard to the presence of enlarged glands or any other signs of involvement of the lymphatic system. He may thus be able to assist in proving a hypothesis which I had not definitely adopted when the above quotations were penned—that is, that these cases of infective lymphocytosis (the name is Cabot's) are really examples of leukaemia of known origin and bear the same relation to primary leukaemia (the only type at present recognized) as do the secondary anaemias to such primary types as the so-called pernicious anaemia or to chlorosis. A secondary leukaemia of the myeloid type is not very infrequent in cancer with bone metastases, and the anaemia of von Jaksch, or splenic anaemia of



infancy, is another example of the same type. Most of the secondary leukaemias are recovered from. I collected several examples, and published them in the *Proceedings of the Royal Society of Medicine* for, I think, the year 1914; I fancy there were cases of whooping-cough amongst them, but am at present on the wrong side of the channel for verification. Perhaps Dr. Craik will refer to this paper, and I hope he may find matter of interest therein. I may say that I am still unaware of any case in which a secondary leukaemia or infective lymphocytosis passed on into the usual fatal type of leukaemia.—I am, etc.,

October 3th.

GORDON WARD.

## Medico-Legal.

### THE COVENTRY CASE.

*Pratt and Others v. the British Medical Association and Others.*

ON October 15th Mr. Justice McCardie gave judgement in this action. The hearing took place in July last. A report of the proceedings appeared in the *BRITISH MEDICAL JOURNAL* for August 3rd, 10th, and 17th, 1918. The action was brought by Dr. Ernest Camden Pratt, Dr. David Holmes, Dr. Andrew St. Lawrence-Burke, and Dr. Charles Hodge Cairns, registered practitioners of Coventry, against the British Medical Association, and Dr. William H. Lowman, Dr. William J. Pickup, Dr. John Orton, and Dr. Thomas Webb Fowler, registered medical practitioners of Coventry, and members of the Coventry Division of the British Medical Association. The plaintiffs claimed damages for alleged conspiracy to injure them in their profession, and to libel and slander them, and for alleged libels and slanders. The allegations were denied.

Mr. Justice McCardie, in the course of a written judgement which it took him some four hours to deliver, said that the case was fraught with great importance not only to the medical profession, but to all other professions and trades. The plaintiffs, who were men whose character was free from stain, claimed damages for conspiracy and also for libel and slander. It was clear that the British Medical Association, whose great and beneficent work he recognized, had accepted responsibility for many acts of the other defendants. Their avowed object was to destroy the Coventry Dispensary, and in order to carry out that object a long deliberate and pitiless boycott of the plaintiffs had been instituted. The boycott was admitted; it was part of the scheme. The Coventry Dispensary was objected to because the collector was paid by fees, because there was too much lay control, and because there was at one time no wage limit. It was this institution—which his Lordship described as a highly respectable, well-managed dispensary—that the defendants had determined to destroy. After dealing at great length with the legal aspect of the conspiracy charge, his Lordship found that the question of ethics had nothing to do with the case. The plaintiffs had been attacked because they defeated the intended overthrow of the dispensary. The defendants' conduct was doubtless instigated to a large extent by the desire to protect the local pecuniary interests of the Coventry doctors and the general interests of the profession. It had been contended that the defendants were not actuated by malice. He did not think malice was an essential element in the cause of action founded on conspiracy to injure; but if it were, he was compelled, however reluctantly, to find that the defendants had acted maliciously. They were angrily hostile to the plaintiffs, and unceasingly bitter in their conduct towards them. He was also satisfied that the defendants had desired to punish the plaintiffs, and that the Association were liable in a corporate capacity for the acts of their co-defendants acting as their agents. As to the rules under which the boycott was carried out, he held that they were illegal and void, as being in restraint of trade. On the conspiracy charge he thought the defendants, as joint tortfeasors, were jointly and severally liable to pay damages in the following sums: Dr. Burke, £1,000; Dr. Holmes, £700; and Dr. Pratt, £700. With regard to the charges of libel and slander, he held, generally, that the plea of privilege broke down, because malice had been proved, and that the plaintiffs were entitled to damages amounting to some £1,300, made up of various sums awarded to each plaintiff in respect of distinct libels. He concluded by saying that the case had been most complicated, most difficult, and most painful. The entry of judgement and the terms of injunction were reserved.

## STANDARD CLINICAL THERMOMETERS.

THE Minister of Munitions has issued under the Defence of the Realm Regulations an Order (to be known as the Clinical Thermometer Order, 1918) to the effect that on and after October 21st next no person shall sell, offer for sale, supply or deliver any clinical thermometer which has not been tested, approved, and marked in accordance with rules made by the Controller of Glassware Supply in consultation with the Local Government Board and the Department of Scientific and Industrial Research. These rules are as follows:

1. Before any clinical thermometer is sold, offered for sale, supplied or delivered, the same shall be forwarded carriage paid to the Director of the National Physical Laboratory, Teddington, for testing and approval.
2. For a period of one month after the date of the Order, no thermometer showing at any point in its registration of temperature an error of more than 0.4° F. will be approved. On the expiry of this period, no thermometer shall show an error exceeding 0.2° F. over the range up to 106° F. Above this temperature, the error shall not exceed 0.3° F. For thermometers graduated in degrees other than Fahrenheit, corresponding tolerances will be allowed. A thermometer will not be approved if it is not self-registering with a constriction, which must be such as to retain the index column and also allow of the mercury being reset.
3. Approved thermometers will be marked with the National Physical Laboratory trade mark and the year of test thus: NE 18. The charge for testing the thermometers will be 3d. per instrument, payable in advance to the director of the laboratory, this charge to cover return carriage upon the instruments to any place in the United Kingdom, and also insurance against loss or damage in transit both ways and during test at the laboratory. All thermometers submitted for testing to the director must be clearly engraved with a distinctive number. Thermometers not already so engraved will be engraved at the laboratory at a charge of 1d. per instrument, payable in advance to the director.

NOTE.—The National Physical Laboratory is prepared to issue a certificate setting out details of the results of the prescribed tests in regard to any thermometer which is approved in accordance with the above rules, on payment of an additional fee, particulars of which may be obtained from the director of the laboratory.

Applications with reference to the above Order should be made to the Controller of Glassware Supply, Ministry of Munitions of War, 22 and 23, Hertford Street, W.I.

## Obituary.

SIR W. HENRY THOMPSON, K.B.E., M.D., M.Ch., R.U.I.,  
F.R.C.P.I., D.Sc. Hon. CAUSA, UNIV. DUBLIN.

Professor of Institutes of Medicine, School of Physic, Trinity College, Dublin; Scientific Adviser to the Food Ministry.

WHEN the news of the sinking of the *Leinster* in the Irish Sea reached Dublin, on October 9th, considerable anxiety was felt about the safety of Sir Henry Thompson. He had dined at Commons in Trinity College on the evening preceding the disaster, and had stated that it was his intention to sleep on board the mail boat that night and cross to London on the following day. There can be no doubt that he lost his life on the occasion, for nothing has been heard of him since.

William Henry Thompson was a native of Granard, co. Longford, his school days were spent at the Dundalk Institution, and from there he entered Galway College in 1879. Here he carried off during his undergraduate course all the available scholarships in mathematics and medicine, and finally graduated with the highest honours and a first class exhibition in the Royal University of Ireland in 1883. He subsequently became a demonstrator of anatomy in Trinity College and engaged in private teaching for four years. He then took up the study of physiology, and from 1893 to 1902 he filled the chair of Dunville professor of physiology in Queen's College, Belfast. In the latter year he was elected to the chair of Institutes of Medicine in the School of Physic, Trinity College, Dublin, and this position he still held at the time of his death.

Soon after the outbreak of war he made provision for the discharge of his duties in Trinity College by the appointment of a substitute, and in order to set free a medical practitioner of military age he offered his services and took up asylum work in Scotland. Later on he was brought to London as scientific adviser to the Ministry of Food. In this capacity his knowledge of food values and the experiments he carried out in connexion therewith



helped him to give advice of great national importance to the Food Controller in the drafting of schemes for rationing the food of the nation. In recognition of his services in this capacity His Majesty conferred upon him the honour of K.B.E. in January last.

For many years Thompson acted as examiner in physiology for the Royal College of Surgeons of England, of which body he was a Fellow, but he resigned the Fellowship of this College on being elected to the Fellowship of the Royal College of Physicians of Ireland in 1914. In his earlier years as a physiologist Thompson translated Pavlov's great book on the *Work of the Digestive Glands*, and since then he contributed at intervals numerous papers on physiological subjects.

In 1894 Thompson married the eldest daughter of the late Professor Peter Redfern of Belfast. She was a true helpmate, and his home life was singularly happy. He leaves behind him in deep affliction Lady Thompson, a son and four daughters, to whom thousands of people in Great Britain and Ireland will extend their sincerest sympathy.

ALFRED HUME GRIFFITH, M.D. EDIN., D.P.H. CAMB.,  
Superintendent and Medical Officer of Lingfield Colony  
for Epileptics, Surrey.

By the premature death of Dr. Alfred Hume Griffith the medical profession has lost a member of the type it can ill spare. The second son of the late Reverend Edward Moule Griffith, B.A. Cantab., he was born in Worcestershire in 1875 and received his preliminary education at Persse School, Cambridge, and at Toines and Bedford Grammar Schools. The spirit of altruism and of the missionary—in the best sense of that word—strongly characterized even the earlier years of his manhood; and it was in order to fit himself in what seemed to him the best possible manner to be of service to others that he decided to enter the medical profession. He matriculated at Edinburgh in 1893 and graduated M.B., Ch.B. in 1899. In the following year he married Mary, daughter of George Welchman of Culmpton, and with her went to Persia to take temporary charge of the medical mission work at Ispahan. In 1901 he was appointed to undertake pioneer work in Kerman, and it was there, during a year of strenuous work, reluctantly relinquished on account of his wife's ill health, that, by his personal influence, he was successful in breaking down much hostile fanaticism; dangers, which in similar circumstances have all too often cost the lives of those determined to face them. During part of 1902 and of the following year he had charge of the medical mission work at Yazd. He left Persia in 1903, and, after a short furlough, largely spent in study at Edinburgh, where he took his M.D. degree, Griffith offered himself for work in Palestine; he was appointed to the C.M.S. hospital at Nablus, and while proceeding thither he obtained at Constantinople the Turkish certificate enabling him to practise medicine throughout the Turkish empire. In 1904, after a year's residence at Nablus, he moved to Mosul in Mesopotamia, where for four years he lived a life of noble self-sacrifice and devotion to the needs of those about him. He founded a hospital where, without the aid of any European doctor or nurse, and, assisted only by native men whom he himself had trained, he did much surgical work including many major operations and numerous operations for cataract and lithotomies. His collection of calculi is in the museum at Cambridge. But his unflinching obedience to the ceaseless calls on his time and strength proved too great a strain on his health, and, to his deep disappointment, he had to submit in 1903 to being invalided home.

In October, 1910, after a period of further study, during which he obtained the Cambridge D.P.H., Griffith was appointed superintendent and medical officer of the Lingfield Colony for Epileptics, one of the homes established by the National Union for Christian Social Service, and an institution the deservedly high reputation of which he has done so much to enhance. If his impaired health compelled him to confine his energies within a comparatively restricted sphere, he none the less threw them heartily into his new work, and he was able to bring to it a rare union of qualities best suited for the successful handling and treatment in colony life of a malady and temperament admittedly presenting peculiar difficulties. Himself of athletic instincts—he was an Edinburgh "blue" in football, and when abroad never so happy as in the saddle—he saw to it that

his patients, as far as possible, lived an open air life, abundantly supplied with occupation, recreation, and hobbies. Nevertheless he was an omnivorous reader, and kept himself well abreast with the results of medical research, especially those which he could use to his patients' advantage. His own powers of observation and research are displayed in the contributions he made to medical and other literature, among which mention may be made of "Hereditary factors in epilepsy" (*Review of Neurology and Psychiatry*, 1911), "Cerebellar abscess" (*Scottish Medical and Surgical Journal*, 1904), "Lingfield Epileptic Colony" (*The Child*, 1911), "Mental tests in defective children" (*The Child*, 1916), and some chapters on medical missions in his wife's book, *Behind the Veil in Persia and Turkish Arabia*.

When it became known that the Ministry of Pensions was in pressing need of further accommodation for the institutional treatment and training of discharged sailors and soldiers suffering from epilepsy, and that through the British Red Cross Society initial funds would be available to meet capital expenditure, Griffith, with the assent and co-operation of his committee and despite his precarious health, readily agreed to meet these needs so far as the possibilities at Lingfield permitted. Experience has shown that the satisfactory treatment of these particular cases is a specially difficult problem—so many of the men fail to realize their disability, and are, not unnaturally, impatient of the necessarily prolonged treatment. But Griffith possessed the technical skill requisite to obtain insight into the nature, and often the origin, of individual peculiarities, and his sympathy with the men and his determination to restore them to a normal civilian life engendered, besides affection, a loyalty that explains much of his success.

Besides his patients, staff, and many friends, he leaves to mourn his loss his widow and a young daughter, the former of whom has been his indefatigable companion and collaborator, and to whom, throughout the ten weeks' painful illness which ended in his death on September 24th, he made no murmur of complaint. The interment took place in Lingfield churchyard.

C. H. B.

SIR ALEXANDER CHRISTISON, Bt., M.D.  
I.M.S. (Ret.).

SIR ALEXANDER CHRISTISON, son of Sir Robert Christison, the famous professor of medical jurisprudence in the University of Edinburgh, died at his residence in Edinburgh on October 14th. Alexander Christison, who was born on August 26th, 1828, was educated at the Edinburgh Academy and Edinburgh University, and graduated M.D. in 1850, winning the gold medal for a thesis on *cannabis indica*. In the following year he became assistant surgeon in the Honourable East India Company's Service, and served with the 4th Sikh Infantry in the Burmese war, 1852-53, receiving the medal and clasp. He served again with the 1st Cavalry, Gwalior Contingent, in 1855-57, and with Meade's Horse in 1858, during the Mutiny at Gwalior and Agra; he received the medal for the campaign and clasp. Afterwards he had medical charge of the 18th Bengal Infantry. In 1858 he was appointed superintendent of vaccination and lecturer in surgery at the Agra medical school, and in 1865 became principal of the school and superintendent of the Agra Lunatic Asylum. He was promoted surgeon-major in 1871, deputy surgeon-general in 1877, and in 1879 became surgeon-general for the North-West Provinces and Oudh. He retired in 1882, when he succeeded his father, and settled in Edinburgh. During his long residence there he showed great interest in medical matters, particularly in the medical education of women, being for a long time president of the Scottish Association for the Medical Education of Women. He was president of the Royal Victoria Hospital in Edinburgh from its foundation in 1887, and was always ready to give time, energy, and influence to the promotion of the campaign against tuberculosis in Scotland. Sir Alexander Christison was twice married; by his first wife he leaves one son and two daughters, and by his second, who survives him, two sons and three daughters. His youngest son, a lieutenant in the Argyll and Sutherland Highlanders, was killed in action in December, 1915. He is succeeded by Major R. A. Christison, R.G.A. Militia (retired).



DR. WALTER FREDERICK DE WATTEVILLE, who had practised at Kingussie, N.B., for thirty-five years, died on October 3rd, aged 60. He was a native of Berne, Switzerland, and received his medical education at Edinburgh University. He took the diplomas of L.R.C.P. and S. Edin. in 1882, and graduated M.B., C.M. Edin. in 1883, taking the M.D. with commendation in 1902. He took great interest in the open-air treatment of tuberculosis, and was medical director at the Grampian Sanatorium for Open-air Treatment of Phthisis. He also held the appointments of assistant medical officer of health for the Badenoch district, visiting physician to the District Infectious Diseases Hospital, and medical officer to the Post Office. Dr. De Watteville was a member of the Inverness Division of the British Medical Association and of the Medico-Chirurgical Societies of Edinburgh and Aberdeen.

DR. ROBERT MUNN GILCHRIST, who had been in practice for forty years at Bolton, died on September 15th, aged 62. He studied medicine at Glasgow University, and graduated M.B., C.M. in 1880. As a member of the Bolton Board of Guardians for fifteen years he rendered valuable services. Early in July, when influenza was epidemic in the district, Dr. Gilchrist became a victim, and this aggravated a heart affection from which he had previously suffered. He leaves a widow and three young sons. Dr. Gilchrist was a member of the Bolton Division of the British Medical Association.

## Universities and Colleges.

### UNIVERSITY OF CAMBRIDGE.

THE following candidates have been approved at the examination indicated:

**SANITARY SCIENCE.**—Captain A. Grant, R.A.M.C., Joan Hardy, Captain W. A. D. King, R.A.M.C., A. D. MacMahon, May H. Rowledge, Hilma M. Scarborough, P. Stocks, Shankari Lal Vaidya, J. D. Whitfield, Staff Surgeon J. H. Wright, R.N.

### UNIVERSITY OF EDINBURGH.

THE following degrees were among those granted at the graduation ceremony in the McEwan Hall of the University of Edinburgh on October 11th:

**M.B., CH.B.**—Catherine J. Anderson, Gladys C. Carleton, A. B. Grant, Hon. Roe Lim, M. Lipschitz, Akinola Maja, M. Sash, E. B. Theunissen.

The Principal in the course of his address referred to the new chairs in therapeutics, tuberculosis, and in French, and mentioned the agreement between the Scottish universities as to the manner in which students should be tested before entering the university. It was hoped that in future at least a large proportion of the students would bring certificates of a proper course passed in the secondary schools. The university now had an important department for the training of disabled and discharged officers; these special courses were now being extended by seventy, and it was certain that this was but the beginning of what was going to be a great piece of work for universities in the immediate future. Enrolments of students were now definitely on the up-grade. Compared with the corresponding date last year, there was an increase of 259 men and of women matriculated, bringing the total numbers to 1,474, as compared with 1,103 last year at that time. That was a definite indication that the tide had turned. It was particularly in medicine that the increase had taken place, but it was also to a great extent in science, and they now had women entering for such subjects as engineering, agriculture, and forestry. The university finances, Sir Alfred Ewing observed in conclusion, were in an extremely unsatisfactory state. Although they had been practising all the economy they could, they found themselves obliged to find a much larger sum in each war year. In future they must expect to meet large expenditure if they were to bring the university into a condition that would fit it to occupy the part it ought to play in the work of reconstruction. They and the other universities would have to make a special appeal to the Treasury for Government aid. Any such appeal would only be successful if the university was able to show that it was receiving large help from non-Government sources.

### UNIVERSITY OF GLASGOW.

THE following candidates have been successful at the examinations indicated:

**M.B., CH.B.**—*Medical Jurisprudence and Public Health (New Regulations).*—J. S. Aitken, T. Anderson, A. K. Regg, D. MacG. Blair, A. D. Brown, J. G. Coltart, A. C. Connell, J. L. Cowan, R. A. Forsyth, M. F. Gibson, J. A. M. Hall, J. Hewitt, J. Hill, S. H. W. K. Douglas, M. Lindsay, W. W. Lundie, W. S. McIntyre, P. V. Mackay, M. S. Molema, F. B. Morrison, J. W. Morton, D. J. Nicol, A. G. Petrie, J. Pollock, F. C. Rankin, H. A. Ross, W. Scott, A. Strang, D. M. Watson, R. K. Watt, W. Whitlaw, Christine C. Abernethy, Grace H. Anderson, Marjorie M. Anderson,

Susan S. Price, Annie B. Cameron, Elizabeth P. Cameron, Edith Chambers, Mary T. L. Clark, Emily L. Clow, Veronica C. J. Davies, Louise Denih, Edith D. Dobbs, Charlotte A. Douglas, Margaret H. Grant, Helen Hoag, Margaret Logan, Alice McIlwre, Alice McIlshann, Evelyn C. MacD., MacGregor, Ellen T. MacKenzie, Annie I. C. MacLaurie, Margaret E. MacLaren, Caroline J. MacLennan, Agnes H. Macmillan, Georgina Morbach, Margaret M. Patterson, Louise E. Pearson, Katherine O. Robertson, Margaret N. Robertson, Edna D. Sandison, Patricia Sinclair, Elaine B. S. Stenquart, Mariel A. Stowe, Jean B. Thomson, Maude Thomson, Helen B. Wilson. *(old regulations).*—J. Connal, J. B. O'Neill.

With distinction.

### ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A quarterly Council was held on October 10th, when Sir George Aikman, President, was in the chair.

**Roll of Papers.**—A report was submitted by the Library Committee up to the Librarian's services in preparing a roll of the fellows, for whom he had written about 1,410 lives up to the present time.

**Jenks Scholarship.**—Mr. Thomas Haines Sims was nominated as the twenty-sixth Jenks scholar.

**Ministry of Health.**—A letter (July 26th) from the Medical Secretary of the British Medical Association was read, reporting the resolution unanimously passed by the Annual Representative Meeting of the Association on July 25th, asking for the co-operation of the Royal Colleges in formulating a scheme for the establishment of a Ministry of Health. It was agreed that the co-operation of the College should be given.

**Bradshaw Lecture.**—The Bradshaw Lecture will be given by Mr. M'Arcy Power on November 14th, at 5 p.m. The subject is cancer of the tongue.

## Medical News.

ON October 12th—the third anniversary of the execution of Nurse Cavell by the German military authorities in Belgium—Queen Alexandra opened the Cavell Memorial Home at Norwiche and unveiled a bust. Queen Alexandra said that it was most fitting that the county to which Nurse Cavell belonged should have instituted the home, which would be the mother house of similar institutions throughout the empire.

**FOUNDER'S DAY** at the National Hospital for the Paralyzed and Epileptic, Queen Square, Bloomsbury, W.C., will be celebrated on Monday, November 4th. The proceedings will begin with a short service in the hospital chapel at 5 o'clock, when the Master of the Temple will give an address.

AT the first scientific meeting of the Zoological Society of London for the present session Professor H. M. Lefroy will read a paper, illustrated by lantern slides, on the wheat weevil in Australia, which has done so much damage to the stores of the Wheat Commission. The meeting will be held on Tuesday next at 5.30 p.m. at the offices of the society, Regent's Park.

**PROFESSOR SELSKAR M. GUNN**, one of the associate directors of the American Commission for the Prevention of Tuberculosis in France (the Rockefeller Foundation), will give a lecture, illustrated by lantern slides, at the annual meeting of the National Association for the Prevention of Consumption and other Forms of Tuberculosis, on Tuesday, October 29th, at 4 p.m., at 20, Hanover Square, W.1. He will show the methods the Commission is using in France. Tickets of admission can be obtained from the secretary of the N.A.P.C., 20, Hanover Square, W.1.

**PROFESSOR HENRI L. JOLY** will give a course of three public lectures in English on France's share in the progress of science, at University College, London. The first lecture, on October 22nd, will deal with mathematics, astronomy, and physical science; the second, on October 29th, with chemistry and the natural sciences; and the third, on November 5th, with biology and the medical sciences. The lectures, which will be given at 5 p.m. on each day, will be open to the public without fee or ticket.

THE total number of students of medicine enrolled in the five universities of Switzerland in the summer semester of 1918 was 1,725. They were distributed as follows: Bale, 220 (174 Swiss, of whom 15 were women, and 46 foreign, of whom 4 were women); Berne, 385 (242 Swiss, of whom 29 were women, and 143 foreign, of whom 16 were women); Geneva, 381 (163 Swiss, of whom 16 were women, and 218 foreign, of whom 58 were women); Lausanne, 225 (159 Swiss, of whom 13 were women, and 66 foreign, of whom 16 were women); Zurich, 504 (350 Swiss, of whom 56 were women, and 154 foreign, of whom 16 were women).



## Letters, Notes, and Answers.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Atitology*, Westrand, London; telephone, 2631, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Medisecra*, Westrand, London; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2, that of the References Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### QUERIES AND ANSWERS.

#### ACNE ROSACEA.

M.D. asks as to a local application for mild acne rosacea in a lady of 44 who has good general circulation. For weeks at a time her nose is brilliantly red and very cold though greasy. There are no visible dilated venules. She has occasional attacks of indigestion which do not seem to affect the nose at all.

#### INCOME TAX.

W. S. has been assessed in respect of his superannuation allowance as a retired district medical officer at the rate of 6s. in the £, and inquires whether he is not chargeable at a lower rate.

\*.\* The income should be treated as "earned" for the purpose of assessment to income tax, but we must remind our correspondent that 6s. is the "earned" rate applicable where the total income exceeds £2,500. If his income is below that limit, he should file a statement of total income with the surveyor of taxes, whose address he will presumably find on his notice of assessment.

### LETTERS, NOTES, ETC.

We have received a copy of *Butterworth's Medical Catalogue* for 1918, which gives a list of English, Indian, and American works on medicine, surgery, obstetrics, pharmacy, ophthalmology, dentistry, and the allied sciences. Copies may be obtained gratis and post free from Butterworth and Co. (India), Ltd., 6, Hastings Street, Calcutta, by any registered medical practitioner in India and the Far East.

#### V.A.D. MEDICAL OFFICERS.

ANOTHER V.A.D. MEDICAL OFFICER writes: The thanks of the profession are due to the letter from a "V.A.D. Medical Officer" in the BRITISH MEDICAL JOURNAL of October 12th. It is high time to raise the matter. I should like to point out that during the first two years of the war not only was the work done by the V.A.D. medical officers voluntarily, but a great number of men whose hospitals were miles away in the country from the towns in which they resided, were actually considerable sums of money out of pocket.

#### TREATMENT OF ECLAMPSIA.

DR. WM. MILLIGAN (Bewdley) writes: The case of Caesarean section for eclampsia in the BRITISH MEDICAL JOURNAL, September 28th, interests me in view of a case of eclampsia (reported by me in the *Lancet* in 1872) treated by induction of premature labour. In neither case was there any mechanical obstruction or deformity; in Dr. Masterman's the woman had already been delivered of two living children and the os admitted two finger-tips. Both cases terminated satisfactorily; in mine the girl subsequently married and had children.

The point I want hesitatingly to bring forward is this: Is it justifiable to adopt the more severe and dangerous plan of treatment when there is open to us a much easier and safer, though less brilliant, method of emptying the womb? My opinion is, perhaps, not of much value, but it seems to me that our duty to our patient should require us to employ the simpler and less severe treatment in all cases where there is any choice.

#### EGYPTIAN PUBLIC HEALTH COMMISSION.

LIEUT.-COLONEL ANDREW BALFOUR, R.A.M.C. (The Wellcome Bureau of Scientific Research, 10, Henrietta Street, Cavendish Square, W.1), writes: My attention has been drawn to a note under the heading "Medical News" in the BRITISH MEDICAL JOURNAL for October 5th, 1918. In this note you mention the appointment of a special commission under my presidency to examine the public health administration of Egypt. From the way the note is worded, I find that it gives the impression that I am in Egypt or will be shortly leaving for that country. May I therefore be permitted to say that

the commission to which you refer held its sittings during June and July last and submitted its report towards the end of the latter month? This report, which strongly advocates the establishment of a Ministry of Health in Egypt, has already been published in the *Egyptian Gazette* and will doubtless ere long be available in this country.

#### ABORTION IN LORRAINE IN THE EIGHTEENTH CENTURY.

DR. A. SATRE of Grenoble has found a collection of old decrees in an ancient manor house of Lorraine where he was quartered (*Paris med.*, September 11th, 1918). Among them is an ordinance against concealment of pregnancy and delivery by unmarried women or widows by Leopold "by the Grace of God Duke of Lorraine and Bar, King of Jerusalem, Marches, Duke of Calabria, Guelders, Montferrat, Charleville" etc., with a string of other titles recalling those of the Earl of Shrewsbury in *Henry VI.* After calling attention to the prevalence of abortion and infanticide in the Duchy he enunciates the principle that, although a child born out of wedlock is the fruit of incontinence, it is nevertheless a citizen of the commonwealth and as such it is the interest of the State to afford it protection against violence by parricidal (*sic*) hands. Women when brought before the magistrate plead that the child was stillborn, and the law provided no definite penalty for the offence; it was therefore deemed expedient to lay down an inviolable rule for the future. Wherefore, says the Duke, "on the advice of our Council and of our sure knowledge, plenary power and sovereign authority we declare, ordain," and so forth, that a woman who has been seduced and become pregnant shall report her condition to the official authorities, a record of which statement shall be signed by her if she can write, or if not by the judge or his clerk. This must contain the name of the father and an undertaking to take care of the child. The mother must be attended by a midwife, and while she is in the throes of labour the chief officer of justice shall be present and press for a declaration on oath of the name of the father. If women are delivered without assistance, and the child is born dead or dies immediately after birth, it shall be presumed to have been murdered by suffocation or otherwise, and they are punished with death. Women convicted of having attempted abortion by means of drugs or drugs shall be liable to such penalties as the judge may think fitting; if abortion has actually been induced, this may be death. Exposure of the child on the highway, at a church door, or elsewhere in such manner as to endanger its life, either by weather or the voracity of animals, is punishable by flogging at cross roads and branding on the shoulder with a hot iron by the public executioner. Accessories are liable to a similar penalty. If an exposed child dies by accident or want of food the mother or other persons convicted of having exposed it shall be punished by death.

#### THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

##### Subscriptions to the Second Appeal.

The following subscriptions have been received up to Monday last, October 14th:

	£ s. d.		£ s. d.
Miss Agnes M. Cowan	...	Dr. F. Bell	1 0 0
M.O. Jc Q.M.A.A.C. ...	2 2 0	Major L. G. Dilloo	1 1 0
Dr. W. H. Davies	...	Dr. J. Chalmers	2 2 0
(quarterly) ...	1 10 0	Dr. O. W. Cassen	5 5 0
Mr. E. Spencer Evans	...	Dr. A. S. Percival	1 1 0
(monthly) ...	0 10 0	Dr. D. Revie	1 1 0
Dr. J. W. Papillon	...	Dr. G. H. Lowe	1 1 0
(quarterly) ...	0 10 6	Dr. J. Charles	2 2 0
North of England Branch	...	Mr. Morrison Johnston	1 1 0
B.M.A. ...	...	Dr. F. Barker	1 1 0
Dr. T. L. Bunting	5 5 0	Dr. H. E. Mortis (second	...
Dr. F. Beaton	1 1 0	donation this year)	1 0 0

\* Per Dr. J. Don, Honorary Secretary.

Subscriptions to the Fund should be sent to the Treasurer, Dr. H. A. Des Vaux, at 14, Buckingham Gate, London, S.W.1, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited.

AN additional medical referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 6, to be specially attached to the St. Helens and Widnes County Courts, is to be appointed; the referee must reside in St. Helens or the immediate outskirts. Applications must be sent to the Private Secretary, Home Office, by November 6th.

THE appointments of certifying factory surgeons for Swaffham (Norfolk) and Spennymoor (Durham) are vacant.

#### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Seven lines and under	0 6 0
Each additional line	0 0 9
Whole single column	4 0 0
Whole page	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *coste restant* letters addressed either in initials or numbers.



## The Harveian Oration

ON THE

DOCTRINE OF CONSUMPTION IN HARVEY'S  
TIME AND TO-DAY.DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS  
OF LONDON, OCTOBER, 1918.

By PERCY KIDD, M.D. OXON., F.R.C.P.

## (Abstract.)

RATHER more than 300 years ago, in his Lumleian lectures delivered in 1616, William Harvey first made known the results of his experiments on the circulation of the blood, though his complete work was not given to the world until 1628.

In 1656, the year before his own death, Harvey made provision for the annual delivery of an oration to commemorate the benefactors of the College, to exhort the Fellows and Members of the College to search out the secrets of Nature by way of experiment and to continue in mutual love and affection amongst themselves. In his injunction to search out the secrets of Nature by way of experiment, Harvey urges others to follow the practice which, in his hands, had led to such great results. His discovery of the circulation of the blood was founded on experiment and could not have been worked out in any other way. While learned physicians were engaged in subtle metaphysical discussions about disease, Harvey addressed himself to his own experimental work until he felt justified in publishing his revolutionary results.

In his introduction to the treatise on the generation of animals, Harvey pours contempt on the exclusive reference in all discussion to the authority of the great men of the past, in these words:

The method of investigating truth commonly pursued at this time therefore is to be held as erroneous and almost foolish, in which so many inquire what others have said, and omit to ask whether the things themselves be actually so or not.

Yet Harvey was no despiser of the ancients, as his numerous references to Aristotle and Galen attest. At the present day there is no fear of undue respect being paid to the old masters; nay, the young lions of the twentieth century are too well satisfied with their own prowess to devote much thought to an ignorant age that knew nothing of vaccines, blood cultures, test meals, blood counts, and other revelations of these latter days.

We may feel sure that had Harvey lived in these days, when not only the Commonwealth of England but the whole world is full of distractions, he would still have found solace in his studies. What Harvey did we may all do according to our several capacities. Those of us who, from one cause or another, are unable to render direct service to the State can yet help to carry on the civil life of the community which is indispensable to the successful conduct of one of the most righteous wars in which our country has ever been engaged.

It is hardly necessary at the present day to insist on the value of experiment in the elucidation of disease, and Harvey's injunction to search out the secrets of Nature by way of experiments has now lost something of its original point. To-day experiment is in the air. And though much of the laboratory work published appears sterile and inconclusive, all additions to the sum of knowledge, however small and indirect, must have their value. In no disease, perhaps, has the beneficent influence of experiment been more strikingly exemplified than in consumption or tuberculosis. Experiment has been the light that lightened our darkness.

The seventeenth century, with its many wonderful achievements in literature, art, and science, marks the beginning of a new era in the study of consumption. Let us then compare the doctrine of consumption in Harvey's time with that of to-day.

In order to comprehend the state of opinion in Harvey's day we must retrace our steps to the time of Hippocrates, to whom we owe the first recorded account of consumption. Hippocrates defines phthisis as suppuration and ulceration of the lung, and includes under the same head empyema, abscess of the lung, and gangrene. He speaks also of *phūara*, swellings or growths in the lung, as causing phthisis. In Latin editions of his works these are trans-

lated "tubercula," hence, as Waldenburg points out, it has been thought that Hippocrates was acquainted with tubercles. But Virchow, after a critical examination of the passages in which *phūara* are mentioned, came to the conclusion that these were circumscribed abscesses, and not tubercles in the modern sense. These swellings are attributed by Hippocrates to collections of mucus or bile which suppurate, and are described as occurring also in the tonsils and in other parts. The causes of consumption are pneumonia which fails to resolve in a critical manner, spitting of blood, and suppuration in the pleura. Pituitous secretion dropping down from the head and stagnating in the lung is another cause of suppuration and phthisis.

It is an eloquent testimony to the authority of Hippocrates that these views were adopted wholly or in part by every writer of note for the next two thousand years. Celsus added nothing to the account given by Hippocrates. Aretæus was the first to distinguish phthisis from empyema; but he makes no mention of *phūara* or anything resembling tubercles in the lungs. Galen in the main follows Hippocrates. Phthisis is caused by ulceration of the lung. Ulcers of the lung are like ulcers of any other parts, and are due to direct injury, rupture and hæmorrhage from strain, and inflammation. Galen speaks of *phūara* as inflammatory swellings resembling furuncles and buboes.

One of the earliest references to contagion is believed to be found in these words: "It is dangerous to live with consumptives and with those whose foul breath imparts a heavy odour to the rooms in which they lie." Bulloch and Greenwood point out that Aristotle had expressed similar views concerning contagion.

The Arabian physicians closely followed Hippocrates and Galen, and made no further contribution to the subject. Phthisis remained an ulcer of the lung. The position was unchanged until the seventeenth century.

At this eventful period, when anatomical examination of the dead became more general, medical science began to burst its fetters, and a true renaissance of medicine set in. The time which produced Harvey's great work on the circulation witnessed other striking developments of medical knowledge, and this century constitutes one of the great epochs in the study of consumption. Among the writers of this time who dealt with this disease two men stand out pre-eminently—Franciscus Sylvius and Richard Morton.

A glance at the medical works of Sylvius will show how wide was the range of his studies. There were few branches of medicine that he did not touch. Apart from his anatomical work, Sylvius has been chiefly known as the author of a purely chemical theory of disease which had little permanence. Nevertheless these views possess a special interest at the present time, when the importance of physiological and pathological chemistry is fully realized. But in his work on consumption he stands out as one of the pioneers of the seventeenth century, and for this reason alone he would merit imperishable renown. The views of Sylvius on this subject do not appear to have attracted the attention which they deserve.

We see from a study of Sylvius's writings how greatly he was dominated by the influence of Hippocrates. "Phthisis sive ulcus pulmonum" is a phrase he uses more than once. Like all previous writers, he attributes phthisis in most cases to peripneumonia or pleurisy ending in suppuration. But he makes a great advance when he states that tubercles are often seen in the lung in cases of consumption. Still more important is his discovery that tubercles soften and suppurate to form vomicae. In his view, tubercles were nothing more than enlarged glands, which he supposed to exist in the lungs and other parts of the body, the enlargement being due to accumulation of viscid humours or secretions in these glands. The origin of the humours is referred to many causes, acting for the most part through the blood, especially to excess of various secretions such as bile, pancreatic juice, or saliva, also to changes in the thyroid secretion, which, as he supposed, found its way into the trachea.

In his conjectures concerning glands which in the natural state are so small as to be invisible, but when diseased become enlarged and are then seen scattered throughout the viscera and tissues of the body, it is not improbable that he is describing cases of generalized milary tuberculosis. The assumed glandular origin of tubercles in the lungs suggested a relation to scrofula or



cruma in which external glands were enlarged. The action of heredity is exerted through these glandular tubercles.

Varying conditions of humours, or, as we should say, secretions, at different ages are credited with powerful predisposing influence in the causation of phthisis. May there not be some truth in this? The varying activity and mutual relations of internal secretions, about which as yet we possess little accurate knowledge, have profound effects on the human organism, and who shall say that susceptibility to tuberculosis is not in some degree connected with these influences? The phthisical constitution or disposition is also attributed to changes in the humours or secretions of the body.

It seems, then, from the many-sided activities of Sylvius and from his important work on consumption, that Baker is justified in describing him as one of the great original thinkers of the seventeenth century, of the period that produced Harvey, Descartes, Leibnitz, and Malpighi.

Richard Morton was the author of two works, *Pneumatologia* and *Phthisiologia*, of which the latter alone concerns us now. He defines a consumption of the lungs as

an universal wasting of the parts of the body, caused by some distemper of the lungs, as a stuffing, swelling, inflammation and ex-ulceration of them, and thereupon it is attended with a cough, difficulty of breathing, and other symptoms of the breast, and accompanied with a fever, which at first is slow and hectic, afterwards inflammatory, and at last putrid and intermitting.

Morton clearly states his opinion that the formation of tubercles constitutes the first stage in the phthisical process. His belief in the great prevalence of tubercle and in the frequency with which spontaneous healing takes place has received striking confirmation in recent times. Morton distinguishes a special scrofulous variety of consumption in which

the blood by reason of its preternatural acrimony being, as it were coagulated, and so unable perfectly to unite the new Chyle to itself and the solid parts, is wont to throw it in a larger quantity than is convenient upon the glandulous parts . . . and what happens in other glandulous parts happens also in the lungs themselves, which are everywhere full of innumerable glandules, but of some more conspicuous ones, upon the windpipe and the branches of it, though in their natural state they are not so easily discerned: so that 'tis no wonder if those that have the King's Evil, who are frequently subject to glandulous swellings in other parts, are likewise many times affected with such kind of tubercles even in the lungs themselves.

But whether conscious or unconscious of a certain ambiguity in his description of this variety of the disease, he adds that the most certain diagnostic sign of this form "is to be taken from glandulous swellings in the external habit of the body accompanying it, or at least preceding it." Morton says that this variety of phthisis was the commonest in his experience and furnished most cases of recovery.

In estimating the value of Morton's work we must consider his relation to Sylvius, although he makes no reference to the writings of the latter. The *Opera Medica* of Sylvius were published ten years before the appearance of Morton's *Phthisiologia*, and it is unlikely that Morton was unacquainted with the older work, as the reputation and authority of Sylvius were then so great. Morton adopts Sylvius's view of the glandular origin of tubercles in the most thoroughgoing fashion, and follows him in other points. Sylvius, as we have seen, was far in advance of all previous authors in asserting that tubercles were often found in the lungs of consumptive persons, and in attributing the formation of vomicae to the softening and suppuration of tubercles. Morton went still further and maintained that tubercles were found in the lungs in all cases of consumption, whatever its origin might be. But in the seventeenth century the word tubercle was used in the etymological sense and as yet possessed no specific pathological significance. Both Sylvius and Morton insisted upon the contagious nature of this disease, a view which had long prevailed and seems to have been held by Galen and Aristotle.

Thomas Willis deals very briefly with the subject, but he makes the important observation that the general belief that phthisis is a pining away of the whole body arising from an ulcer in the lung is untrue. In proof of this statement he says that he had opened the dead bodies of

men that had died of this disease, in whom the lungs were free from any ulcer, and yet they were set about with tubercles or stones or sandy matter throughout. "Wherefore phthisis is better defined as a withering away of the whole body, arising from an ill formation of the lungs." Waldenburg thinks that Willis may have intended to describe miliary tubercles by the term "sandy material."

Sydenham added nothing fresh to our knowledge of consumption, but he recommended daily riding on horse-back as the principal assistant in the cure of this disease.

Bonetus, a contemporary of Sylvius and Willis, in his *Sepulchretum*, gives records of 150 necropsies of consumption from his own experience and from that of others. He regards phthisis as due to many different causes—ulcer of the lung, abscesses, scirrhus tumours, tubercles, vomicae. He speaks of tubercles as *tubercula glandulosa*, following Sylvius. Vomicae are closed collections of pus which resemble ordinary abscesses, but may be formed from tubercles. He seems to have described miliary tubercles in the following passage: "*Pulmonum parenchyma . . . duriusculum erat et multis quasi granulis instae steatomatum quae aliquid sebacei continebant, refertum.*"

Mangetus, who edited the *Sepulchretum* of Bonetus in 1700, added some further cases of phthisis, among which are included instances of generalized miliary tuberculosis; one case is summed up thus: "*Grandines pulmonum aliorumque partium cum phthisi.*"

Morgagni was so convinced of the contagious nature of consumption that he carefully avoided the dissection of those dead of this complaint. The cases which he describes in his great work *De Sedibus et Causis Morborum* seem to have been drawn from the records of his teacher Valsalva, who held similar views about contagion. Valsalva made the important observation that in all the cases he had dissected the ulcers and disease were in the upper part of the lungs. Morgagni considered that phthisis may be the result of the suppuration of tubercles, but he recognized other causes, and he accepted Morton's opinion concerning the connexion between scrofula and consumption.

Pierre Desault, a physician of Bordeaux, published his views on phthisis in 1733, four years before his death. In this work, which has great merit, he expresses himself very clearly. The causes of phthisis are divided into conjoint and antecedent. The conjoint cause is that whose presence sets up the disease and whose destruction leads to a cure. This cause he refers to as tubercles and concretions found in the substance of the lung and scattered through the different lobes. These concretions resemble hailstones and are of different sizes. From this description it is probable that Desault was acquainted with miliary tubercles.

All previous writers, both ancient and modern, with the exception of Willis, were agreed that the cause of phthisis is an ulcer of the lung. Desault rejects this view, relying on the results of his own experience.

Post-mortem examination of certain cases of phthisis which presented characteristic symptoms during life revealed a complete absence of ulceration, though the lungs were stuffed with tubercles. Phthisis is due to tubercles, ulceration of the lung is a secondary process. The symptoms of the disease precede the occurrence of ulceration and are therefore not due to ulceration, but to tubercles. He compares phthisis with *scrofula glandulosa*, both of them chronic diseases. Phthisis begins with tubercles or tumours in the lung, *scrofula* with tumours in the neck. In both cases the tubercles or tumours become inflamed and suppurate. Suppuration of scrofulous tumours leads to the formation of ulcers which are slow to heal and can only be cured by destroying the tumours and the cause which produces them. The same is true of ulcers in the lungs resulting from the suppuration of tubercles. Both diseases in the stage of suppuration are contagious.

Desault believed that the contagion in this case, as in venereal disease, depends on the presence of worms. If we substitute micro-organisms for worms, there would be little to add even now to this statement, and in any case we may fairly credit Desault with a true prophetic instinct. The doctrine of "Phthisis ab Haemoptoe" advocated by Morton and nearly all previous authors is rejected by Desault, who says that this chapter in Morton's book should be headed "*Haemoptoe a Phthisi*," for haemorrhage is the result, not the cause of phthisis.

Young people between the age of 18 and 35 are most liable to be attacked by phthisis, as Hippocrates pointed out, but other ages are by no means exempt, for one meets with the disease in



persons at ages below and above these limits, though less frequently. The subjects of phthisis for the most part are:

1. Those with contracted alar chests.
2. Those with a phthisical parentage and hereditary disposition.
3. Those exposed to contagion in which Desault is a firm believer. "Those who live with phthisical patients and wait on them may take the disease, though there be no hereditary disposition, for it is contagious. Thus wives who wait upon their phthisical husbands often contract the disease, and husbands who wait on their phthisical wives."

Desault was an enthusiastic supporter of the treatment of phthisis by horse exercise recommended by Sydenham, and he gives instances of the good results obtained by this means.

Cullen did not make much advance on the views of Sylvius and Morton. Tubercle is the commonest of many causes of consumption. The lung may contain tubercles without any symptoms for a time, but finally the tubercles suppurate and lead to phthisis. Tubercles are small swellings resembling indurated glands. Phthisis is common in persons of scrofulous parentage. Cullen assumes the existence of a disposition to the disease in certain individuals. Some cases that cough up calcareous matter, with or without blood, recover, others die. Asthma frequently terminates in consumption. Cullen did not favour the contagious origin of the disease.

William Stark, who died at the early age of 29, deserves special mention for his excellent work on the morbid anatomy of phthisis. His *Clinical and Anatomical Observations* were not published till 1788, eighteen years after his death. Tubercle is described as follows:

In the cellular substance of the lungs are found roundish firm bodies, named tubercles, of different sizes, from the smallest granule to about half an inch in diameter; the latter often in clusters. The tubercles of a small size are always solid, even those of a large size are frequently so; they are of a whitish colour and of a consistence approaching nearly to the hardness of cartilage; when cut through the surface appears smooth, shining, and uniform. No vesicles, cells, or vessels are to be seen in them, even when examined with a microscope, after injecting the pulmonary artery and vein.

This description shows that he was familiar with miliary tubercles though he does not use that term. He then traces the development of vomicae from tubercles and their communication with the air passages. Near the larger cavities the pulmonary vessels are suddenly contracted and the bronchi are thickened. The upper and posterior parts of the lung are first and most affected. Stark gives what I believe is the first account of an aneurysm of the pulmonary artery, measuring 1 in. by  $\frac{1}{2}$  in., opening into a vomica in the lung with a slit on one side of it. The patient died of hæmoptysis.

Matthew Baillie, at the end of the eighteenth century, gave an admirable description of tubercles in the lungs to which little has been subsequently added. He believed that tubercles arise in the cellular tissue of the lungs, and are not glandular in origin, as no glands exist in the lungs, "and on the inside of branches of the trachea, when there are follicles, tubercles have never been seen."

Tubercles are at first very small, being not larger than the heads of very small pins, and in this case are frequently accumulated in small clusters. The smaller tubercles of a cluster probably grow together and form one larger tubercle. The most ordinary size of tubercles is about that of a garden pea, but they are subject in this respect to much variety. They adhere closely to the substance of the lungs, have no peculiar covering or capsule, and have little or no vascularity. When cut into, they are found to consist of a white, smooth substance, possessing a firm texture, and they often contain in parts a thick curdy pus. In cutting into the substance of the lungs a number of abscesses is sometimes found, from tubercles of a considerable size having advanced to a state of suppuration. In the interstices between these tubercles the lungs are frequently of a solid texture, from the cells being in a great measure obliterated. The texture of the lungs on many occasions, however, round the boundaries of an abscess, is perfectly natural. . . . When tubercles are converted into abscesses, phthisis pulmonalis is produced, one of the most destructive diseases in this island.

Baillie described tubercles in other organs, but he did not offer any explanation concerning their relation to similar disease of the lung.

The great work of Bayle, in the early part of the last century, marks the commencement of a new era in the conception of phthisis. He divided the disease into several classes—tuberculous, granular, ulcerative, melanotic, calcareous and cancerous; of these the tuberculous is the most

common. This artificial classification, including tuberculous and non-tuberculous affections, did not long survive. Bayle's description of tubercles does not differ in essentials from that given by Baillie. The smallest tubercles he calls miliary. These are opaque or yellowish, and tend to suppurate and break down to form an ulcer.

Bayle's criterion of tubercle was an opaque or cheesy substance. Tubercle may be encysted on non-encysted, nodular or diffused. What Baillie called scrofulous matter Bayle called tuberculous. Like Baillie, he assumed a close connexion between scrofula and tubercle. In addition to tubercles, certain transparent hard miliary nodules were described in the lungs; these, which he called miliary granulations, were distinguished from miliary tubercles by the fact that they never became opaque or cheesy. From their hardness and translucency Bayle regarded them as of the nature of cartilage. The simultaneous appearance of tubercles in various organs of the body convinced him that the explanation was to be found in a common cause, and he attributed this dissemination to a tendency to the production of tubercles, a tuberculous diathesis or disposition. This diathesis was the common cause of tuberculous phthisis, which is a general disease, and for this condition the term tuberculosis was first employed by Bayle. The conception of a tuberculous diathesis had a profound influence on contemporary thought, and for fifty years after Bayle's death its effects could still be traced in medical literature. It needed the touch of genius to dispel the mists that obscured the relations of phthisis to tubercle, and this was supplied by Laënnec's masterly treatment of the whole subject. Laënnec proclaimed the doctrine of the unity of phthisis. All phthisis is tuberculous.

Tuberculous matter may be developed in the lungs and other organs under two principal forms: that of isolated bodies and that of infiltrations. Whatever be the form under which the tuberculous matter is developed, it presents at first the appearance of a grey and semi-transparent substance, which becomes by degrees yellow, opaque, and very dense. It then softens, gradually acquires a liquidity about equal to that of pus, and, being expelled through the bronchi, it leaves in its place cavities commonly known as ulcers of the lung, and which I shall designate by the name of tuberculous excavations.

He then describes miliary tubercles and Bayle's granulations and shows that transitional forms connect the two, proving that the latter are only an early stage of the former.

There is no other difference between them than that which exists between the green fruit and the ripe. All cheesy matter is tuberculous, even that which is sometimes seen in cancerous growths. Inflammation plays no part in the production of tubercles, which may develop in any organ of the body, and are to be regarded as new formations. Scrofulous glands are tuberculous. Hæmoptysis is never the cause of phthisis, but is always the result of disease already established. Tubercle, wherever situated, is connected with a certain disposition, but "the real cause, like that of all diseases, is probably out of our reach."

These views met with strong opposition on the part of some of Laënnec's own countrymen. Thus Broussais, accepting the tuberculous nature of phthisis, regarded tubercle as the result of irritation and inflammation of the lung, pleura, or bronchi, reverting to the standpoint of the seventeenth century, when the Hippocratic tradition still largely prevailed.

Andral took up a somewhat different position. While he embraced the idea of a tuberculous diathesis, he denied that tubercle is a new formation. According to his conception, caseous or tuberculous material represented inspissated secretion in the small bronchi and lung, which gradually becomes more compact and ultimately suppurates. The common causes of phthisis are pneumonia, pleurisy, catarrh, or hæmoptysis, occurring in persons with a tuberculous diathesis. He supported Bayle's view that miliary granulations are distinct from miliary tubercles, and considered that they represented discrete areas of alveolar inflammation.

Louis, by his elaborate pathological and clinical observations, gave strong support to Laënnec's views. Rokitsansky put forward a theory of a tuberculous crasis, dyscrasia, or blood change depending on a hyperinosis. He regarded scrofula and tuberculosis as identical. In England Laënnec's doctrine in the main was generally adopted.

Until nearly the middle of last century pathological



views were based almost entirely on naked-eye observations. But about this time the microscope began to be employed with important results, and numerous observations were made on the histology of tubercle. Lebert described certain small cells or tubercle corpuscles which were pathognomonic of tuberculous material. Reinhardt disputed the specificity of these cells and showed that similar appearances may be presented by pus corpuscles. William Addison regarded tubercle as consisting of epithelial cells derived from the white corpuscles of the blood.

Virchow, in his great work, *Die Krankhaften Geschwulste*, essayed to revolutionize the whole doctrine of tuberculous:

Miliary tubercle is the only criterion of what is tuberculous. Caseation, though a common change in tubercles, is not a specific process; it may occur in new growths and is often the result of inspissated pus. This transformation is a necrobiosis and is allied to other forms of degeneration. In pulmonary phthisis inflammation is the chief factor and may terminate in caseation. . . . Tubercle plays a subordinate part. The cells of tubercle resemble the cells of a lymphatic gland. Tubercle is a heteroplastic lymphoma, its seat is the connective tissues of the body. Scrofula is not a specific disease, but a manifestation of a general vulnerability of tissue and proclivity to disease. Heredity is recognized as a potent factor. What is inherited is a certain disposition or vulnerability, not the disease itself.

Niemeyer applied Virchow's views in their most extreme form to the clinical history of phthisis, which he divided into two groups—miliary tuberculosis and chronic caseous pneumonia.

Any form of pneumonia may terminate in phthisis, but in most cases it is a chronic catarrhal pneumonia which leads to caseation and excavation. Haemoptysis may set up a caseating pneumonia and is a common cause of phthisis. Miliary tuberculosis is seldom a primary affection of the lung, but is generally secondary to ulcerative pneumonia or to a caseous lymphatic gland. Phthisis is not a specific disease and is not hereditary. A congenital vulnerability and a tendency to a luxuriant growth of cells are the distinguishing marks of this disease, and in this sense there is a connexion between phthisis and scrofula.

This profession of faith, supported by the great authority of Virchow, found much favour in Germany. But in France and England the great majority of physicians held firmly to Laënnec's doctrine of the unity of phthisis.

In 1857, when discussions about tubercle were still chiefly concerned with histological details, Buhl came forward with the important statement that generalized miliary tuberculosis is the expression of an infection of the blood originating in a caseous focus situated in a lymphatic gland, in the lung, or in some other part of the body. This was the first attempt to explain tuberculosis on the basis of infection, and constitutes a landmark in the inquiry.

Seven years later Villemin made known the results of his memorable researches on the experimental production of tuberculosis in animals. Rabbits and guinea-pigs inoculated with miliary tubercle, caseous matter or phthisical sputum, invariably developed tuberculous lesions in the serous membranes, lungs, and other organs. In certain animals, such as dogs, cats, and sheep, inoculation was unsuccessful. Control inoculations with other material, such as cancer or anthrax, invariably failed to produce tuberculosis.

Villemin concluded from his experiments that tuberculosis is a specific inoculable disease, and he compared it with virulent maladies like small-pox, syphilis, and glanders. These conclusions were disputed at first on the ground that tuberculous lesions could be produced experimentally by the injection of non-tuberculous material. But, after much controversy, the truth of Villemin's views was universally acknowledged.

In 1867 William Budd, basing his opinion on geographical and epidemiological considerations, enunciated the view that phthisis is a zymotic disease like typhoid fever, and that its propagation is determined by infection. But all doubts as to the infective nature of tuberculosis were removed by Koch's famous announcement in 1882 of his discovery of the tubercle bacillus. The facts concerning Koch's brilliant research, and the overwhelming proofs adduced by him in support of his conclusions are too well known to need recapitulation here. But we may pause a moment to pay homage to the genius of Laënnec, who conceived the doctrine of the unity of phthisis; to Villemin, who supplied the first experimental evidence of the truth of this view, and to Koch, who isolated the infective

micro-organism, cultivated it outside the human body, and demonstrated its pathogenic action on the lower animals.

Koch's discovery having furnished the most complete confirmation of Laënnec's doctrine, non-tuberculous caseous pneumonia, which had long figured prominently in German writings, was now given a decent burial. Many elaborate and artificial classifications of phthisis shared the same fate. The old terms "consumption" and "phthisis" began to pass out of use, and "tuberculosis"—a term which we owe to Bayle—was generally adopted. Some of Koch's most enthusiastic supporters were at first prepared to explain everything in the natural history of the disease by infection with the tubercle bacillus, and to throw all ideas of heredity and disposition to the winds. The temperate and judicial statements of Koch himself are in striking contrast with the attitude of these extremists.

In his monograph, *The Etiology of Tuberculosis*, published in 1884, Koch admits that "although a good many of the phenomena classed together under the head of 'predisposition' may be referred to simple and easily explained conditions, some facts still remain difficult or impossible to interpret, compelling us for the present to accept the view of a varying liability." He further agrees that tuberculosis is hereditary in the sense that a predisposition is inherited. Careful statistical investigations by Pearson supply strong confirmation of the existence of an hereditary disposition. This question has been very ably discussed by Bulloch and Greenwood, who concluded that "the many workers who have dealt with the problem of inheritance and infection during the last few years have failed to achieve any real solid advance from the classical position."

In Koch's opinion the main, if not the only, source of pulmonary tuberculosis is the dried sputum of tuberculous patients, which reaches the lungs through the air passages. Villemin had expressed similar views. The ætrogenic origin of the disease has been disputed, but the rival view which regards pulmonary tuberculosis as enterogenic has received less support than the former.

The relation of human to bovine tuberculosis had engaged the attention of Villemin, who concluded that the two diseases were different. But Klebs and later workers, including at first Koch himself, regarded them as identical. This was the prevailing view, though doubts were expressed by individual writers, until 1900, when Koch made the startling announcement that further experiments had convinced him that human and bovine tuberculosis are distinct diseases, and that pulmonary tuberculosis is invariably due to infection by bacilli of human origin.

In spite of numerous researches on the alleged morphological and cultural differences exhibited by tubercle bacilli of the human and bovine type, no general agreement has been reached. But that there is a difference in the pathogenic effects on animals there seems to be no doubt. Inoculation of bovine bacilli is followed by an acute general tuberculosis, whereas when human bacilli are employed the effects are limited to a local tuberculosis at the site of inoculation, or to a comparatively mild and chronic form of infection. In 1903 Behring proclaimed the opinion that infection of infants by the milk of tuberculous cows is the chief source of pulmonary tuberculosis. Further investigation, however, has confirmed the truth of Koch's view that pulmonary tuberculosis is invariably due to infection with tubercle bacilli of the human type. This question has been fully discussed by Bulloch in his Horace Dobell lecture delivered before the College in 1911.

Records of autopsies at hospitals show that in a large percentage of all dead bodies—70 to 90 per cent.—arrested tuberculous lesions are found in the lungs or other organs. It is clear, therefore, that the number of persons that recover from the infection greatly exceeds the number of those that succumb. Man is evidently more resistant to tuberculosis than the ordinary laboratory animals, though less so than animals like the cat, dog, sheep, horse, and ass. Koch has pointed out that in the human subject a temporary immunity is often manifested, periods of partial or apparently complete recovery alternating with phases of active infection.

There seem then to be intermediate grades of immunity in man contrasting with the complete immunity of certain animals. By analogy we may infer that these different grades of immunity in man and the lower animals depend on defensive arrangements which are similar in kind and



vary only in degree. We can hardly doubt that the explanation of these differences is to be found in biochemical variations at present imperfectly understood.

Hereditary disposition may be explained on similar lines. These considerations illustrate the importance of the part played by the soil in which the germ of tuberculosis is planted. This fact had not escaped the acute observation of Villemin, who insisted on the interdependence of two factors in tuberculosis—the virus and the "*milieu organique*."

A further study of the soil or "*milieu organique*" is the most pressing need for the better understanding of the pathology of tuberculous infection. This inquiry is intimately connected with the explanation of immunity, a subject bristling with difficulties. In recent controversies concerning the relative importance of phagocytosis and chemical action of the body fluids we seem to witness a renewal of the old contest between the cellular and humoral pathologists. But in spite of the immense amount of research devoted to the study of immunity no general conclusion has yet been reached. This need not surprise us in view of the complexity of the problems involved.

When the infectious nature of the disease had been finally established by Koch, great results were anticipated from the application of this knowledge to the prevention of tuberculosis. But, so far, the results have been disappointing.

The death-rate from phthisis had been steadily falling for a number of years before the discovery of the tubercle bacillus, and no accelerated reduction has taken place in recent years. Furthermore, since the Great War began in 1914, there has been a steady rise in the phthisis death-rate, the causes of which have yet to be worked out. A recent paper by Brownlee on the epidemiology of phthisis pulmonalis, based on statistical tables of the death-rates at different ages in different districts, raises points of great interest. His conclusion is that there are at least two types of phthisis: one especially affecting young adults, and one middle age. The type affecting middle age seems to have been the chief type in London for more than 200 years. Sydenham's statement that the usual age at which death from phthisis occurs is between 15 and 30 is taken directly from Hippocrates.

When Morton, who gives the actual ages of phthisis deaths, is consulted, it is found that a very large proportion of cases are over the age of 30. Further, investigation has shown that the young adult type, which is the prevailing one in Ireland and Shetland, spreads independently of environment, being as common in the more healthy parts of a district as in the unhealthy, while the amount of middle age phthisis is correlated to the unhealthiness of a district.

The explanation suggested is that phthisis is not one disease, but a mixture of at least two allied diseases, an explanation to which the recent discoveries regarding typhoid fever furnish an analogy. In one form of phthisis the chief death-rate occurs between the ages of 20 and 30 years, in a second form the maximum death-rate occurs between the ages of 45 and 50 years. This hypothesis does not, in the present form, explain the occurrence of phthisis at high ages observed in Wales and Cornwall. It is possible that the senile form is due to the same organisms as that which causes the young adult type. It is well known clinically that many persons develop phthisical lesions in their youth which apparently heal, while later in life a recurrence of the disease or a new infection leads quickly to a fatal issue. No district by itself gave any clue to the meaning of the phenomenon of phthisis at the later age observed in Wales and Cornwall. Light on this type was obtained from the statistics showing the susceptibility to phthisis in different occupations. It was found from these data that a very marked susceptibility to phthisis at later ages was shown by coal miners, though the total amount of phthisis occurring among them was very small.

A study of the phthisis death-rate in England generally during the last sixty years shows a great reduction at all ages. This is most marked at the age period 20 to 25 years. At the middle and later ages the fall has not been nearly so marked. The result has been to raise the mean age at which death from phthisis occurs. No completely satisfactory explanation of this fact is possible at present. The figures available suggest that an epidemic of "young adult" phthisis culminated about the middle of last

century, since which date that form of the disease has markedly diminished. It is to be hoped that further investigations on these lines will enable Brownlee to clear up some of the questions raised in his valuable paper.

If we look back and review the progress of knowledge we see how Laënnec's great generalization was foreshadowed by the work of Richard Morton. For Morton was the first to point out that consumption is in all cases associated with the presence of tubercles in the lungs. Thomas Willis had previously broken away from the Hippocratic tradition that phthisis and ulceration of the lung are convertible terms.

Sylvius, their great contemporary, whose influence must have powerfully affected both Willis and Morton, had not taken up such a definite position himself; though, as already shown, he had made important contributions to the pathology of consumption. His views on the fluctuating activity of the humours or secretions of the body, and their relation to consumption, find their counterpart, at the present time, in the temporary immunity which Koch discerns in the course of many cases of tuberculosis. The mutual relations of the different humours or secretions advocated by Sylvius, and the modern development of the doctrine of the endocrine glands, provide another illustration of the well known fact that no great discovery is made without some previous preparatory work. Again, though the conception of tuberculosis as an infection first took definite shape in consequence of the experimental work of Villemin, we know that a belief in the contagiousness of consumption can be traced back as far as the time of Galen and Aristotle.

Let us not forget the debt we owe to the ancients. "Vixere fortes ante Agamemnona multi." How true was Elijah's outburst—"I am not better than my fathers."

## THE ADVANTAGES OF INTRAMUSCULAR INJECTIONS OF SOLUBLE CINCHONINE SALTS IN SEVERE MALARIAL INFECTIONS.

By SIR LEONARD ROGERS, Kt., M.D., F.R.C.P.,  
F.R.S., I.M.S.,

PROFESSOR OF PATHOLOGY, CALCUTTA.

MEDICAL MEN practising in highly malarious countries find that severe plasmodial infections constitute an important cause of death, but one which is entirely preventable by early recognition and active treatment. In the most severe infectious quinine by the mouth may be powerless to avert a fatal issue, as in cases reported by me last year in this JOURNAL<sup>1</sup> in a paper on the suitability of soluble salts of quinine and cinchonine for intravenous injection. I have for long advocated the prompt intravenous injection of soluble quinine salts in such dangerous cases, and in the paper referred to I advised the acid hydrobromide as the least toxic salt for this purpose. Captain R. Knowles, I.M.S., has since confirmed my conclusions, and reported prompt and favourable results from its use in the severe and dangerous bilious remittent malaria met with in Assam, in some of which quinine by the mouth could not be retained, and the patients' lives were in danger.<sup>2</sup>

The disadvantages of the intravenous method, especially in tropical countries with few highly trained medical men, are, first, that many doctors are insufficiently acquainted with the simple technique of giving intravenous injections, so the measure is liable to be postponed until too late; and secondly, unless the injections are given very slowly, it is possible to cause sudden death of the patient by the full doses of 10 to 15 grains of the drug required in the severe infections under consideration. The latter danger can be averted by injecting very slowly, or by dividing the dose into two equal parts with an hour or more between the two injections.

In my former paper I pointed out that cinchonine bi-hydrochloride and cinchonine acid hydrobromide intravenously in rabbits are very slightly less toxic than the corresponding quinine salts, while they are even more soluble than the latter; and I suggested that they would be worth trying intravenously in malaria. MacGillchrist<sup>3</sup> found that the sulphate of cinchonine orally was slightly more efficient in malaria than the sulphate of quinine, but



the former has the disadvantage of being more irritant to the gastro-intestinal mucous membrane.

During the past year I have made a number of trials of cinchonine salts in malaria by the intravenous, intramuscular, and subcutaneous routes and have carried out some further experimental researches, with the results to be very briefly reported in this communication. I found the two cinchonine salts already mentioned to be practically painless by intramuscular and subcutaneous injection and to be rapidly absorbed, as shown by cinchonism being produced by full doses of 15 grains within one or two hours and the early appearance of the alkaloid in the form of quinine in the urine. I was therefore led to think that these cinchonine salts might be more suitable for intramuscular injection than the corresponding quinine ones; for it has been repeatedly demonstrated that even the most soluble quinine salts are largely precipitated in the muscles, from which much of the original dose can be recovered unabsorbed after considerable intervals even running into several days.

*Experiments to ascertain the Rapidity and Completeness of the Absorption from Muscle of Quinine and Cinchonine Bihydrochloride respectively.*

For this purpose 0.2 gram doses of each salt were injected into separate rabbits of approximately equal weight. Three pairs of animals were used, and they were chloroformed and killed after twelve, twenty-four, and seventy-two hours respectively, and analyses were very kindly made for me by Kerner's elaborate but accurate method by Assistant-Surgeon Madan Mohan Dutta, Demonstrator of Physiology, Calcutta Medical College, to whom I am greatly indebted. I also desire to express my great obligation to Mr. E. G. Shaw, B.Sc., for very kindly making the two cinchonine salts for me at the Government quinine factory in the Darjeeling Hills.

The results of the experiments are shown in Table I, which gives the amount of quinine recovered (1) from the muscle at the site of injection, showing the amount of unabsorbed precipitated alkaloid; and (2) from the organs, especially the brain, liver, kidneys, spleen, and adrenals, showing the amount absorbed and present in the tissues of the body at the different periods of time after the injections.

TABLE I.

	Quinine Bihydrochloride.		Cinchonine Bihydrochloride.	
	Muscle (unabsorbed).	Organs (absorbed).	Muscle (unabsorbed).	Organs (absorbed).
After 12 hours...	80 mg.	30 mg.	4 mg.	38 mg.
After 24 hours...	65 "	26 "	30 "	65 "
After 72 hours...	28 "	8 "	10 "	2 "

The figures in Table I are very striking and clearly show the much greater rapidity and completeness of the absorption of the cinchonine as compared with the quinine salt. Thus in the pair of animals killed twelve hours after the injection 88 mg. of absorbed alkaloid were recovered from the organs in the case of the cinchonine salt, as compared with only 30 mg. in the quinine animal, showing approximately three times as great absorption in the practically important first twelve hours. On the other hand, 80 mg. of the precipitated quinine was recovered from the muscle after twelve hours, as against 40 mg. of precipitated alkaloid in the cinchonine animal. At the end of twenty-four hours 65 mg. were recovered locally from the quinine animal against only 30 mg. from the cinchonine one, while 65 mg. were recovered from the organs of the cinchonine animal (where the alkaloid would come into contact with the malarial parasites) against 26 mg. in the quinine one. At the end of seventy-two hours the organs only showed 2 and 8 mg. respectively, showing that absorption must have now nearly ceased, and most of the drug had already been eliminated from the body, presumably through the kidneys. The injected muscle now showed no less than 28 mg. of precipitated quinine still remaining in it, against only 10 mg. of alkaloid in the cinchonine animal, thus indicating that the absorption of the cinchonine salt was much more complete at the end of three days than of the quinine one. This fact,

taken with the three times as rapid absorption during the first twelve hours of the cinchonine bihydrochloride, indicates that the latter is far superior to quinine bihydrochloride when given by the intramuscular route with a view to rapid absorption and action in a severe malarial infection. Dr. M. M. Dutta, on examining microscopically the muscles at the site of the injection, found signs of necrosis of the tissues in the quinine but not in the cinchonine animal.

The clinical effect on the animals was even more striking, for whereas the animals injected with the quinine salts appeared to suffer from no definite symptoms of poisoning, the cinchonine animals, on the other hand, became so violently convulsed within half an hour of the injection that I was surprised that they survived, indicating very rapid absorption of the drug, a relatively very large dose having purposely been given. In this connexion it is interesting to note that MacGilchrist found the subcutaneous minimal lethal doses in guinea-pigs of quinine sulphate and cinchonine sulphate respectively to be 0.525 and 0.425 gram per kilo, whereas I found the soluble cinchonine salts to be very slightly less toxic intravenously in rabbits and pigeons than the corresponding quinine ones. The more rapid absorption of cinchonine salts from the tissues above shown explains the differences noted.

*Clinical Experience of Intravenous, Intramuscular, and Subcutaneous Injections of Soluble Cinchonine Salts.*

Exigencies of space will only permit of a very brief summary of the main points brought out by an analysis of my clinical experience with injections of cinchonine salts. The acid hydrobromide has been mainly used for intravenous and the bihydrochloride for intramuscular and subcutaneous injections. The most important practical points are the rapidity with which the fever and the parasites respectively disappear, while the time of relapses after from one to four injections has also been worked out in most of the cases. I am much indebted to Assistant-Surgeon Jogesh N. Mukherji, M.B., for kind help in examining daily blood films from most of the cases.

By each method of injecting the cinchonine salts rapid disappearance of both the fever and of the parasites from the peripheral blood was obtained in all three varieties of malaria. An examination of the records does not reveal any differences in the effects obtained by the various methods of administering the drugs, which is what might be expected in view of the rapid absorption of intramuscular injections of cinchonine salts already demonstrated, and also apparently of the subcutaneous doses as judged by the early appearance of cinchonism in the patients after full doses. In Table II I have given the time of cessation of the fever and of the disappearance of the malarial parasites from the blood respectively for each type of malaria treated by injections of soluble cinchonine salts. As the effects are more rapid in benign tertian and quartan cases than in malignant tertian, the combined figures of the two former are also shown for comparison with those of the last named more resistant variety.

TABLE II.—*Day of Cessation of Fever and Disappearance of Parasites after Cinchonine Injections.*

Fever.	Fever Disappeared in			Parasites Disappeared in		
	24 hrs.	48 hrs.	72 hrs.	24 hrs.	48 hrs.	72 hrs.
Benign tertian ...	5	—	1	3	2	—
Quartan ...	3	2	—	3	2	—
Benign tertian and quartan	8	2	1	6	4	—
Malignant tertian ...	4	4	2	3	3	2
Totals ..	12	6	3	9	7	2

The data in Table II may be briefly summarized by saying that in the benign tertian and quartan cases the parasites always disappeared in one or two days, and in all but one the fever ceased within the same time, and in the remaining one within three days. In the malignant tertian variety the parasites generally disappeared within two days and always within three, and



the fever ceased within the same period of time. The immediate results of the injection of the cinchonine salts were thus very satisfactory, and will be found to compare favourably, especially as regards the more serious malignant tertian variety, with those of administering quinine by various methods in the army in England as reported by J. W. W. Stephens and his colleagues.<sup>1</sup>

With regard to relapses the patients could not be kept in hospital long enough to furnish complete data. Four were discharged free from relapses on from the fifth to the twenty-fourth day, while in other cases after from one to four injections relapses were recorded from between the sixth to the thirty-third days, very much in the same way as in the army cases after similar quinine treatment. I did not use the cinchonine salts with the object of or expectation of preventing relapses by a few injections, but in order to rapidly control the fever and cause the parasites to disappear from the blood, after which a prolonged course of oral administration of quinine is indicated to prevent a recurrence of the fever.

The following recent case will serve to illustrate the value of preliminary intramuscular injections of cinchonine salts in cases of malaria in which oral administration cannot safely or conveniently be relied on.

A lady consulted me for what was obviously a benign tertian malaria, from which she had suffered on and off for over a year. Recently the attacks had become more frequent and severe, and she had to go to bed every other day during them; while, when she took quinine, she vomited, and it failed to control the fever. The blood showed benign tertian parasites in every field of an oil immersion lens, indicating a severe infection, not without danger if unchecked. I injected 7½ grains of cinchonine bichlorohydrochloride into the deltoid muscle on the day before an attack was due, and warned the patient that this could not be expected to stop completely the attack due the next day. Twenty-four hours later she felt quite well, and her blood was quite free from parasites, and, as a matter of fact, she had no attack. Three more 10-grain doses were given at daily intervals, after which she could take quinine by the mouth without trouble. On inquiry regarding the amount of discomfort after the injections, she said it was so little that she could with difficulty locate the spot the day after the injection. There was some cinchonism after the 10-grain doses.

#### CONCLUSION.

Cinchonine bichlorohydrochloride in a 1 in 2 solution carefully sterilized in an autoclave is so rapidly absorbed that I consider it to be almost as quick and effective in its action in severe malaria as quinine or cinchonine salts intravenously, without the inconveniences and possible dangers of the latter, although in such rare extreme infections as that which I reported last year<sup>5</sup> intravenous injections are advisable. In severe cases of malaria and during the prevalence of pernicious cases, as well as in patients who vomit orally administered quinine, I suggest the further trial of intramuscular injections of 7½, 10, and in adult males up to 15 grains of cinchonine bichlorohydrochloride (or in less severe cases, if preferred, the cinchonine acid hydrobromide, which produces less cinchonism) during the first few days of an attack of malaria, to rapidly control the fever and the infection, to be followed by a full course of quinine orally to prevent relapses.

#### REFERENCES.

<sup>1</sup> *British Medical Journal*, September 22nd, 1917. <sup>2</sup> *Ibid.* *Journal of Medical Research*, January, 1918, p. 465. <sup>3</sup> *Ibid.*, vol. 3, No. 1, p. 1, 1917. <sup>4</sup> *Ann. Trop. Med. and Parasit.*, vol. xi. <sup>5</sup> *Ibid.* *Med. Gaz.*, November, 1917, p. 385.

## EPIDEMIC ENCEPHALITIS.

BY

ARTHUR J. HALL, M.D., F.R.C.P.,

PROFESSOR OF MEDICINE, UNIVERSITY OF SHEFFIELD.

IN the early part of the year an epidemic appeared in this country. Its nature was from the first somewhat obscure. Those who saw the earlier cases were faced with a similar difficulty to that which faced the courtiers in the story of Cinderella. They could not find amongst the diseases of their acquaintance a foot which would go into this newly found glass slipper. A search was therefore made amongst diseases which, so to say, did not move in Court circles, and were not personally known to the seekers. Amongst these it was at first thought that the owner of the slipper had been found, and that her name was Botulism. After

\* Contribution to a discussion at the Royal Society of Medicine on October 22nd.

many painstaking efforts to force her foot into the slipper, it was found to be impossible, and the attempt was abandoned. Botulism was not Cinderella.

The botulism episode is, however, not without its bearing on this discussion. It emphasizes the inability of early observers to recognize in this epidemic a familiar known disease, and it reminds us of a fact which cannot be entirely ignored—namely, the alteration in quantity and quality of our foodstuffs under the present war conditions.

In dealing with the clinical aspects of the epidemic I propose to give an account of my own experiences rather than to attempt a review of the epidemic as a whole from the incomplete data as yet at our disposal. From the cases I have had the privilege of seeing in other districts, and from the excellent records which have appeared in the press, I think that the epidemic as seen in Sheffield and district may be taken as a fair sample of the whole. In one respect this is not true—there was not one fatal case throughout.

Sixteen undoubted cases came under my immediate observation. One of these was under my colleague Major Yates, in the Royal Infirmary. Besides these cases I have heard of some half-dozen other undoubted cases in the area, and I am satisfied that there have been several mild or abortive cases which passed unrecognized at the time.

#### List of Cases.

No.	Sex, Age.	Date of Onset.	Lethargy.	Asthenia.	Ophthalmoplegia.	Paralysis Seventh Nerve.	Fever.	Remarks.
		1918.				R. L.		
1.	M. 15	Mar. 7	+	+++	+	-	-	? Myasthenia gravis-like.
2.	F. 23	Mar. 11	+	++	++	+	+	Like tuberculous meningitis.
3.	F. 26	Mar. 17	-	-	-	++	++	-
4.	M. 26	Mar. 17	++	++	++	+	-	++ Like tuberculous meningitis.
5.	M. 37	Mar. 25	+	++	++	+	+	+
6.	F. 56	Mar. 21	-	++	-	+	-	? Severe tremor; Parkinsonism.
7.	F. 70	Mar. 30	++	++	+	-	-	- Sudden onset, like stroke.
8.	F. 17	Mar. 7	++	++	++	-	-	? Meningitis suspected.
9.	M. 55	Mar. 25	+	++	+	+	-	+
								Speech hurried.
10.	F. 9	Mar. 31	+	-	-	-	-	++ Katatonia, type of Batten and Still.
11.	F. 16	Mar. 29	+	++	+	-	-	+
								Slept 48 hours on end.
12.	M. 50	Apr. 15	+	-	++	+	-	+
								Very ill whilst in hospital.
13.	F. 65	Apr. 16	-	-	++	+	-	++ Left palsy for a long time.
14.	M. 12	May 2	-	++	++	-	+	+
								Considerable delirium.
15.	F. 5	May 13	+	-	-	-	-	-
16.	M. 44	May 1	?	-	+	+	-	+
								Polynuritic symptoms.

+, Present; ++, marked; +++, very marked; -, absent.

The cases included persons of each decade up to seventy years. Only two were under ten. The sexes were about equally represented. The epidemic began early in March, and was practically over by the end of April.

#### MODE OF ONSET.

This varied considerably. In most of the cases the date of onset could be fixed quite easily. In five the onset was sudden, in the rest it may be described as gradual.

#### SYMPTOMS AND SIGNS.

The three cardinal signs in a typical case are lethargy, general asthenia, and cranial nerve palsies. From the combination of these three a clinical picture arises which is characteristic. It is difficult to say to which of the cardinal signs the picture is due, but as a rule it is chiefly to the asthenia and lethargy. The clinical picture, as a whole, is one of immobility. In my early paper I used the expression, "lying like a log." The attitude in bed suggests an effigy on a tomb; the immobile head and face a mask. This mask-like appearance is increased where there is facial diplegia, but a definite facial palsy is not necessary to produce it.



One or even two of the three cardinal signs may be slight or absent. In the first case that I saw lethargy was not present to any extent. The boy had been rather drowsy at first, but when I saw him three weeks after the onset it had passed off entirely. In spite of that the general asthenia was so extreme that he gave a typical picture of immobility, and at the time reminded me of myasthenia gravis. The actual cranial palsies were only slight and limited to a slight ophthalmoplegia. When watching me or answering questions the head was kept perfectly still. He could barely move his arms or legs from the bed. He could not turn over in bed. I could not form any opinion as to what he was suffering from, and admitted him to hospital for observation.

Curiously enough, another of my early cases (No. 3) had only one of the three cardinal signs. She was a young married woman. On March 17th she had pain over the left eye, and within twenty-four hours had an almost complete facial diplegia. There was no lethargy or asthenia throughout. In a sense her face was also like a mask, but it was a different mask.

At the time that I saw these two cases there was no knowledge of an epidemic in the district and I did not in any way connect them together. Meanwhile, one of our hospital nurses (Case 2), was in my wards, suffering from what appeared to be tuberculous meningitis, and within the same week I saw, in consultation, a youth (Case 4), in whom I made the same diagnosis. Both these cases had stupor, with intervals of delirium, pyrexia, and cranial palsies. Both were wanting in various important points of diagnosis. When, however, the nurse developed facial diplegia, it struck me that it was rather extraordinary to see two facial diplegias in a week. When, further, the nurse began to recover instead of dying, and I was informed that the youth had similarly deceived our expectations, I began to suspect that there might be some connexion between all four cases. From that time onwards the cases followed one another so quickly that the existence of a local epidemic of some kind became certain.

I have recalled these early personal experiences in order to emphasize what I think is of importance—namely, that the three cardinal signs must be considered as a whole in considering the clinical entity of these cases. Any one of them may predominate, or may be slight or absent. In most cases the cranial nerve palsies form but a small part of the whole symptom-complex.

#### *Prodromal Period.*

In most cases there is a distinct interval between onset of illness and appearance of characteristic symptoms. This varies rather widely. It is often difficult to fix exactly. In most cases one must be content with "a short time" or "a few days." I have referred to the four cases in which the onset was sudden, and the prodromal period less than one day. In three cases with rather long prodromal periods the patients were under observation throughout.

Of these the hospital nurse (Case 2) began with severe neuralgia of the right side of the face on March 11th. On the 19th there was vertigo and tinnitus on the left. On the 21st some stiffness of the right face, but no paralysis was noticed. She remained on duty until the 22nd, when the vertigo and tinnitus became much more severe. Temperature 103.2°. She was admitted to the ward as a patient. Lethargy was noticed on the 23rd and meningitis suspected on the 25th. Actual facial diplegia was not noticed until the 26th, but from her own account it is evident that it was beginning on the 21st. Her prodromal period was not less than ten days.

Case 4 called at his doctor's surgery on March 17th, complaining of vertigo. He received some medicine and was able to go about until the 27th, when he became drowsy and took to bed. Delirium began on the night of the 29th, and on the next day he had unequal pupils, strabismus, right facial palsy. Temperature 101°. Here again the prodromal period was not less than ten days.

Similar variations in the length of the prodromal period have, I believe, been observed in the epidemic as a whole. Speaking generally, it is usually a few days, say one to four or five.

The onset of the cardinal signs may be sudden, but it is usually ingravescent. This is particularly true of the cranial palsies. They take some time to develop fully, and

may vary in amount and extent from day to day. The general asthenia tends to make the facial palsies less obvious than usual.

#### *Ophthalmoplegia.*

Strabismus of variable extent, inequality of pupils, and nystagmus were commonly present. The last named was sometimes of an irregular inco-ordinate kind.

#### *Fever.*

This was noted in many cases. Possibly it was present in all, but of that there is no proof. Sometimes it was severe and prolonged, as in Case 2, the nurse, in whom it lasted till the fifth week. On the other hand, in Case 5, a soldier who was in hospital for gas poisoning when the encephalitis began, it never rose above 99°, and that only on the first and eighth days. Yet his attack was severe and very prolonged.

#### *Lethargy.*

This was, perhaps, the most striking feature of most of the cases. It was not true sleep. Often the patient was surprisingly awake to what was going on. Many patients who were stuporose all day became delirious at night, returning to stupor next day. Sometimes the delirium was of a foolish kind, and suggested hysteria. One of my cases, a girl aged 9, showed the type of stupor, with katonias, described by Batten and Still.

#### *Tremors.*

In one case (No. 6), a woman aged 56, tremors with asthenia were the chief symptoms. When I saw her the tremor had almost gone, after lasting several days. Only the asthenia, and the face like that of paralysis agitans, remained.

#### *Speech.*

During the lethargic period this was often affected. The words were imperfectly muttered, as though it were too much trouble to speak at all. In one case (No. 9), a middle-aged man, there was a distinct hurried or festinating speech, such as is sometimes observed in cases of paralysis agitans.

#### *RESULTS.*

All the sixteen cases are still alive. Within the last few days I have seen most of them, and where that has been impossible I have received reports from their medical men. I have divided them into three groups, as follows:

Group A. Recovery complete and absolute. Seven cases (Nos. 1, 3, 4, 6, 12, 13, 14).

Group B. Recovery practically complete. Some slight trace of illness left behind. Six cases (Nos. 2, 8, 9, 10, 11, 15).

Group C. Recovery incomplete. Three cases (Nos. 5, 7, 16).

#### *Group B.*

Case 2.—The nurse is back at duty. She feels perfectly well. When tired there is slight left facial paresis, with unequal pupils and slight diplopia.

Case 8.—This woman is at work. Slight photophobia and headache.

Case 9.—This man is at work. His wife says he has changed mentally since his illness. I have reason to think that this dates from an earlier period.

Case 10.—This child is at school again. She has developed a nervous shrugging of the shoulders. Osler has, I think, observed a similar sequela.

Case 11.—A girl of 16. The doctor reports that there is marked ptosis of the right eye, some strabismus and diplopia.

Case 15.—This little child of 5 is in excellent health. She still has a very slight strabismus. The doctor who sends me the report underlines "very."

#### *Group C.*

These three cases are, after six months, still far from complete recovery. It is worth noting that in each case the present incapacity is due to the trunk and limb muscles generally, and that the cranial palsies have disappeared completely, or almost so.

Case 7.—The old lady of 70 began rather suddenly, with general weakness and tingling in the hands and feet. Lethargy was pronounced, ocular palsies slight. Her doctor reports that she is still very weak, and that she tires very quickly after the slightest muscular effort. The eye symptoms have disappeared.

Case 5.—The soldier with gas poisoning. From the first his asthenia was profound, lethargy deep and prolonged, cranial palsies multiple and bilateral. From the first he complained of numbness and tingling in the hands and feet, and in the



latter there was impaired sensation up to the knees. His knee jerks were absent. His progress has been very slow, and at the present time he is unable to sit up without support. There is foot-drop on both sides; some oedema of the feet. He is improving daily; the knee-jerks have returned. All his trunk and leg muscles react to faradism. Above the waist he has recovered completely.

**Case 10.** Major Yates's case.—This patient is at present in a very similar condition to the preceding. He still has some spasms, right facial paresis. There is weakness in both arms, the left more than the right, but it does not prevent him from using them fairly well. He can walk by himself, but there is double foot-drop and a stepping gait. The knee jerks are still absent, and the muscles are generally flabby and wasted. The muscles below the knees do not respond to faradism, with the exception of the peronei in the right leg.

I do not propose to refer in detail to the results of a very large number of examinations of cerebro-spinal fluids, bloods, excreta, etc., which were made by my colleague Professor Douglas from these cases. But I should like to express my thanks for his valued help on the pathological side, and for his extensive investigations of various food-stuffs during the Botuline era.

#### CONCLUSIONS.

The points for discussion may be summed up as follows: Is this, or is it not, an epidemic of poliomyelitis? If it is not, then it may be either an entirely new disease, or one that until recent times has not been observed in epidemic form.

The clinical resemblances, such as there are, between these cases and poliomyelitis were recognized from the first. In my paper I called attention to the absence of cases of "localized limb paralysis commonly seen in acute poliomyelitis."

The clinical differences, however, have been so recently stated by Kinner Wilson with such clearness that I need not do more than mention them. Lethargy and asthenia, so severe and prolonged in most of the cases of encephalitis, are not recorded as occurring in typical cases of poliomyelitis, either sporadic or epidemic.

I cannot think that any one would consider the term "sleeping sickness" descriptive of poliomyelitis in general and yet it would not be an inappropriate name for this epidemic. In fact, if one takes away the palsies from these cases of encephalitis, little remains which is common to them and to poliomyelitis. Even the palsies present striking differences in the two diseases in their mode of onset, situation, and results.

In poliomyelitis the onset tends to be rapid and maximal; the regions affected are usually those innervated from the spinal cord; the distribution often unilateral. They frequently leave permanent residual effects of greater or less extent in the area first attacked. In the recent epidemic, the paralysees are typically of gradual insidious onset; they almost always affect regions innervated by cranial nerves, and are often bilateral. So far as our evidence goes at present, they usually leave no permanent residual effects in the area first affected.

We know that many nerve poisons, for example, diphtheria, *E. botulinus*, lead, alcohol, etc., show a peculiar predilection for certain particular parts of the nervous system. In these cases of epidemic encephalitis there seems to be such a definite selective action at work.

It has been said that the commonly held view of poliomyelitis as essentially a cord disease is based too much on sporadic cases, and that in its epidemic form it is characterized by the multiformity of sites affected. This line of argument rather accentuates the clinical difference between poliomyelitis and the cases in the recent epidemic. The latter were notable for the uniformity of the sites affected.

As regards the possibility of this being an old disease which has only recently been recorded in epidemic form I have no proofs to bring forward. We know that a similar epidemic appeared about the same time of year in 1917, as recorded by Economo in Vienna, and that Netter has recorded similar cases in Paris. Possibly, in the course of time, records of sporadic cases of a similar type may be found stowed away in the pigeon-holes of other disease—poliomyelitis, influenza, etc.—where they have been regarded as abnormal or exceptional varieties. Such a line of inquiry seems worth consideration. Not until these alternatives have been set aside can we speak of it as a new disease; and, in any case, the final decision must rest with the pathologist.

## QUININE PROPHYLAXIS IN MALARIA.

BY

G. WAUGH SCOTT, M.B.,

ESTATE'S MEDICAL OFFICER, SUNGEI SHUT, N. PERAK,  
FEDERATED MALAY STATES.

THE importance of arriving at some definite conclusion as to the usefulness, or otherwise, of routine quinine giving as a preventive of malaria requires no emphasizing. The strictures of Dr. Treadgold, in the *BRITISH MEDICAL JOURNAL* of May 11th, 1918, are thoroughly deserved.

The opportunity of making controlled experiments on the subject must have occurred times innumerable, yet the whole literature of the subject provides hardly anything worth the name of statistics. The reason for this is, partly, the apathy which attacks Europeans in the tropics, and from which medical men are by no means immune. It is, however, much more largely to be accounted for by the preconceptions and prejudices of those in official positions who are able to impose their will over large areas; the effect is very often to inhibit useful research activity. It is one of the dangers that will have to be guarded against in the schemes now proposed to establish a national medical service.

The following experiment will be better understood if I give a short explanation of the two categories of rubber estate labour with which it deals.

Tappers are those coolies whose work consists in paring off the thin shaving of bark from the tree, and so starting the flow of latex from which rubber is produced. His day's work consists in carrying out this operation on from 300 to 400 trees each morning, and collecting the resultant latex in two buckets which he then carries to the factory. It is light work, and the tapper is usually finished for the day by noon, having begun from 5.30 to 6 a.m. Weeders are all the rest of the labour force; the name explains their chief duty, but they are used in many other ways, for road and drain making, pruning, attending to pests, diseases, etc. On the whole their work is harder, and their day is from 6 a.m. till 2 p.m. Among the weeders there is a much higher proportion of women and children, and elderly coolies, than amongst tappers, who are chiefly men from 15 to 40 years of age.

It will be noted that the tapping force is that on which the daily output directly depends, and its maintenance at full strength is one of the chief cares of the management. The experiment here recorded owed its inception to the anxiety of the manager to keep his tapping force up to strength.

It was decided to give each tapper 10 gr. of quinine each day at the factory. It was given when the man brought in his latex pails, so that the giving was rigorously performed. This was maintained for the whole of the year 1917, and during that same period no prophylactic quinine was issued to the weeding coolies.

The following figures give the result stated in percentage per month admissions to hospital:

	Tappers.	Weeders.
Average monthly labour force of each class	140 83	252 03
Average number of cases per month admitted to hospital for malaria	20 16 per month	14 31 2 per month
		33 25 = 13 19 % per month.

When it is remembered that the tappers are of superior physique, better paid and have lighter work, it must be admitted that all the valuable quinine which has been swallowed by this large number of men during a whole year gave no protection whatsoever against malaria.

This report entirely relates to Indian Tamils, both tappers and weeders being of this race, and both living under identical conditions and in the same sets of buildings.

THE alliance between Columbia University and the Presbyterian Hospital, New York, which was made in 1911 with the object of forming a great medical centre in that city, has been dissolved. The university was unable to get the money needed for its share of the buildings and rejected the plans proposed as the condition of an endowment offered by the Rockefeller Foundation.



# THE UNRELIABILITY OF SULPHUR FOR THE DESTRUCTION OF LICE IN CLOTHING.

BY A. BACOT,

ENTOMOLOGICAL SOCIETY OF LONDON, ISSUED BY THE PREVENTIVE MEDICAL SOCIETY.

The trials forming the basis of this note were undertaken at the request of Admiral Henderson, of the Metropolitan Asylums Board, with a view to testing the efficiency of a process of fumigation as applied in the London Borough casual wards. Since the experiments aimed at showing the results of the method as normally employed, and were in no way directed to prove that "sulphur vapour" will, under certain conditions, destroy lice, no efforts were made to produce an unusually high concentration of gas.

I wish to acknowledge my indebtedness to Captain J. T. Grant, R.A.M.C., for his assistance and collaboration in regard to the preliminary arrangement and conduct of these trials, and to Mr. J. B. Reid, superintendent of the St. Pancras Casual Ward, for his co-operation, and the care with which he conducted the exposures on the lines normally worked. In publishing these results my desire is to bring to the notice of the medical officers of health and sanitary officials throughout the country the unreliability of the use of sulphur for the purpose in question under the method employed.

## Fumigation Chamber.

The fumigation chamber in which the trials were conducted has a cubic capacity of 294 ft. (7 ft. long, 6 ft. wide, and 7 ft. high). The floor is concrete, the walls brick, and the ceiling wood covered with zinc. The chamber is entirely without ventilation, there being neither window nor chimney, so that there is no passage for the escape of the gas generated when the door is closed.

## Method of Use.

After the infested clothing has been hung in the chamber two pails are placed on the floor, one containing boiling water and the other, put close to it, a shovel full of live fire, on which 1 lb. of sulphur is placed. The door is then closed, and the clothes are left exposed to the vapour given off by the boiling water and sulphur until next morning—the usual period being about nine hours. In the trials as recorded below the normal procedure for the use of the chamber in practice was followed. In addition the temperature was taken with a registering thermometer placed in one or other corner of the chamber at the level of one or more of the pockets in which the lice and nits were exposed.

Lice and nits on small slips of army shirt flannel were placed in small pockets of khaki cloth made by folding a slip over and stitching the edges together, the idea being to afford the insects and their eggs as much protection as they could attain by crawling into the complex seams situated at the fork of trousers, or the junction of sleeves with the body of a tunic or coat. Each pocket contained 100 to 300 nits, and in all but the fifth trial 10 to 12 active lice as well. In each of the five trials five pockets were used, four being exposed in the chamber, the fifth being used as a control. Particular care was taken to ensure that nits of all ages, from those freshly laid to those about to hatch, were present. After exposure a careful examination was made in respect of the active lice. The nits were transferred to small card boxes placed in a bag suspended between shirt and skin, so as to give them as natural a condition as possible during incubation.

## Details of Experiments.

*First Trial.*—Pockets 1, 2, 3, 4 were exposed at the height of 2, 3, 4, and 5 feet from the floor respectively; temperature 95° F.; period nine hours. In all four pockets the lice and nits were killed. In pocket No. 5 (control) the lice were living and the nits hatched freely.

*Second Trial.*—Exposure at 2 ft. from the floor; temperature 92° F.; period nine hours. In none of the four pockets were the lice killed. Nits hatched freely; over 100 were counted in most cases before they were placed in the stock boxes as normal hatches. In the control pocket the lice were living and the nits hatched normally.

*Third Trial.*—Exposure at 3 ft. from the floor; temperature 90° F.; period nine hours. In none of the four pockets were the lice killed. Hatching was somewhat delayed in relation to the controls, but the young lice emerged in large numbers; it is

doubtful if the exposure to the vapour caused any mortality at all. In the control pocket also the lice were not killed; the nits hatched normally.

*Fourth Trial.*—Four pockets were exposed at 4 ft. from the floor; temperature 88° F.; period nine hours. (Pocket No. 3 was left open; there was no control pocket.) Some active lice survived in each pocket, but others were killed. The nits hatched very freely; a few of the recently laid eggs failed to hatch, presumably owing to the exposure, but the bulk hatched normally.

*Fifth Trial.*—Exposure at 3 ft. from the floor; temperature 95° F.; period nine hours. (In this trial all the pockets were left unstitched along one side and during the exposure they were held open by a small piece of wood.) In pockets 1, 2, 3, 4 there were no active lice present; the great majority of the nits were killed, but a few—two or three—hatched in each pocket. In the control pocket no active lice were present; nits hatched normally.

## Comments.

No definite reason can be adduced for the success of the first trial in contrast to the failure of the subsequent ones. Previous experiments have shown that in cases where "sulphur vapour" is effective a few nits may hatch at a somewhat later date than the unexposed eggs of the control. The suggestion obtained from the evidence is that this may result because eggs at a certain age (stage of development) are relatively immune as compared with others. It is not feasible, however, to explain diverging results of such magnitude as the above in such a way. It is more reasonable to suppose that, owing to some variation in the heat of the live coal, the sulphur burned more rapidly in the first trial and so produced a higher concentration of gas, for it seems possible, if not probable, that quick combustion is more effective than slow combustion continued over a longer period.

The opening of the pockets in the fifth series of trials was carried out in deference to a criticism to the effect that the method of protecting the nits and lice by one thickness of khaki cloth was too severe a test. It is probable that the largely increased success attained in these trials was due, in part at any rate, to the fuller exposure. As, however, nits are frequently laid in the seams at the fork or armpit, in some of which they will get protection even if others gape as a result of the clothing being turned inside out, reliance upon any process which depends for its success upon the full exposure of all the nits is to be deprecated.

I suggest reliance upon heat wherever possible for the destruction of insect vermin, half an hour's exposure to a temperature of 55° C. being amply sufficient with either dry or moist heat, provided the clothing or other articles are suspended, and not bundled.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### THE TREATMENT OF PNEUMONIA.

AFTER reading the two articles in the JOURNAL of October 19th, pp. 427-8, on the treatment of lobar pneumonia, I feel impelled to write this note.

Some six or eight years ago I read a letter in the JOURNAL in which the writer stated that, although he had treated a large number of cases of pneumonia, he had not had a single death for something like ten years. He gave a prescription of the medicine he employed, which I reproduce at the end of this letter.

My partner (Dr. Gerrard) and I adopted this method of treatment at the time, and, with one exception, have not had a fatal case. The man who died—for reasons which it is unnecessary to state—was not given this particular treatment. Over and over again we have been amazed at the results obtained. I cannot do better than give a brief outline of the last case I have had, which is typical of a large number.

On the forenoon of September 23rd I was called in to see a sailor, aged 20, home on leave, having just returned with a convoy from America. I was told he had had a rigor on the previous afternoon, a restless night, and had been slightly delirious.

I found him suffering from acute lobar pneumonia, as evidenced by frequent cough, slightly blood-stained sputum, and well marked crepitation over a pretty extensive area at the base of the left lung. Temperature 104°, pulse and respiration I do not remember. He began to take the medicine about 4 p.m.



that afternoon. He had a better night, and was more comfortable on the morning of September 24th, when the temperature was 101° F. The patient slept all the next night, and on September 25th the temperature was normal. No further rise of temperature occurred, and he became quite comfortable, and took food well.

A peculiar feature in the cases thus treated is that, although the affected lung undergoes the same changes as in an ordinary case of pneumonia, the cough disappears after a day or two, and there is very little expectoration.

I have long thought it my duty again to call the attention of the profession to this method of treatment, but I have hesitated, as I felt it was open to the charge of being empirical. This may be so, but are not many of our methods empirical? I have in my mind the treatment of syphilis by mercury as being somewhat analogous. Mercury was found valuable in the treatment of syphilis long before anything was known of the *Spirochaeta pallida*, and may it not be that one of these drugs or the combination of them acts upon the pneumococcus in much the same way? However that may be, my sole object in writing is to ask my brother practitioners to give this method of treatment a trial. I feel sure they will not be disappointed, and many valuable lives will be saved. The prescription is:

R. Creosoti	...	...	...	...	3 ss
Potass. iodidi	...	...	...	...	3 j
Sp. vini rect.	...	...	...	...	3 ij
Ext. glycyrrhiza liq.	...	...	...	...	3 ij
Aq.	...	...	...	ad	3 vj

Sig. One tablespoonful every three hours until the temperature becomes normal.

Note.—Dissolve the creosote in the spirit and add the water by degrees, shaking frequently.

Edinburg.

E. W. MARTLAND.

#### DEFLUVIUM CAPILLORUM AFTER INFLUENZA.

By this term is meant a thinning of the hair, which usually comes away in great abundance on combing.

It is a daily occurrence at present to see cases of defluvium capillorum in the out-patient clinic. The cases are nearly all young women who give a history of influenza two to three months previously. Very often they bring an alarming bunch of hair in their pocket so that the physician may be duly impressed with the seriousness of the complaint. The hairs themselves appear to be healthy, except that the hair bulbs are more or less atrophied, owing no doubt to defective nutrition of the hair follicles. The scalp in most cases appears to be quite healthy.

On careful inquiry into the cases it is impossible to obtain any general symptom common amongst the cases, nor does the attack of influenza itself appear to have been specially severe. Though the women are very anxious concerning their loss of hair I am certain that they are not all of the nervous temperament, and when they are reassured as to the prognosis the nervousness in great part disappears.

Defluvium is well known in other infections, but I am unable to find any reference to influenza as a specified cause of the complaint. The time of occurrence I would definitely put down as two to three months after the influenza—at least this is the time they seek advice. There has not been the same prevalence of the complaint amongst men, but this may be due to the more easy way in which the adult male looks at extra loss of hair. The prognosis in these cases of defluvium is good and the treatment is more constitutional than local.

General tonics may be administered, and locally either a stimulating lotion or a sulphur ointment if there is any seborrhoea, but this is not a common accompaniment—may be used. Constitutional treatment is the more important.

ROBERT GIBSON, M.D.,

Honorary Dermatologist, Salford Royal Hospital,  
Medical Officer, Manchester and Salford  
Skin Hospital.

#### THE USE OF SALICIN IN INFLUENZA.

I should like to add my testimony to Mr. E. B. Turner's advocacy of salicin in influenza. I have used it now for thirty years and am a firm believer in it. I commenced to treat influenza with salicylates, but came to the conclusion that the heart's action was liable to

be unduly depressed thereby; possibly also the sodium salicylate of that period was not so pure. Since then I have given salicin, after commencing with a dose of aspirin to lessen pain and help the skin to act (although not quite so heroically as Mr. E. B. Turner). The cases of pneumonia which I have seen appear to be of a most virulent type, frequently accompanied by the expectoration of almost pure blood and sometimes by diarrhoea. I believe a streptococcus has been isolated. In the recent summer epidemic, which was of a much milder type, I was much puzzled by six cases that developed a general rash at first typical of scarlet fever, accompanied by sore throat, febrile temperature, and vomiting. Three of these were sent from the Royal National Orthopaedic Hospital to an isolation hospital and kept under observation for some weeks. The rashes were eventually accompanied by more irritation than is usual in scarlet fever and subsequently developed a coarser nature. Later, I had little doubt that they were caused by salicin, which may have contained some impurity, and this was the opinion of the medical superintendent of the isolation hospital.

REGINALD POLLARD, M.B., D.P.H.,

M.D. in charge, Lady Evelyn Mason Hospital for  
Officers, and of medical cases Royal National  
Orthopaedic Hospital.

#### EXOPHTHALMIC GOITRE IN A GIRL.

In February, 1918, a girl then aged 11 years became ill with sore throat and articular pains, from which she recovered; her mother states that since this illness she has noticed the child's neck becoming larger and that the eyes were becoming very prominent. The patient was admitted to hospital on August 3rd (her twelfth birthday was July 4th). She then presented the usual signs of a well-marked case of Graves's disease; there was pronounced exophthalmos with a well-marked von Graefe's sign, considerable enlargement of the thyroid gland, and a thrill which could be felt all over the gland. There was tachycardia (pulse 128), the usual flush of the skin, the sensation of heat, and other typical signs. The patient during the past two months has been kept at rest in bed and has had x-ray treatment once a week. The exophthalmos is less, the pulse-rate is on the average 96, and she is much quieter. An interesting point is that the blood count showed 33 per cent. of lymphocytes.

Dr. Hector Mackenzie, in *Allbutt's System of Medicine*, says: "I have not observed a case under 12 years of age," but adds that Buschan in his series mentions fifteen cases under 10 years old.

I am indebted to Sir Clifford Allbutt for permission to publish this case.

C. WYNDHAM GIDDENS,

Cambridge.

M.R.C.S. Eng., L.R.C.P. Lond.

## Reviews.

#### WOUNDS OF THE SPINAL CORD.

In the comparatively new field of war neurology few subjects are more important and give greater scope for research and observation than injuries of the spinal cord and cauda equina, which Roussy and LHERMITTE<sup>1</sup> describe in a recent volume of the *Collection Horizon*, introduced by a preface from the pen of Professor PIERRE MARIE. Complete and incomplete division of the spinal cord is first dealt with, and it is interesting to compare these sections with the observations of Drs. Henry Head and G. Riddoch on the automatic bladder, mass-reflex, and other phenomena in cases of division of the spinal cord, which were contemporaneous and independent (vide *BRITISH MEDICAL JOURNAL*, 1918, i, 457). In the section on incomplete division of the cord, which is commoner than complete division, Roussy and Lhermitte give an account of the various forms of Brown-Séquard's well known syndrome, the imperfect being more often seen than the typical condition. There is a good account of the naked eye and microscopical changes in the spinal cord, with satisfactory illustrations. The subject of spinal shock has

<sup>1</sup> *Les lésions de la moelle et de la queue le cheval*. Par G. Roussy et J. Lhermitte. Préface du Professeur Pierre Marie. *Collection Horizon*. Paris: Masson et Cie, 1918. Oct. 8vo, pp. vii + 122; 8 plates and 113 figs. Fr. 1.50.



of course become much more prominent during the war, and is divided into direct, in which the spine or the surrounding soft parts are injured, and the rare indirect cases due to the atmospheric changes caused by shell explosions, which, however, are more apparently than really different from the direct cases.

The clinical and pathological aspects of traumatic lesions of the *canda equina* are systematically described and illustrated by diagrams. The work as a whole is clear, succinct, based on much personal experience, and admirably fulfils its purpose.

#### GUY'S HOSPITAL REPORTS.

Hospital reports have rather altered of late years owing to a falling off in the number of articles which make their sole appearance before the somewhat restricted audience of the subscribers. The new volume of the *Guy's Hospital Reports*<sup>2</sup> now shows this tendency, as two of the papers of considerable interest, those of Sir F. Taylor on "Some acute abdominal pains which do not require operation," and of "The compluetic (Wassermann) reaction in amentia," by Dr. H. F. Stephens, have been previously published. In discussing gastric crises Sir F. Taylor mentions that he has seen lying in three beds at the same time patients with early *tabes dorsalis*, all of whom had been operated upon, and later on describes the acute abdominal pain that precedes diabetic coma. As England to-day is at war for justice and fair play, and especially for Belgium, and as the proper name for the Wassermann reaction is the "Bordet-Gengou phenomenon in syphilis," Dr. Stephens has coined the simpler term "compluetic" from the words complement and luetic.

Of the articles on professional subjects that have not appeared elsewhere special attention may be called to two on morbid anatomy—namely, Dr. G. W. Nicholson's original and well-illustrated account of multiple mesodermal mixed tumours of the uterus associated with pleuricentric carcinomata, and to Dr. Gordon Goodhart's article on adenoma of the choroid plexus. In his paper on the experimental production of tuberculous peritonitis in guinea-pigs previously exposed to x rays Dr. McGrath confirms the results of Morton of New York: the destruction of the lymphocytes diminishes the animal's power of resistance and so shortens the period taken by inoculation with tuberculous material to give a positive result, thus providing a rapid and sure method of diagnosing the tuberculous nature of an effusion of doubtful origin obtained from a patient.

*Guy's Hospital Reports* have in the past contained many admirable biographies of past members of the staff, and in the present volume those of the late Sir Henry Howes and Dr. Peter Horrocks by Sir Frederick Taylor worthily continue this tradition. The unsigned *In memoriam* of the late Dr. W. A. Brailey conveys a sharply-cut impression of indomitable and quiet industry.

#### EXPERIMENTAL HYGIENE FOR SCHOOLS.

The book, *Simple Experimental Hygiene, Physiology, and Infant Management*,<sup>3</sup> by Miss K. M. CURWEN, may be commended to the attention of school teachers, for whose use it has been written. The experience the authoress has gained as Lady Welfare Superintendent of the Midland Railway Company, as head mistress of a girls' school in Egypt, and as Inspector and Lecturer for the Education Committees of the West Riding of Yorkshire and of Staffordshire, rendered her exceptionally fitted for the task, and she possesses not only knowledge but common sense. The style of the little book is happy, and Miss Curwen manages to make the dry bones live.

The book is divided into parts, dealing with the body, food and clothing, the house, and the care of infants, with a section on vaccination and the prevention of consumption. The appendix contains brief instructions clearly expressed as to the conduct of the necessary and simple experiments

detailed in the text. A brief bibliography is followed by an index. At the head of each chapter is a list of the apparatus necessary for the performance of the experiments that illustrate it, and at the end of each is what the authoress calls a "blackboard summary." It might perhaps be well to give these summaries a more permanent form; they might be printed in black and red and be hung round the schoolroom or classroom.

One of the characteristics of the book is that the scientific truths are taught with so great a charm and in so simple a manner that the interest of pupils and teachers will be secured and the impression made will be deep and lasting. If any fault is to be found with Miss Curwen it is that she has entirely ignored the function of reproduction, an omission which will perhaps be remedied in a future edition. The book is well printed, on good paper, and among more than one hundred illustrations there is not one that is not clear, readily understandable, and thoroughly explained. It would make an excellent textbook on physiology and hygiene for elementary and preparatory schools, and we commend it to the attention of the Education Department.

#### NOTES ON BOOKS.

AMONG SIR WILLIAM OSLER'S delightful addresses none is more suitably reprinted in these days of uncertainty as to the future than *A Way of Life*,<sup>4</sup> originally delivered in 1913 before the students at Yale and published in that year. Its burden is to live for the day's work only and to take no thought for the morrow; in other words, life in day-tight compartments. This has been the author's habit of life since he accidentally came on Carlyle's dictum, "Our main business is not to see what lies dimly at a distance, but to do what lies clearly at hand." As the Regius Professor points out, the chief worries of life arise from the foolish habit of looking before and after. He gives in kindly language wholesome advice as to the means of maintaining a healthy mind in a sound body, and insists on the importance of temperance in alcohol and tobacco, and on the value of steady, not feverish, work.

*The Ship Captain's Medical Guide*<sup>5</sup> has for many years proved a valuable friend to officers of the mercantile marine service, and it is sanctioned by the Board of Trade as a statutory addition to the official medicine chest which shipowners are required to provide for every ship navigating between the United Kingdom and any place out of the same. The foundations of the work were originally laid by the late Dr. Leach, physician to the Dreadnought Seamen's Hospital, and a number of improvements were made later by Dr. Spooner, formerly senior medical officer of the Board of Trade. In 1913 it was enlarged, revised, and brought up to date by Dr. CHARLES BIRLAND, and in that form some 15,000 copies passed into circulation. During the course of the war many of these books have been destroyed with the ships containing them, and a reprint has now been called for. The handbook is officially issued as a book of instructions for dispensing the medicines and medical stores kept on board ship, and the details of treatment are necessarily of a simple kind, such as can be safely carried out by the intelligent layman. A prefatory leaflet to the present editon directs the special attention of shipmasters and all concerned with the health of ships' companies to the section dealing with infectious diseases, which, owing to war conditions, are likely to be prevalent and to lead to trouble and difficulty on board.

When the householder has been up and down the house turning off gas taps and electric light switches, and has settled himself in front of five small embers and three large fire bricks, to compare the week's meter readings with the mathematical formulæ of the local fuel overseer, he may be glad to have at his elbow a copy of Mr. ARTHUR H. BARKER's pamphlet on *Fuel Economy in Cooking Apparatus*.<sup>6</sup> The lectures, originally given at University College, London, discuss the theory and practice of fuel saving from the standpoint of an expert in domestic engineering. His condemnation of the ordinary kitchen range and gas cooker is absolute.

<sup>1</sup> *A Way of Life*. By William Osler. London: Constable and Co. 1918. (Pp. 32. Price 7d. net.)

<sup>2</sup> *The Ship Captain's Medical Guide*. Edited by C. Barland, M.D., F.R.G.S., Senior Medical Inspector of the Board of Trade. London: His Majesty's Stationary Office. 1918. (Cr. 8vo, pp. 81; 32 squares. 2s. net.)

<sup>3</sup> *Simple Experimental Hygiene, Physiology, and Infant Management*. By K. M. Curwen. London: C. Griffin and Co., Ltd. 1918. (Post 8vo, pp. x + 353; 113 figures. 6s. net.)

<sup>4</sup> *Guy's Hospital Reports*. Edited by F. J. Steward, M.S., and Herbert French, M.D. Vol. lxxix, 1918. pp. 277; 7 plates. London: J. and A. Churchill. 1918. 46s. to subscribers, 10s. 6d. to non-subscribers.)

<sup>5</sup> *Simple Experimental Hygiene, Physiology, and Infant Management*. For the use of school teachers. By K. M. Curwen. London: C. Griffin and Co., Ltd. 1918. (Post 8vo, pp. x + 353; 113 figures. 6s. net.)

<sup>6</sup> *Fuel Economy in Cooking Apparatus*. By Arthur H. Barker, B.Sc., M.Sc., Lecturer in Heating and Ventilation Engineering, University College, London. The Builder, Ltd., 4, Catherine Street, Aldwych, W.C.2. (Is. 6d. net.)



## THE FUTURE OF GENERAL PRACTICE.

BY

JAMES NEAL, M.R.C.S., L.R.C.P.,

DEPUTY MEDICAL SECRETARY, BRITISH MEDICAL ASSOCIATION.

When war broke out in 1914 the medical profession suddenly found itself faced with entirely new problems. It is not surprising, therefore, that interest in many of the questions which had previously occupied our attention appeared temporarily to subside. The immediate mobilization of the medical officers of the Territorial Force, the enrolment of thousands of civilian practitioners as temporary commissioned officers of the R.A.M.C., and the urgent need for the provision of some arrangements for the medical treatment of the dependants of those serving with the colours monopolized our attention for some months to the exclusion of all other matters of usual interest.

With the continuance of hostilities, however, we have come to realize that many questions which we imagined could wait until after the war for attention must be dealt with at once, or at least carefully considered, and also that many new problems arising from the lessons of the war require attention. At a time when the best brains of the country are engaged in the prosecution of the war it is obviously undesirable—if it can be avoided—to engage in any programme of reform which vitally affects the interests of the whole profession. But we are not free agents in such matters. Whether we think it is a suitable time or not, other people are determined to press forward with matters in which we have a vital concern; and there is this to be said for them, that if matters of public health are to be left until after the war, it will be many years before any Government has the necessary time to devote to purely domestic affairs. Powerful influences are at work, and will seize the earliest opportunity to carry through Parliament measures of public health which will have a far-reaching effect on the whole profession. Bear in mind that Parliament at the present time shows no inclination to be bothered with contentious matters. Consequently, any proposals must be thrashed out beforehand so as to go to Parliament with some measure of agreement amongst the interests mainly concerned.

The first object, therefore, is to secure more or less general approval for any measure requiring legislative action, and it is essential for the profession to watch the trend of events and to be in a position to state its views on the various questions which are likely to be brought within the purview of practical politics. That is where we come up against the first practical difficulty. The profession has never yet spoken with a single voice. The one great voluntary organization which should be in a position to represent its views without question is too often weakened by internal dissensions or by ill-informed criticisms from outside. If we are to carry any weight it is essential that we should sink our differences and come to some agreement amongst ourselves, at least on fundamental principles. Otherwise the politicians will always be able to play off one section of the profession against another, and our interests will be sacrificed.

The problem which has recently attracted most attention is the proposal for a Ministry of Health. The scheme of the British Medical Association urges unification of authority and simplification of procedure. The chief point of the scheme is an equally balanced dual service representing both the curative and preventive side of medicine. It lays stress on the importance of utilizing the family doctor in domiciliary treatment of every kind. It insists upon the value of the voluntary hospital system, though recognizing that modifications may be inevitable in the near future. It suggests a large extension of the cottage hospital idea, which allows the family doctor to follow his patients to the hospital. And it emphasizes the need for organizing the clinical service on the lines of private practice, open to every class of practitioner.

A Government bill was drafted in the early part of this year, although it has never yet been introduced into Parliament. It provided for the transfer to one department under a responsible Ministry of all the powers and

duties of the Local Government Board and the Insurance Commission, and certain of the powers and duties of the Board of Education, with power to take over at a later stage by Order in Council the powers and duties of other departments relating to health matters. It is now understood that the bill has been revised and its scope extended, and that it has passed the Committee on Home Affairs, and will shortly be introduced. If the profession supports the bill solidly, I believe it will go through, and representatives of the two Royal Colleges, the Royal Society of Medicine, and the British Medical Association are meeting shortly to endeavour to arrive at a common policy.

The Ministry of Health when first established will not necessarily affect the conditions under which medical practice is now carried on. But the first business of the Minister will be to secure the development and efficient administration of adequate health services. Our interest, therefore, is mainly centred in the services which will be established when the Ministry of Health is an accomplished fact. Changes are undoubtedly coming. The country is now alive as never before to the importance of the physical welfare of the individual, and every one is agreed that the best means for preserving health and curing disease should be available for every citizen. It is equally certain that the State will extend its responsibility, supervision, and control in these matters.

Now there are three possible forms of State aid. The first is to make the medical profession a salaried civil service, and the idea of a State Medical Service has steadily gained ground in certain quarters. It is well known, for instance, that many junior officers of the R.A.M.C. are keenly interesting themselves in the possibility of securing employment after the war without the necessity of purchasing or working up a practice, and are discussing a multiplicity of schemes all designed to afford them a maximum salary for a minimum of work. But no such scheme is contemplated by the Government or by any responsible authority. Nevertheless we cannot ignore the fact that the idea of a State Medical Service, which is so fascinating from its simplicity of administration, is continually being pressed upon the attention of the public.

The London Panel Committee is in favour of a comprehensive and co-ordinated scheme of preventive and curative medicine for all classes, and would have two distinct services working together under local control. It is opposed to any system of salaried officers on the clinical side, except administrators, resident medical officers, and practitioners specially devoting themselves to limited sections of professional work. It would have municipal hospitals established with general practitioners on the staff, and so related to the voluntary hospitals as to secure the ready transference of patients from one to another.

The views of the Society of Medical Officers of Health, so far as they can be ascertained, indicate that as many forms of treatment are really preventive measures, all such should come under the administration of existing public health departments.

The State Medical Service Association agrees as to the necessity of a complete and well-organized clinical service, including general practitioners, consultants, specialists, etc., but would go further and include dentists, dispensers, nurses, and midwives. It claims that no permanent system of medical service can be satisfactory unless it is free and open to all, and offered by whole-time salaried practitioners.

The Brighton Division has approved a scheme for a whole-time salaried service with provision for hospital treatment, consultant and specialist services, and for central laboratories. Its financial basis would be an extension of the existing insurance for medical benefit to all classes of the community.

It is well known that many members of the Advisory Committee of the Labour Party are inclined to favour a whole-time State Medical Service, although the party as a whole has not pledged itself to that policy.

Another suggestion is that a compromise might be effected on the following lines:

A. That every practitioner whose work takes him into the homes of the people should be paid a yearly retaining salary for certain duties performed for the State, as, for example: (i) Certification of deaths. (ii) Notification of births. (iii) Notification of infectious diseases. (iv) Certification of fitness to attend school. (v) Brief report as to any obvious sanitary defect noted in any house visited. (vi) Brief report as to any noted inferiority in quality of milk, meat, and food, etc., supplied to patients. (vii) Attendance in midwifery cases on emergency calls by midwife, up to a stated maximum number in a year.

The above-mentioned duties to be carried out in the course of the practitioner's daily work, and under penalty for wilful neglect to comply.

B. That every practitioner should be encouraged to hold at least one of the local public medical appointments, as, for

\* Abstract of an address delivered to the annual meeting of the Birmingham and District General Medical Practitioners' Union on October 11th, 1918.



examiner of School doctors, the Poor Law doctor or his assistant, or a Certifying factory surgeon, or a Local Medical Officer or referee or examiner for State or municipal employment, or a Medical officer to maternity and child welfare centres.

Such appointments would as far as possible be paid by time—say £60 a year for half day a week, as in the British Medical Association part-time schemes for school and maternity work.

These by no means exhaust the various schemes that are under discussion, but whenever the question has been debated in the Annual Representative Meeting the opinion has been expressed that any whole time school service for domiciliary work would be fatal to the best interests of the nation, and disastrous to the profession, and I hope all efforts in the direction of establishing such a service will meet with unfaltering opposition.

Another way in which State aid may be given is to amplify the insurance system, in which the sick are partly paid for by the State and partly by the individual. At present only the minimum benefits provided by the Act are in operation. The approved societies which declare a surplus on valuation will be in a position to afford their members certain additional benefits, such as (a) dental treatment; (b) convalescent homes; (c) extension of medical benefit to the dependants of insured members. Moreover, it was certainly not the intention of the Act that the medical service should be restricted to general practitioner service and a supply of medicines. Indeed, before the outbreak of war, the Government had decided to improve and develop the service, and had voted a large sum of money for that purpose. I feel confident that the first development in the direction of a so-called State service will be an improvement of the existing insurance service, probably by the provision of medical referees and consultant and specialist services. It is also probable that under Section 21 of the Act the domiciliary service will be more closely linked up with hospitals, dispensaries, and nursing institutions.

A third form of State aid has been suggested by Sir Bertrand Dawson, namely, the State endowment of fabric. The buildings and equipment would be provided, and the practitioner receive an increased proportion of his earnings as a salary, leaving him free to make up his income from his private patients.

In all these proposals the State is evidently going to take a prominent place, but I do not think the rising tide of State control need be feared if directed into proper channels. The scheme of the Association aims at preserving the independence of the general practitioner, and we have every reason to believe that the scheme is exercising a great influence on the minds of politicians and others who are interesting themselves in these questions.

We must realize that the public is determined to alter the existing arrangements, and, instead of waiting until we are forced into a scheme which does not commend itself to us, we should convince the public that we are quite prepared and able to make a better service than they have at present, or can hope to devise without our help.

What Sir Bertrand Dawson has called "team work" is very possibly one of the earliest developments to be expected, but, whatever changes are introduced, it is our business to see that the independence of the general practitioner is not destroyed.

Public clinics will be extended, and there will be an increase in the facilities for institutional treatment. Cottage hospitals will undoubtedly be extended. Improved methods of diagnosis and treatment will be adopted, and whilst every general practitioner may look forward to receiving an increased proportion of his income from the State, and a corresponding diminution in the value of his private practice, it is unlikely that he will become a mere salaried official divested of all initiative or responsibility.

It may not be possible to foresee the detailed procedure by which these changes will be brought about, but the man who is wise will take every opportunity of fitting himself to keep pace with the progress of events. Multiple partnerships are likely to become general, if only as a means of relieving the individual practitioners of being on duty for the whole twenty-four hours. They also afford a ready means of enabling a group of practitioners to cope with every variety of medical work which may be required in their area, and, by employing clerical assistance, to get leisure they could not otherwise enjoy.

Although I do not think the time is now ripe for the divorce of dispensing from medical practice, the general trend is in that direction and it may come about sooner than we anticipate. The relation of medical practitioners to normal midwifery is another matter which is likely to become acute in the near future. The profession has got to decide whether it wishes to retain this work or is prepared to see it drift entirely into the hands of midwives. A solution of this problem may possibly be found in the employment of qualified midwives by medical practitioners for attendance on all normal cases.

I believe in the future there will be closer co-operation between general practitioners and dentists, and more attention will be paid to the prevention of dental disease especially by the care of the milk teeth.

In view of the various reconstruction proposals known to be in contemplation or likely to be proposed in the immediate future, it is clearly desirable for the profession to secure representation on public bodies. It is equally essential that the considered views of the profession should be voiced by medical men in the House of Commons. But it must not be forgotten that a medical man in Parliament is there as the representative of his constituents—that is, of the people. Any attempt to promote a sectional interest at the expense of the interest of the rest of the people is foredoomed to failure. If we honestly try to promote the best public interest our professional interests will be safe. But advice and guidance in medical matters as affecting the health and welfare of the community is urgently needed by Parliament, and here there is certainly a field for men of the right type and experience.

In conclusion, I believe the outlook for the general practitioner is full of encouragement. I believe that he will occupy an important position in the reconstructed social state which will follow this world-war. The health of the nation is now recognized as the first essential, and it is in the work of preserving health that the value of the general practitioner will be realized more than it ever has been before.

## VOLUNTARY HOSPITALS AND A MINISTRY OF HEALTH.

### CONFERENCE OF THE BRITISH HOSPITALS ASSOCIATION.

A CONFERENCE was held at St. Thomas's Hospital, London, on October 18th, under the auspices of the British Hospitals Association, to consider further the proposal to create a Ministry of Health and its possible effect on voluntary hospitals. In the absence of the President (Lord Sandhurst) Mr. H. WADE DEACON, Chairman of the Liverpool Royal Infirmary, presided, and, in opening the proceedings, said that the general principle underlying their position was that the voluntary system should be maintained. The Ministry of Health Bill, so far as its provisions were known, did not directly affect the voluntary hospitals at all, although indirectly, of course, its effect would be very considerable.

Sir GEORGE MAKINS, President of the Royal College of Surgeons of England, proposed the main resolution:

That the British Hospitals Association welcomes the proposal to form a Ministry of Health. The Association is strongly of opinion that the interests of the patients and of the community as a whole, the progressive education and training of doctors and nurses, and the prosecution and advance of scientific research, will be best served and promoted for in the scheme by the retention of the voluntary hospital system.

He said that the proposal to form a Ministry of Health was meeting with the support of the whole nation and of the medical profession, and it was unlikely that a dissentient voice would be raised at that meeting as to the first proposition. The interests of those present, however, were mainly in the future of the voluntary system. This was one of the great links with the past of which the nation generally had most reason to be proud; it had endured for many centuries and through great national upheavals. The very foundation in which they met that afternoon, after it had been robbed of its charter by Henry VIII, had to be restored to its former position and something of its former wealth by Edward VI, simply because the nation even at that time felt the need of such an institution. The voluntary hospitals, moreover, had been the seat of medical training; they had sent forth the medical practitioners of the day. The universities, it was true, had also taken a great interest in medical education, nevertheless the practitioner was the product



of the voluntary hospital system. It had been urged that a central administration of hospitals would tend to a general uniformity and an increase of efficiency. On the other hand, they must recognize that it would tend also to reduce every institution to the same level, and possibly to a dead level, at which the institution would be cramped and hampered by official administration. A change of this kind would remove that proper spirit of emulation between hospitals and schools which had done so much in the past to assist progress and to advance medical teaching. Again, one great feature of medical education in this country had been the individuality of the teaching in the various schools. Very marked differences existed between schools, and the general result was all to the good. If the whole of the students were turned over under one system exactly alike in every particular, it would not be well for the medical men of the future. As a teacher and examiner, he had always felt that he gained a large amount of knowledge from coming in contact with students from different schools, which were unlike in their management, and possibly also in their spirit. In his opinion, in the present emergency a considerable proportion of the success which had attended the efforts of the medical service had depended upon the fact that the men who had done the work had been gathered from various quarters, and had had to work together in concert, and to some extent in emulation. He also pointed out the work which the voluntary hospitals were doing on what might be called the social side—the work, for example, of the hospital almoner and of the maternity welfare committees; all this depended a great deal upon the fact that the hospitals were voluntary institutions. Many such things would no longer be undertaken by a great central administration. The present system gave an opportunity for individual effort which, he thought, might result in the solution of problems which otherwise would be scarcely taken up at all. There was also the question of the influence that the hospital exercised upon the patient. Somehow he could not help feeling that the hospital which was under a voluntary committee was different in spirit from the hospital which was managed by a Government department. The voluntary hospitals owed their success in great measure to the strong sympathy which existed between the general public and the aims of the hospitals. In the event of the transference of the management of these hospitals to a Government department, the whole of that would be lost. At present it was a channel by which sentiment developed into action, and in whatever way they looked at it they were well aware that most of the best and furthest reaching things done in the world were done under the influence of sentiment. It would be a disaster if the voluntary system were to collapse.

The Rev. G. B. CROSSHAW, in seconding, laid stress upon the value of keeping up institutions which allowed for some elasticity in management. America was trying to get back to the voluntary hospital system after an experience of State hospital administration. As a hospital manager he felt that it would be a great advantage to have a Ministry of Health so long as the voluntary system was conserved, for he had to deal with no less than five public authorities at the present time in order to get the sanction for some scheme of treatment for tuberculosis or venereal disease, and if there was one central authority in the district it would be so much the better.

Sir HENRY BURDETT said that from information which had come to him from America only that day he gathered that, arising out of the war, the United States Government had come to the conclusion that the Hospitals Association of America was a very important body, and that the work which hospitals were doing, many of them on voluntary lines, was one which was worthy of being strengthened. So it had come about that the association was going to have what would be described in this country as a royal charter, and he suggested that an effort be made to secure a royal charter for the British Hospitals Association. Another matter arising out of the new departures was the need for payment of the medical staff. The demand for this would strengthen with the admission into hospitals of patients at fixed rates of payment. They must have affiliated to their hospitals, perhaps in separate buildings, accommodation for all classes of the community, and that could not be secured without payment of the visiting medical staff. He ventured to think that if all the medical men in the voluntary hospitals were paid forthwith it would prove in practice an economical measure and would have surprising results. In hospital administration, further, they should have a medical superintendent. That was a matter which had to be fought out with the profession. In the United States it had been gone into very thoroughly, and the medical superintendents who were appointed were

responsible for the administration throughout, but had nothing to do with finance, which was laymen's work. Taking it all round, if a medical man of ability had administrative gifts, he was now paid in America as medical superintendent more than the average practitioner would receive in the ordinary pursuit of his profession.

A number of representatives of hospitals in various parts of the country then briefly addressed the meeting in support of the voluntary system, and some suggestions were made for propaganda work in order to bring home to the local community the value of the hospital. Disagreement was expressed with a Birmingham representative who thought that while the system should be continued as voluntary in management they should be prepared to receive grants in aid either directly from the State or through the medium of town or city councils, in the same way as grants were already made for certain forms of treatment.

Mr. BISHOP HARMAN pointed out that if there were a Ministry of Health it was inevitable that the whole of the Poor Law system, so far as its medical work was concerned, should be brought under the general administration of the Ministry. The accommodation for patients in Poor Law infirmaries was considerably greater than in voluntary institutions, and the result would be that these new State infirmaries, entirely changed in their character and cleansed from Poor Law stigma, would comprise perhaps two-thirds of the hospital accommodation in the kingdom, and the voluntary hospitals only one-third. That seemed to him the most serious point they had to face. It would not be so much a question of the State stepping in to control the voluntary hospitals as the relation which the voluntary hospitals would have to bear in the future to the hospitals which belonged to the State and for which the State was responsible from beginning to end. He instanced the parallel case of the educational institutions and the Act of 1870. The competition of voluntary schools had been altogether good in its effect upon State-supported schools, and in the same way he did not think they need be very fearful as to what the State might do with the voluntary hospitals. In some districts there would doubtless be a tendency to absorb the voluntary hospitals, and he thought they might find protection by applying to a body which would be an independent arbiter, as the Charity Commissioners had been in the case of all endowed institutions.

Major McADAM ECKLES said that there were three main principles which they had to bear in mind: first, that the national health must be improved; and, secondly, that there was a place for the voluntary hospitals in that improvement and in the correlative maintenance of medical and nursing education. Voluntary institutions had served both these purposes in the past, and, having experience which State hospitals would not have, they were obviously the bodies to work with in the future. He believed that the Government, when it came to look into this matter, would realize that the voluntary hospitals were a magnificent asset to this country, and for their own part they must be prepared to bring the voluntary hospitals, and quickly, up to the standard which would satisfy a new and existing Ministry.

The Hon. Sir ARTHUR STANLEY said that he did not believe that for a long time to come the voluntary hospitals would have anything to fear from a Ministry of Health. Dr. Addison had told him quite definitely that those who were in charge of the bill had no intention whatever of enforcing or trying to enforce any particular principle or doctrine of their own. All that they wanted to do in this initial stage was to collect under one roof all the powers affecting public health which were now exercised by a very large number of different public departments. He (the speaker) thought that the people of this country would insist upon having a voluntary system alongside the State system for the control of health. The rightful analogy was that of the Royal Army Medical Corps and the Red Cross. Nothing could possibly have been better than the work of the R.A.M.C., but the fact that there was also an independent body built up by the public was of considerable value, not merely for the provision of accessories, but as a stimulus acting continually upon the official system. Whatever happened, the country itself would never allow the voluntary system to be given up, and what they had to do now was to see that the case of the voluntary hospitals was put in the best possible way, both in Parliament and outside.

The resolution was carried unanimously, as was a second resolution requesting the Council, when the terms of the Ministry of Health Bill were known, further to consider the question, to take such steps as might be necessary, and to report to the general body of the British Hospitals Association.



## VACCINES FOR INFLUENZA.

We have received for publication the following account of the proceedings of an important conference held at the War Office on October 14th, 1918, on the utilization of bacterial vaccines for the prevention and treatment of influenza.

The following were present: Colonel Sir William Leishman, K.C.M.G., C.B., F.R.S., K.H.P., in the chair; Deputy Surgeon-General P. W. Bassett-Smith, C.B., C.M.G., R.N.; Lieut. Colonel D. Harvey, C.M.G., R.A.M.C., Officer-in-Charge Vaccine Department, Royal Army Medical College; Major F. W. Andrewes, F.R.S., R.A.M.C.(T), Pathologist, St. Bartholomew's Hospital; Captain S. R. Douglas, late I.M.S., Inoculation Department, St. Mary's Hospital; Dr. J. Eyre, Director of the Bacteriological Department, Guy's Hospital. (Professor W. Bulloch, F.R.S., Pathologist, the London Hospital, was unable to attend, but has since expressed his general agreement with the conclusions reached by the conference.)

The Director-General of the Army Medical Service, after welcoming the members, explained to them the object with which they had been called together and the great and urgent importance of their endeavouring to formulate definite recommendations as to the employment of vaccines in view of the probability of an extension of the epidemic of influenza.

The Committee then proceeded to discuss the items of the agenda form which had been drawn up by the Chairman, and reached the following conclusions:

After discussing the available evidence as to the bacteriology of the present epidemic the majority of those present were agreed that there was considerable doubt as to the primary etiological significance of the *Bacillus influenzae* of Pfeiffer, and considered that the existence of some as yet undiscovered virus must be regarded as possible. They had, however, no doubts as to the very frequent presence of Pfeiffer's organism in this epidemic, nor as to the great importance of the part which it played in the production of the symptoms and complications of the disease. The organisms most frequently associated with the *B. influenzae*, and in their opinion chiefly responsible for the gravity of the secondary pulmonary complications, are pneumococci and streptococci.

The general question of the employment of a bacterial vaccine for the control of the incidence and severity of the epidemic was discussed, and it was unanimously agreed that inoculations with a suitable vaccine might be expected to be of value in both directions.

The appropriate constitution of such a vaccine was then thoroughly discussed in the light both of the personal experience of the members of the conference and of the information available from medical literature.

It was agreed that the three following organisms only should be employed—the *Bacillus influenzae*, the pneumococcus, and the streptococcus. In each instance it was decided that a number of different strains and types of each organism should be utilized in the preparation of the vaccine, and that these strains should have been recently isolated from cases occurring during the present epidemic, and should be submitted to strict tests as to race and type prior to use.

The relative proportions of the different organisms and the dosage of the vaccine were then dealt with, and it was agreed that the following should be its constitution and dosage:

	First Dose.	Second Dose.
<i>B. influenzae</i> ... ..	3 millions.	60 millions.
Pneumococcus ... ..	100 ..	200 ..
Streptococcus ... ..	40 ..	80 ..

The vaccine should be sterilized by a temperature of 55°C., maintained for half an hour, and 0.5 per cent. of carbolic acid should subsequently be added as an antiseptic.

Whenever possible, both doses of the vaccine should be given, at an interval of ten days.

It was thought that the reactions to be expected from this vaccine would in the majority of cases be either trivial or non-existent. It was, however, considered to be of great importance that in the case of soldiers a period of twenty-four to thirty-six hours' light duty should always be given.

As regards the conditions under which this prophylactic vaccine should be employed the conference were unanimous in considering that, whilst it would be preferable to carry out the inoculations before exposure to infection, there do not exist any adequate grounds for withholding it in the case of a body of men amongst whom influenza had already appeared, provided that care is taken not to inoculate any individuals who have fever or are obviously ill, or those who are at the time suffering from catarrh. At the same time a careful watch should be kept for any evidence of a period of increased susceptibility following upon inoculation, and should this become manifest it is advised that instructions be given to lower the doses recommended above.

The conference made the following recommendations as to dosage of the vaccine in the special cases mentioned below.

(a) *Children*.—It is not advisable to inoculate children under the age of 5. For older children the following doses may be given:

From 3 to 7 years ... Quarter of the full doses as detailed in the table given above.  
From 7 to 16 years... Half of the full doses.  
Above 16 years ... The full dose.

(b) *Colonial Troops*.—In this case they recommend three doses at intervals of ten days as follows:

First dose ... Half of the first dose as detailed above.  
Second dose... The "first dose" as detailed above.  
Third dose ... The "second dose" as detailed above.

(c) *Native Contingents*.—Here, too, they recommend three doses at intervals of ten days, as follows:

First dose ... The "first dose" as detailed above.  
Second dose ... The "second dose" as detailed above.  
Third dose ... The "second dose" as detailed above.

The conference then discussed at length the question of employing the vaccine for the treatment of severe cases of influenza and its complications; on this they make the following recommendations:

(a) The vaccine is most likely to be of service in the treatment of subacute and of chronic cases; in this class of case the initial dose which they recommend is one-fifth of the "first dose" as detailed above.

(b) The use of the vaccine in the treatment of several cases of secondary bronchopneumonia cannot at present be recommended, in view of the dangerous rapidity and severity of many of these cases. Should it, however, be desired to try the vaccine in such cases it is advised that the initial dose should not exceed one-twentieth of the "first dose" as detailed above.

A profitable discussion then followed upon technical details and upon the investigations bearing upon the subject which were felt to be desirable and likely to lead to practical improvements in respect of the employment of vaccine. These hardly admit of summary, but it was agreed that among the most important were the questions of the unity or multiplicity of types of the *B. influenzae* and of the identification of this organism, and some arrangements were made between the members for exchange and collection of cultures, which it was hoped would lead to progress in these directions.

The Committee then considered the practical steps to be taken for the preparation of the vaccine on the assumption that considerable demands might be made for it at an early date. Thanks to the generous assistance offered by the members of the conference this was placed upon a satisfactory basis, it being agreed that the numerous strains of the organisms which were in possession of most of the members, and which had been obtained from recent cases, should be sent to Captain Douglas at St. Mary's Hospital, where he has kindly consented to put them through the necessary tests as to purity, type, etc. Those selected will then be passed on to Lieut. Colonel Harvey at the R.A.M. College, who will arrange for the preparation of the vaccine for army purposes, and also to Deputy Surgeon-General Bassett-Smith at the Royal Naval College.

In order to ascertain the degree of protection given by the vaccine the conference recommend strongly that the necessary administrative steps be taken to secure statistical records dealing with the following matters:

- The reactions following the inoculations.
- The occurrence of any cases of severe illness within forty-eight hours of inoculation.
- The incidence of the disease among the inoculated and uninoculated.
- The incidence of complications among inoculated and uninoculated.

War Office,

Oct. 16th, 1918.

W. B. LEISHMAN, Colonel,  
Chairman.



# British Medical Journal.

SATURDAY, OCTOBER 26th, 1918.

## THE INTERDEPENDENCE OF THE SYMPATHETIC AND CENTRAL NERVOUS SYSTEMS.

FROM their extensive investigations on infection and intoxication of the central nervous system, reported in previous numbers of *Brain* and elsewhere, Dr. David Orr and Lieut.-Colonel Rows<sup>1</sup> distinguish two paths of invasion: (a) lymphogenous, passing up the ascending lymph paths of the cranial or spinal nerves, and giving rise by continuity to a primary inflammation of the fixed tissues; and (b) haematogenous, causing degenerative lesions associated with vascular dilatation, oedema, and hyaline thrombosis, but with little, and then only secondary, inflammation of the fixed tissues of the central nervous system, dependent upon the irritative effects of the degenerative products, and upon the reaction incidental to repair. The lesions produced by experimental intoxication of the blood stream involve the white matter of the spinal cord in a non-systemic manner, two areas—namely, the periphery and the posterior columns—being affected, but in varying degrees at different levels. The brain showed coagulation necrosis of the nerve cells in the cornu ammonis, the cerebral cortex, and the amygdaloid nucleus, and also softening in the stratum moleculare of the cornu ammonis. From the distribution of these lesions it is clear that in addition to toxicity of the blood stream there is another factor which determines where the toxin shall exert its effect. The lesions in the cord and brain occur in the regions supplied by the blood vessels of the pia arachnoid; and there is a considerable weight of evidence in favour of the view that the sympathetic nervous mechanism is an important factor in determining the parts of the central nervous system to be primarily acted on by a poison circulating in the blood. The existence of vasomotor fibres in the brain has until comparatively recent times been steadily denied; but the action of adrenin has proved the presence of vaso-constrictors of the cerebral blood vessels, and non-medullated sympathetic fibres have been traced from the main mass along the posterior roots to supply the vessels of the cord. Moreover, stimulation of the posterior roots has been seen to cause constriction of the blood vessels of the dura mater.

Non-systemic lesions of the spinal cord characterized by atrophy of the myelin sheath and sclerosis and apparently due to some toxæmia are described by the authors in cases of visceral cancer, in Addison's disease, and in subacute combined degeneration; these diseases show different degrees of the same pathological process, which is least advanced in visceral cancer and most severe in subacute combined degeneration. In Addison's disease the existence of adrenal inadequacy makes vaso-dilatation of the pia arachnoid vessels of the cord highly probable, and it is suggested that in these three diseases there is, as the result of some interference with the thoracic-lumbar sympathetic reflex, possibly caused by pathological stimuli or, as in Addison's disease, by the absence of substances necessary for its balance, increased permeability,

depending on dilatation, of the vessels and so undue diffusion of the toxin in the underlying nerve elements.

The authors feel justified in suggesting that if this assumption that organic lesions of the spinal cord may result from disturbance of the sympathetic system is correct, some functional disorders of the central nervous system have a like origin. In the discussion of this difficult problem they point out that the psychoneuroses of war demonstrate conclusively how disturbance of the sympathetic mechanism, of the endocrine glands, and morbid emotional conditions combine to bring about pathological psychic and nervous phenomena. It therefore follows that in the investigation of nervous disease, especially of the brain, all the collateral symptoms due to disturbance of all the peripheral organs intimately connected with it should be studied in addition to the symptoms obviously due to disorders of the central nervous system.

## WARDS FOR INFANTS.

THE need for some energetic and systematic action to check the excessive mortality among infants under 18 months of age is now fully recognized. Infant welfare centres are doing valuable spade work, and the periodic advertisement afforded by a baby week serves to keep the subject before the public mind.

In order to find out what is actually being done at the present time in one large area—London—an inquiry has been held by the Mansion House Council on Health and Nursing, and its report has been published.<sup>1</sup> Replies to a series of searching questions have been furnished by a large number of institutions dealing directly or indirectly with disease in children. As regards hospital accommodation, it may at once be said that it is insufficient to meet the demand, but in the institutions under the management of the Poor Law authorities there is an adequate supply of beds, and, in a few instances, there are special wards for children and babies.

Although the majority of hospitals, with or without medical schools attached to them, undertake the treatment of infants and provide them with the best available medical and nursing skill, there is no uniform plan of dealing with them, and each hospital makes its own regulations as to admission to general or special wards with, but more commonly without, the mothers. Admission to the Poor Law infirmaries is easily obtained, but the old-standing prejudice too often prevents application for admission until danger threatens, and hence the average of success in treatment is proportionately low. The facilities for nursing are by no means so good in the infirmaries, the average number of beds per nurse being as high as eight or ten, whereas in most hospital wards the average does not exceed three or four. It would thus appear that increase of hospital accommodation is called for in the first instance, and that some uniform method of supplying it is eminently desirable. The interests of the infant in arms should be first considered. In many cases it is advisable that the mother should accompany the child for a short time, and the accommodation provided for them should be separate from the main children's ward.

It is held that the treatment of very young infants should be regarded as a special branch of children's nursing. Even in special hospitals it is often the custom to deal with children of all ages in the same ward, and this may prevent the very young from

<sup>1</sup> D. Orr and R. G. Rows, *Brain*, 1918, xli, 1-22.

<sup>1</sup> Report of an Inquiry into the Adequacy of Hospital Accommodation in London for Infants and Young Children. National League for Physical Education and Improvement, 4, Tavistock Square, W.C.1.



getting the close attention they require. Another drawback to treatment in a general ward is the ever-present liability to infectious disease, necessitating closure for a time. To meet these well-recognized defects it is evident that some differentiation should be made between sick children under 18 months of age and others, both as regards housing and nursing.

The special training of nurses in the management of children's diseases can only be satisfactorily carried out as an adjunct to general training. The nurse trained only in this special work finds herself at a disadvantage when called upon to undertake general nursing. Much may be learnt by an intelligent probationer in a comparatively short time by working under an experienced sister or charge nurse, but it is absolutely essential that such skilled supervision should be at all times at hand. More especially is this the case in the infirmaries. The evidence forthcoming from some of the infant welfare centres does not afford a very favourable account of the results of infirmary treatment, and it is only in a few of these institutions that any special provision is made for babies. With the wider extension and greater popularity of health visitation it may be possible to induce mothers in poor circumstances to seek institutional aid for their children before disease is too far advanced. The suggestion that observation wards should be attached to welfare centres, whereby serious and trivial cases might be differentiated, has been made by the British Hospitals Association. "The establishment of clinics, or treatment centres, in touch with the hospital," although doubtless intended to be of general application, might very well include clinics for the special study and treatment of the ailments of infancy. If at the same time some uniform provision could be made in the hospitals for separate accommodation, a vast amount of valuable experience could be acquired and utilized which is now lost, especially in the infirmaries.

The programme of the British Hospitals Association set out in the pamphlet noticed in our issue of August 24th, p. 192, deals with the functions of the voluntary hospitals in general, and makes the claim that their great value lies in their "elasticity of organization and flexibility of adaptation." These qualities have of late years been somewhat freely exploited by the state and by the municipalities. Tuberculous and venereal diseases have been placed under their management as far as treatment is concerned, and we may yet have a demand that the ailments of the infant community may be in like manner committed to their charge. At the present time the voluntary hospitals cannot provide the necessary accommodation unless financial aid be forthcoming. The care of the newly born is of more importance to the community than the care of the adult, damaged in many cases beyond repair, often as the result of his own carelessness.

#### THE COVENTRY CASE.

The general effect of Mr. Justice McCardie's judgement in the Coventry case (*Pratt and others v. the British Medical Association and others*) was stated in the *JOURNAL* of October 19th, p. 451. A full report is published in the *SUPPLEMENT* for this week. Though the judgement was delivered on October 15th, the formal terms of it were reserved for further argument until October 24th. We are therefore unable to publish a report of these proceedings in this week's issue. The Council of the British Medical Association at its meeting on October 23rd considered the judgement of Mr. Justice McCardie, and decided to enter an appeal.

#### AN ITALIAN ASSOCIATION.

Union is strength, and, with the intention of drawing closer the bonds that unite us with Italy, a well known English Italianist founded *The Anglo-Italian Review*, a monthly periodical, last May. In the pages of its successive numbers the reader will find a most interesting series of articles written with the object of explaining the two countries to one another. From the British point of view it is of no little value to have the aims and aspirations of modern Italy set forward with the skill and sympathy of professed students and lovers of our gallant ally. Intelligent comprehension of the foreigner is not our forte. *The Review* is wide in scope, and deals with politics and economics as well as art and the humanities. In its October number<sup>1</sup> Emilio Colombi gives a vivid picture of the way in which certain wounded Italian officers reacted to the disaster that overtook the Italian forces at Caporetto just twelve months ago. The need to retrieve the fortunes and moral of their country was urgent: in a few days an association for political propaganda in Lombardy and Northern Italy was organized, and the whole affair set upon a sound footing. During 1918 the scope of the association has widened and its field of action has extended; it has, indeed, become a very important factor in maintaining the moral of soldiers and civilians, in tracing out *imboscanti* (for every country has its camouflaged shirkers), and in providing for many of the needs arising out of the war. We offer our congratulations to the association on the excellence of its work as portrayed to us. *The Review* may be cordially recommended to the attention of all who seek a fuller and more generous understanding of modern Italy, our friend and ally.

#### RECRUITING OF MEDICAL OFFICERS FOR THE U.S. ARMY.

On previous occasions we have referred to the interesting resemblance between the position in which the United States medical profession finds itself and the difficulties with which the profession in this country has had to contend during the course of the war. In certain respects this resemblance seems now to be diminishing. In the *Journal of the American Medical Association* for September 21st, 1918, there was an editorial article entitled "Physicians under the selective service law," in which the hope was expressed that special regulations would be issued for the guidance of the selective service boards in the placing of physicians; but as this has not been done, medical practitioners will go through the same procedure as other men. Each registrant, of whatever calling, receives from his local board a set of questions (questionnaire) in which he is required to state whether or not he desires deferred classification or exemption. If he waives these rights the matter is settled so far as he is concerned; but others may intervene before the appeal board and ask for exemption or deferred classification for him. The grounds for such a demand are (1) physical disability; (2) dependency; (3) community need. The conscientious objector is not recognized in the United States. Our contemporary considers that comparatively few active practitioners in medicine will claim exemption on the ground of physical disability, an opinion with which experience in this country accords. Under the heading "dependency"—which is known to us as "personal hardship"—the questionnaire appears to go very thoroughly into the financial status of each registrant. The exemption under "community need" is regarded as the most important; and it is here that procedure in the United States seems to have parted company with that followed in this country. Our professional committees, consisting almost entirely of actual practitioners in medicine and surgery, have been entrusted with the duty of safeguarding the needs of the civil community. To assist in this work representatives of Government

<sup>1</sup> *The Anglo-Italian Review*, October, 1918. Edited by Edward Hutton. London: Censable and Co. (Price 1s. per annum.)



departments concerned with health matters sit with the professional committees in an advisory capacity without vote; in the background there exists still a veto possible to the Government departments concerned, with regard to any individual practitioner whose work in a civil capacity is regarded by that department as essential to the community. In practice it has not been found necessary to exercise this veto, though doubtless its existence tends to promote satisfactory working of the machinery. In the United States, on the other hand, the decision is left to the selective service boards, consisting presumably mainly of laymen. The local boards have authority, subject to the right of appeal to the district boards, to decide claims of registrants who are engaged in occupations specially designated by law. The district boards are authorized to appoint advisers, who are not members of the boards and have no right to vote. If, therefore, a question arises as to whether a certain medical registrant is needed in a medical college, in a hospital, or in civilian practice, the "adviser" nominated by the district board will investigate and report. The decision as to the use of the medical man will rest with the district board, which has authority to decide claims for exemption on the grounds that any particular occupation or employment is necessary, and that the registrant is necessary therein. So far as we understand the position, the Government of this country has seen fit to entrust the medical profession with greater powers than is the case in the United States. Although the difficulties in the way of the professional committees as tribunals under the Military Service Acts have been enormous, we think we may say that they have been satisfactorily surmounted. It will be interesting to see how the alternative method of entrusting the decisions with regard to doctors to lay tribunals, as seems to have been adopted in the United States, succeeds. The "advisers," who are presumably medical men where the medical profession is concerned, will have a great responsibility, and it is to be hoped that the district boards will nominate these officials with the full approval and advice of the local medical profession.

#### CONTROL OF VENEREAL DISEASE IN THE UNITED STATES.

Two hundred thousand pounds are to be expended by the Federal Government through the State boards of health in the control of venereal disease in the fiscal year ending June 30th, 1919. An officer of the public health service will have general charge of the work in each state in co-operation with the state health officers. The New York State legislature of 1918 has now passed an amendment to the public health law giving power to local boards of health to exercise control in the matter of venereal disease.<sup>1</sup> This amendment provides for the examination of suspected persons by a public health officer or other licensed physician, such examination, however, being subject to restraint by a magistrate at his discretion. Examination is to be made of persons convicted of vagrancy or of frequenting disorderly houses or houses of prostitution before they are released by court or magistrate. Treatment of those suffering from the disease is required and regulated, free treatment being provided for the indigent. Only licensed physicians are allowed to treat such persons, and prescriptions are to be carefully guarded. All reports and information are to be regarded as confidential as far as the carrying out of the provisions of the law will permit. Violation of any of these provisions is to be accounted a misdemeanour, while special protection is to be extended to the naval and military services by making it a felony for any one aware that she is the subject of infection to have sexual intercourse with any person in either branch of service. A Bureau of Venereal Diseases

has already been established in the New York State Department of Health. Its object is to assist in carrying the provision of this new law into force in the most practical and thoroughgoing manner. Its efforts will be chiefly directed to the arousing of public interest in the prevalence of the disease, its communicable nature, its far-reaching effects upon the individual and the community, and to the education of the people in the methods for its control and suppression. Among the members of the bureau is an inspector of the clinics and dispensaries provided for the treatment of indigent patients. This will include the supply of arsphenamine (salvarsan), and experiments in the production of that substance are now being conducted in the State laboratory.

#### TREATMENT OF THE DISABLED IN WALES.

IN Wales, as in England, the provision hitherto made by the Ministry of Pensions for the treatment of disabled men discharged from the army and navy has not met the necessities of the situation. The Ministry seemed at first disposed to assume that existing hospitals would be able to deal with the problem, but it was manifestly too large to be solved in this way. The civil hospitals now reserve many beds for acute military cases, and as soon as the war is over they will wish to revert to their ordinary civil work. Hospitals for pensioners suffering from all those conditions now treated at the special military surgical (orthopaedic) centres will be required for several years after the war is over, but, so far as we know, all these centres will be wound up six months after peace is declared. A special organization is needed which can be continued for so long after the war as may be necessary. This has been recognized in Wales, and the Institutional Committee of the principality has recently approved a scheme put before it by Colonel J. Lynn Thomas, C.B., C.M.G., consulting surgeon and inspector of military orthopaedics to the Western Command. The scheme is comprehensive and embodies a plan for an institution to meet the needs of Welsh pensioners to-day and of the civil population of Wales in the future. The realization of the scheme has been made possible by the generosity of Mr. and Mrs. Laurence Philipps, who have purchased a large residence, "Rookwood," at Llandaff, about three miles from the centre of Cardiff. It stands on a site of twenty-six acres, laid out as gardens and park. The house, which has been maintained as a hospital for officers for the last two years by Mrs. Purnell, who has cordially approved the scheme, will provide forty beds, all on the ground floor, for paraplegic and other helpless patients, and the park affords ample space for the erection of hatted wards.

#### THE PANDEMIC OF INFLUENZA.

THERE is at present no evidence of any decline in the pandemic of influenza, which is literally world-wide, every continent being infected. The Local Government Board has issued a rather belated memorandum on the history of influenza and the steps which can be taken by public authorities and individuals to check it.<sup>1</sup> The final observation will meet with general approval. It is that "the only safe rule is to regard all catarrhal attacks and every illness associated with rise of temperature during the prevalence of influenza as infectious." The most interesting part of the memorandum is the appendix, containing the substance of the report, which we publish elsewhere (p. 470), of the recent conference at the War Office on vaccines for influenza. The vaccine recommended is being prepared for the use of the army and navy at the Royal Army Medical College and the Royal Naval College, but we gather from a statement in the memorandum of the Local Government Board that no vaccine is as yet available for the treatment of influenza in the civil population.

<sup>1</sup> *New York Medical Journal*, September 14th, 1918.

<sup>1</sup> *Memorandum on Epidemic Catarrh and Influenza*, 1918. To be purchased through any bookseller, or directly from H.M. Stationery Office. Price 1d.



## Medical Notes in Parliament.

**War Pensions Bill: Penalty for Refusing to Submit to Treatment.**—The Naval and Military War Pensions Bill, the second reading of which was moved by Mr. Hodge in the House of Commons on October 22nd, contains the following clause (7):

If any disabled officer or man, on being so required in the prescribed manner, refuses or without reasonable cause fails to submit himself for medical examination, or if any disabled officer or man as respects whom it has been certified that treatment in an institution or otherwise is necessary in his interest, refuses or without reasonable excuse fails to undergo such treatment in accordance with such directions as may be given in that behalf by or with the approval of the Minister, the Minister may if he thinks fit, notwithstanding anything to the contrary in any Order in Council, Royal Warrant or Order by Order in Council, that any pension or allowance to which that officer or man would otherwise be entitled shall cease to be payable either in whole or in part for such period as may be specified in the Order.

Mr. Hodge said that in the Royal Warrant there was power to punish a man to the extent of withholding half his pension if he refused treatment, but if a man's pension was taken away the punishment, if he was a married man, fell on his wife and child. He hoped that the power asked for under the bill would of itself be sufficient to induce men to accept treatment.

Sir Henry Craik moved the rejection of the bill, and during the course of the discussion Sir Watson Cheyne criticized Clause 7 strongly. A man might object to further treatment for various reasons; one was previous experience of treatment which had not been successful. The only condition under which there was the moral right to compel a patient to submit to operation was if cure could be promised, but often all that could be said was that a little longer treatment would be the best course, though cure could not be promised. Not only might an operation prove unsuccessful, but it might lead to the loss of a limb, or increased deformity, or to death. Personally he would never say that a man should undergo an operation unless it were a question of life or death within a few hours; then every persuasion should be used. In other cases the question of undergoing further treatment should depend entirely upon the man's own will and judgement.

Sir A. Griffith-Boscawen, in the course of his reply, denied that Clause 7 involved a new principle, as it already existed in Article 4 of the warrant, whereby a pension could be halved if a man unreasonably refused treatment. The warrant included operations, but in considering how the warrant should be dealt with it was decided never to enforce it for the refusal of operation, and it was not intended to do so: the clause could be safeguarded by the insertion of words providing that it should not be enforced in case of refusal of operation. The result of refusal to accept treatment was that a man got a bigger pension than he otherwise would because some disablement might be removed, he would not say by operation, but by massage, electricity, orthopaedic treatment, and so on. It was unfair to the State that it should have to pay the higher pension. Some of the Dominions had a clause similar to this. One such warrant contained a clause that if a man refused treatment his pension was reduced by the amount of the extra disability which medical men decided he had in consequence of the refusal.

Other members criticized the bill, but Sir Henry Craik did not persist with his amendment for rejection, and the measure was read a second time.

**The Indian Medical Service.**—Colonel Yate, on October 21st, asked the Secretary for India whether he had received a reply from the Government of India regarding the position of officers in the Indian Medical Service, and if he could state what increase of pay had been granted to those officers so as to ensure an efficient and contented Indian Medical Service. Mr. Montagu regretted he could not announce a decision on this question, regarding which he was in telegraphic communication with the Government of India. He was doing all that he could to expedite the settlement of what he recognized to be an urgent and important issue, and hoped to be in a position to make a statement within a week or two.

**Rabies in Devon and Cornwall.**—In reply to Sir William Bull, the President of the Board of Agriculture said that the possibility of a dog being carried in an aeroplane to this country had been recognized and warnings issued. Forty cases of rabies had been confirmed since September 7th, thirty-five in Devon and five in Cornwall, and of these no fewer than twenty-nine

occurred in Plymouth. These figures did not by any means represent all the facts of the case. He was satisfied that rabies had been in existence in these counties for several months, probably since the end of May; the latest outbreak discovered was in the Wadebridge district of Cornwall, some thirty miles distant from Plymouth. He made a strong appeal to all persons who had visited Devon or Cornwall with dogs during the last five months that they should place their dogs with veterinary surgeons at once, and inform his department of the fact. He regretted to say that the appeal, for this information issued to the press on October 11th had met with only one response. Human life was at stake; at least twenty-one persons were known to have been bitten by these dogs, some being children, and any person who failed to assist by giving information required would incur a very grave responsibility should the disease spread to other districts. There were suspicions as to how the outbreak of rabies in Devon and Cornwall first occurred, but he would not like to say on suspicion what he believed the case to be. No deaths had occurred at present.

**Discharged Soldiers.**—Replying to Lord Henry Cavendish-Bentuck on October 17th, Mr. Bonar Law said he was unable to agree with the statement that the Pensions Ministry had failed to secure either adequate treatment or training for discharged soldiers, and therefore he was unwilling to appoint a committee of inquiry, as was suggested by the hon. member. Lord Henry Cavendish-Bentuck asked whether Mr. Law was aware that only one in three of the discharged soldiers was receiving adequate treatment, and that only one in ten was receiving any training. Mr. Law answered that he was satisfied that all that could be done was being done by the Pensions Minister.

**Discharged Men.**—In reply to Major Chapple, who asked a question as to the establishment in Scotland of an institution on the lines of the Chelsea Hospital, Sir A. Griffith-Boscawen, on October 17th, replied that if the suggestion referred to pensions now awarded at Chelsea Hospital, he was not prepared to consider it, as the centralization of awards was in present circumstances believed to be the only satisfactory method of securing uniformity. Chelsea Hospital, as an institution for the care of veteran soldiers, was under the control of the War Office, and any question of founding a similar institution in Scotland should be addressed to that department. Mr. Hodge, in reply to a series of questions on October 21st as to the re-employment of disabled men after the war, said he had circulated all local authorities inviting them to agree to definite arrangements to give a preference, as far as possible, to disabled men in the local public service, and he had approached the large public corporations, such as those connected with tramway undertakings, with the same object. In both directions the appeal had met with ready response. As regards trade and industry at large, certain proposals to provide for the general re-employment of disabled men were under his personal consideration and that of the Minister of Labour, and he hoped that a definite conclusion would be reached very shortly.

**Artificial Limbs for Discharged Service Men.**—In reply to Sir Montague Barlow, who, on October 21st, asked a question as to delay in obtaining repairs to the artificial limbs of discharged soldiers and sailors, Mr. Hodge said that a recent instruction which enabled local War Pension Committees to authorize repairs locally where possible without previous reference to the Ministry, would, it was hoped, obviate delay in minor cases. With regard to major repairs and the readmission of pensioners into limb-fitting centres, the increase in the number of beds at fitting centres from 972 in February, 1918, to 2,195 in October, would enable cases to be more expeditiously dealt with. It had not yet been found possible to standardize limbs, as no specimen brought to the knowledge of the expert advisory council had shown such advantages over any other as to warrant it being made the standard pattern. The promise to issue a spare limb to all cases would, he hoped, be carried out within a reasonable period, but a early the primary fitting of limbs must be the first consideration.

**Regulation 40 D.**—The Home Secretary, in reply to Mr. Lees-Smith in the House of Commons on October 17th, said that the enforcement of Regulation 40 D under the Defence of the Realm Act followed on representations from the Dominion Governments. The regulation provided that women arrested might be examined subject to their consent. Down to October 8th there had been 201 prosecutions. Convictions had been obtained in 102 cases, in 51 of which the defendants had pleaded guilty. Three other defendants had been bound over or placed on probation, and six cases were under remand when the return was made. Mr. Lees-Smith submitted that these figures showed that in "nearly one out of every two cases" no conviction had been obtained, and asked whether compensation would be given to the acquitted women who had been subjected to examination. Sir George Cave said that the return showed that the magistrates were very careful and did not convict except in very clear cases. The regulation was being considered by a committee which would report as soon as possible. If it reported for withdrawal, an Order in Council would be required to rescind the regulation.

THE new law raising the status of commissioned officers in the Medical Reserve of the United States army will give ranks in that corps as follows: 2 major-generals, 4 brigadier-generals, 675 colonels, 1,158 lieutenant-colonels, 5,063 majors, 14,374 captains and lieutenants.



# THE WAR.

## SIR DOUGLAS HAIG'S DISPATCH ON THE MARCH RETREAT.

The dispatch, dated July 20th, of Field Marshal Sir Douglas Haig, Commanding-in-Chief, British Armies in France, issued by the War Office on October 21st, deals with the period from the end of the actions near Cambrai in the first week of December, 1917, to the end of April, 1918, and thus covers the retreat caused by the German thrust which began on March 21st. The concluding paragraphs of the dispatch refer to the enormous amount of additional work thrown upon the different branches of the staff and upon the administrative services and departments, including the evacuation of great masses of stores, hospitals, rolling-stock, non-combatants, labour units, and civilians from the battle area, and the supplying of the troops in constantly changing places with food and ammunition. The work was carried out smoothly and successfully in circumstances of extraordinary difficulty, and there was never any lack of food or ammunition for the troops. The following is the text of the paragraph relating to the medical services:

Much additional work, also under circumstances of unusual difficulty and danger, has necessarily been thrown upon the medical and nursing services. The conduct of the Royal Army Medical Corps and Medical Corps of the Overseas Dominions has again been beyond all praise, while the efficient organization of the medical services as a whole proved itself fully equal to the occasion. I take this opportunity to acknowledge the lasting debt due in this connexion to Lieut.-General Sir A. T. Sloggett, K.C.B., K.C.M.G., K.C.V.O., K.H.S., until recently Director-General of Medical Services, with whom the work of the medical services has so long been identified.

## THE ITALIAN FRONT.

In a dispatch from General the Earl of Cavan, commanding the British Forces in Italy, on operations between March 10th and September 14th, 1918, the following brief reference is made to the work of the medical services:

Arrangements for the sick and wounded have been thorough and complete. The difficulties of evacuation by mountain paths and roads were successfully overcome in the action of June 15th. An epidemic of influenza, which appeared to threaten serious diminution of the force at one time, has completely passed away.

## PRISONERS OF WAR.

### THE HAGUE AGREEMENT.

The terms of agreement entered into between delegates of the British and German Governments concerning the treatment and exchange of combatant prisoners of war and civilians were published last week in a White Paper. In an annex to the final protocol, which is dated July 14th, 1918, the fifth clause runs as follows:

As it was not possible at this conference to arrive at an agreement with regard to the recognition of the persons coming under the designation of medical personnel, both delegations will recommend to their respective Governments that this question should be settled by special agreement.

Among the sixty articles relating to the repatriation and internment of combatants and civilians, and the treatment of prisoners of war, it is declared that wounded and sick, both combatant and civilian, shall have priority over all classes of persons to be transported, and shall be sent by any and every voyage as soon as possible after their repatriation or internment is decided upon. With regard to the disposal of sick and wounded combatant prisoners, it is provided that visits to camps shall be resumed, at intervals of three months, by travelling medical commissions (each consisting of two neutral doctors and one doctor of the captor state. The duties of these commissions will be, as heretofore, to ascertain the prisoners eligible for repatriation or for internment in a neutral country by reason of their physical condition. The decisions will be made in accordance with the schedule of disabilities agreed between the belligerent Governments, and prisoners of war suffering from any injury or sickness (except a self-inflicted injury) which falls within the schedule are to be repatriated or interned. Prisoners of war recognized as suffering from curable tuberculosis or malaria, or in whom there is good ground for suspecting

tuberculosis, are to be interned in Switzerland; those recognized as suffering from incurable tuberculosis will be repatriated forthwith. The medical authorities concerned are instructed to take a lenient view of cases of nervous debility ("psychasthenia") which come under examination. Where the travelling medical commission forms an adverse decision the reasons for rejection are to be stated in each case. Prisoners of war whose cases are recognized by the medical authorities of the captor state as urgent on account of the serious nature of their injuries or sickness, are to be repatriated or interned at once without waiting for the visit of the travelling commissions. Prisoners of war considered suitable for repatriation or internment by the travelling commissions will be examined again by a commission of control composed of three neutral medical officers and three medical officers of the captor state, whose decision will be final. The agreement as a whole is subject to the approval of the two Governments, to be notified to the Netherlands Government, which in turn will communicate to each the adherence of the other, and the agreement will come into force seven days later. The Netherlands Government will co-operate in any measures necessary for bringing the agreement into operation and for its due execution. Up to the present the German Government has refused to ratify the agreement.

## CASUALTIES IN THE MEDICAL SERVICES.

### ARMY.

#### *Killed in Action.*

#### CAPTAIN H. A. CULHAM, C.A.M.C.

Captain H. A. Culham, Canadian Army Medical Corps, was reported as killed in action, in the casualty list published on October 16th.

#### CAPTAIN K. ELMES, R.A.M.C.

Captain King Elmes, R.A.M.C., was reported as killed in action, in the casualty list published on October 14th. He took the diplomas of L.R.C.P. and S.I. in 1916, and at once took a temporary commission in the R.A.M.C., being promoted to captain after a year's service. He resided at New Ross, and was attached to the Royal Fusiliers, City of London Regiment, when killed.

#### CAPTAIN W. S. B. HAY, R.A.M.C.

Captain William Stevenson Brown Hay, R.A.M.C., was killed in action on October 6th. He was the son of the late Mr. George C. Hay of Belfast, and was educated at the Methodist College there, and at Belfast University, where he graduated M.B., B.Ch., and B.A.O. in 1914, subsequently acting as demonstrator of anatomy, till he took a temporary commission as lieutenant in the R.A.M.C. on May 25th, 1915. He went to France in October, 1915, was promoted to captain after a year's service, and was serving with the Royal Field Artillery when killed.

#### CAPTAIN H. E. KIRKLAND, M.C., A.A.M.C.

Captain Hugh Edward Kirkland, M.C., Australian Army Medical Corps, was killed in action on October 3rd. He was the younger and only surviving son of the late Dr. Hugh Kirkland of Darvel, Lithgow, New South Wales. He received the Military Cross on January 18th, 1918.

#### CAPTAIN J. M. McLAGGAN, M.C., R.A.M.C.

Captain James Murray McLaggan, M.C., R.A.M.C., was killed in action on October 4th, aged 27. He was the elder son of Mr. James McLaggan of Torphins, Aberdeenshire, and was educated at Aberdeen University, where he graduated M.B. and Ch.B. in 1913. He joined the R.A.M.C. as a temporary lieutenant on August 22nd, 1914, was promoted to captain after a year's service, and received the Military Cross on November 4th, 1915. He was attached to the Royal Fusiliers, City of London Regiment, when killed.

#### CAPTAIN A. ROSS, C.A.M.C.

Captain A. Ross, Canadian Army Medical Corps, was reported as killed in action, in the casualty list published on October 14th.

#### CAPTAIN J. A. STANLEY, R.A.M.C.

Captain J. A. Stanley, R.A.M.C., was reported as killed in action, in the casualty list published on October 14th.



He first joined the Canadian Army Medical Corps, was appointed a temporary lieutenant in the R.A.M.C. in the middle of 1916, and promoted to captain on completion of a year's service. He was attached to the Royal Warwickshire Regiment when killed.

#### LIEUTENANT D. G. K. GARRETT, R.A.M.C.

Lieutenant D. G. K. Garrett, R.A.M.C., was reported killed in action, in the casualty list published on October 17th. He had only qualified within the last year, and immediately afterwards took a temporary commission as lieutenant in the R.A.M.C.

#### Lost at Sea.

##### LIEUT.-COLONEL E. F. H. DOBSON, I.M.S.

Lieut.-Colonel Edward Francis Horatio Dobson, Bengal Medical Service (ret.), was lost on the Japanese ss. *Hirano Maru*, torpedoed and sunk by a German submarine, with great loss of life, off the north coast of Ireland, on the way to South Africa, on October 5th. He was educated at Middlesex Hospital, and at the Universities of Edinburgh and Aberdeen, and graduated at the latter M.B. and C.M. in 1878. Entering the I.M.S. as surgeon on October 2nd, 1880, he became surgeon-major on October 2nd, 1892, lieut.-colonel on October 2nd, 1900, was placed on the selected list on November 21st, 1905, and retired on November 27th, 1910. After some years of military duty, he was appointed civil surgeon of Dhubri, in Assam, and while stationed there was the first to draw attention to the fact that the anaemia so prevalent among tea garden coolies was in great part due to intestinal parasites. He was subsequently appointed Protector of Emigrants in Calcutta, and later, reverting to military duty, spent his last years of service as medical storekeeper in Calcutta.

##### DR. T. R. BEALE-BROWNE, W.A.M.S.

Dr. Thomas Richard Beale-Browne, of the West African Medical Staff, was lost in the ss. *Burutu*, sunk in a collision on October 3rd. He was the eldest son of Lieut.-Colonel G. E. Beale-Browne of Dowdeswell House, Gloucestershire, and was educated at Guy's Hospital, taking the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1901. After acting as assistant medical officer of Northampton County Asylum he joined the W.A.M.S. He had served on the Anglo-German Boundary Commission, which demarcated the frontier, from Yola to Cross River, between the British and the then German colonies in West Africa.

#### Died on Service.

##### CAPTAIN G. FINCH, R.A.M.C.(T.F.).

Captain George Finch, R.A.M.C.(T.F.), died of pleuropneumonia in the officers' hospital, Basra, on October 8th. He was educated at Leeds University and at St. Thomas's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1905, and the D.P.H.Oxon. in 1910. After filling the appointments of assistant house-surgeon at the Royal Westminster Ophthalmic Hospital, of house-physician at the Brompton Consumption Hospital, and of assistant school medical officer to the East Sussex County Council, he took up the post of assistant to the county medical officer of health for East Suffolk. On August 11th, 1914, a week after war was declared, he took a commission as lieutenant and medical officer in the 3rd East Anglian (Howitzer) Brigade of Royal Field Artillery (Territorial), and was transferred to the 3rd London General Hospital as captain on April 1st, 1915.

##### CAPTAIN E. H. GLENNY, R.A.M.C.

Captain Ernest Howard Glenny, R.A.M.C., died of pneumonia on active service on October 9th. He was educated at St. Bartholomew's Hospital, took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1917, and soon after joined the Special Reserve of the R.A.M.C. as lieutenant, being promoted to captain after a year's service.

##### DR. C. F. W. WATSON, W.A.M.S.

Dr. Cecil Francis William Watson, West African Medical Staff, died of influenza at Accra, West Africa, on October 12th, aged 43. He was the last surviving son of the late Rev. A. W. Watson, Vicar of Churt, Surrey, was educated at Guy's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1899, also the Liverpool D.T.M. in 1906, and the D.P.H. of the Irish Colleges in 1909. After acting

as assistant house-surgeon of Scarborough Hospital he entered the W.A.M.S., in which he rose to be senior medical officer in Northern Nigeria, and had recently been appointed deputy principal medical officer of the Gold Coast.

#### Wounded.

##### Lieut.-Colonel M. R. Taylor, D.S.O., R.A.M.C.(S.R.).

##### Major J. Vallance, R.A.M.C.(S.R.).

##### Captain F. S. Bedale, M.C., R.A.M.C.(T.F.).

##### Captain F. B. Day, Canadian A.M.C.

##### Captain J. C. Dunn, D.S.O., M.C., D.C.M., R.A.M.C. (temporary).

##### Captain H. M. Joseph, R.A.M.C. (temporary).

##### Captain A. L. MacLean, Australian A.M.C.

##### Captain R. F. Matters, Australian A.M.C.

##### Captain I. D. Stubbs, R.A.M.C.(T.F.).

##### Captain B. M. Tuke, M.C., R.A.M.C.(S.R.).

##### Captain H. E. B. White, R.A.M.C.(S.R.).

##### Captain A. Wilson, R.A.M.C.

##### Captain H. G. Young, D.S.O., Canadian A.M.C.

##### Lieutenant W. Hickey, R.A.M.C. (temporary).

##### Lieutenant H. G. D. Mathur, I.M.S. (temporary).

##### Lieutenant A. C. Paterson, R.A.M.C. (temporary).

##### Captain and Quartermaster E. Caple, R.A.M.C.(T.F.)

#### DEATHS OF SONS OF MEDICAL MEN.

Bennett, Richard M., Lieutenant Royal Air Force, elder son of Dr. Bennett of Beckenham, killed September 28th, aged 18.

Clarke, Richard Stanley, Second Lieutenant Machine Gun Corps, fourth son of Dr. Thomas Clarke of Liverpool, killed October 4th.

Comley, E. C., Lieutenant Royal Munster Fusiliers, fourth son of the late Dr. J. Muspratt Comley of Calcutta, accidentally killed on September 27th. He got his commission in the 4th Extra Reserve Battalion of that regiment on May 23rd, 1915.

Cotton, Robert Hugh Alban, Priest, B.A. of St. John's College, Cambridge, Second Lieutenant Army Service Corps, youngest son of Dr. Charles Cotton of Briarfield, Canterbury, died in hospital abroad on October 12th, aged 29.

Daunt, Barry, Second Lieutenant Royal Sussex Regiment, killed in action. The eldest son of Captain William Daunt, R.A.M.C., Hastings.

Halford, E. T., Lieutenant Royal Engineers, son of Dr. Edward Halford, died on October 10th, at Wellesley House, Wellington Lines, Aldershot.

Hunter, William Yeates, Major Canadian Infantry, late of the 8th King's Liverpool Regiment, son of the late Dr. William Hunter of Margate, killed September 28th.

Maurice, John Capel, Second Lieutenant Royal Berkshire Regiment, youngest son of Brevet Colonel William James Maurice, R.A.M.C.(T.F.), of Reading, killed October 7th, aged 19.

Mosse, William Oliver Matless, Colonel Royal Munster Fusiliers, son of the late Deputy Surgeon-General C. B. Mosse, C.B., A.M.S., lost, aged 58, in R.M.S. *Leinster*, torpedoed and sunk by a German submarine soon after leaving Holyhead on October 10th. His wife, who was travelling with him, was also lost. He was born on March 3rd, 1860, got his commission on October 23rd, 1880; soon after joined the Indian army, attained the rank of colonel on July 30th, 1907, commanded the 114th Marathas, and retired on October 23rd, 1912. He served in the Sudan in the Dongola campaign of 1896, and received the medal therefor.

Quayle, R. C., Second Lieutenant Leicestershire Regiment, youngest son of Colonel W. A. Quayle, I.M.S.(ret.), of Blackcauseway, Strangford, killed October 4th, aged 20.

Ricketts, James Stuart, Second Lieutenant R.F.A., died on October 5th in a French general hospital from wounds received in action on August 29th, eldest son of the late Dr. T. F. Ricketts, in his twenty-fourth year. He was educated at Arundel, and passed into Woolwich with a view to joining the Royal Engineers, but was prevented from doing so by illness. He then became a medical student at King's College. Having recovered his health, he volunteered for service in the air corps, but, failing to pass the final health standard test, he took a cadet nomination from his old school, and obtained his commission early this year. He proceeded to the front in the early summer.

Spence, Gilbert Chisholm Drever, Captain Highland Light Infantry, youngest son of the late Dr. Spence of Burntisland, killed October 1st, aged 22. He got his first commission on May 12th, 1915.

Travers-Smith, Robert Montgomery, late Second Lieutenant Royal Sussex Regiment, only son of the late Dr. V. E. Travers-Smith, lost, aged 21, on his way to South Africa, in the Japanese ss. *Hirano Maru*, torpedoed and sunk by a German submarine off the Irish coast on October 5th.

Weiss, Hubert Foveaux, Second Lieutenant, only son of Mr. Hubert Foveaux Weiss, F.R.C.S., of Putney, killed September 3rd.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]



## HONOURS.

THE following is a continuation of the list published in our last issue of awards to medical officers in recognition of their conspicuous gallantry and devotion to duty in the field:

### Military Cross.

**Captain (acting Major) Galvin Alexander Elmslie Argo, R.A.M.C.**

While in charge of a light section of a cavalry field ambulance during an attack he performed most useful work. His brigade sustained considerable casualties, and he organized a stretcher party and rescued several wounded, though the ground was being shelled at the time. He showed great coolness and devotion to duty.

**Captain Isaac Manly Barrow, A.A.M.C.**

Under heavy fire he dressed wounded in an open trench, and when the battalion attacked he advanced with them and established his dressing station behind the front line. When two of his bearers were wounded carrying a casualty he dashed forward under direct machine-gun fire to their assistance. Later, he was severely wounded. Throughout the operations he showed conspicuous gallantry and devotion to duty.

**Captain George Albert Blumer, A.A.M.C.**

When the regimental aid post was heavily shelled, a direct hit causing casualties amongst the staff, he succeeded, single-handed, in getting the wounded away, and attended to many cases in the area of the bombardment. Throughout the period his courage and determination saved many lives.

**Temporary Captain Stanley Arthur Bull, R.A.M.C.**

He helped under continuous shell fire to dig out several men who had been wounded and buried. He attended men under conditions which demanded considerable nerve and determination.

**Captain John Victor Livingstone Grant, R.A.M.C.(S.R.).**

His ambulance was attacked on the march by enemy aeroplanes. A large ammunition dump at the side of the road was exploded, igniting a lorry loaded with petrol, and the fire spread to the ambulance wagons. He immediately collected men and for two hours worked coolly and fearlessly near the exploding dump, under repeated bombing attacks from aircraft, tending and removing the wounded.

**Captain Robert Lawson, R.A.M.C.**

During several days' operations he worked continuously at high pressure under heavy shell fire. His energy and care for the wounded under the most difficult circumstances were beyond all praise, and he showed great gallantry and devotion to duty in organizing his bearers and collecting wounded from a heavily-shelled area, thereby saving many lives.

**Captain Benjamin Lyon, C.A.M.C.**

After a charge by two squadrons up a road this officer followed on foot and attended and evacuated the wounded under heavy artillery and machine-gun fire, remaining there until all the wounded were brought in.

**Temporary Captain Henry Leslie Messenger, R.A.M.C.**

While an exceptionally heavy shoot was being carried out on a battery, he crossed 500 yards in the open under heavy barrage to attend to a wounded man. On his way he was knocked down by an exploding shell, but in spite of this he proceeded with his duties. He showed great grit and determination.

**Captain Walter James Ellis Mingie, C.A.M.C.**

During an attack he maintained close touch with all the regiments, and under heavy shell and machine-gun fire he evacuated all casualties with wonderful rapidity. Hearing that an officer was seriously wounded in the front line trench, he immediately went forward and succeeded in dressing and removing him. He showed the greatest coolness and resource throughout.

**Temporary Captain Stanley Andrew Wollaston Munro, R.A.M.C.**

He organized his advanced dressing station and stretcher-bearing parties under very difficult circumstances, and when it was found necessary to withdraw the battalion to the original position, he re-organized the stretcher-bearers and himself took up a post in the front line where he could better render assistance to the wounded. He also went and bandaged a wounded man who was lying in a position that was being shelled, and had him conveyed to safety. Throughout his cheerfulness, energy, and disregard for his own personal safety had a most inspiring effect on all.

**Temporary Captain Andrew Neilson, R.A.M.C.**

When a number of wounded were left after a cavalry charge he took two light ambulances and a bearer party right up to the front line and cleared five wounded lying out in front. This was done under continuous machine-gun fire directed on the road in the dark. He showed great courage and initiative.

**Temporary Lieutenant Wilfred Paton Philip, R.A.M.C.**

During an attack he showed great gallantry in attending to a large number of wounded. He three times had to move his dressing station on account of shell fire, but stuck to his duties with great determination, and saved many lives.

**Temporary Captain (acting Major) Clive Justin Hicks Sharp, R.A.M.C.**

He most ably supervised the evacuation of wounded during a rapid advance. Moreover, on hearing that one of the advanced dressing stations had been hit by a bomb, he at once went to the spot and helped with the wounded, and his coolness and energy were of the greatest assistance in reorganizing the dressing station under shell fire, so that the evacuation of the wounded proceeded uninterrupted.

**Temporary Captain John Patrick Shaw, R.A.M.C.**

Under severe enemy shelling he carried on his work in the open, his aid post affording neither space nor protection. He did invaluable service under most trying circumstances, as his was the collection station both for his own battalion and for the brigade front. He showed magnificent energy and devotion to duty.

**Captain (acting Major) James Martin Smith, R.A.M.C.**

When an enemy shell exploded an ammunition dump near his dressing station, he rushed to the spot, organized a rescue party

regardless of exploding shells, and continued to attend to the wounded until all were removed to safety. He saved many lives by his gallant conduct.

**Temporary Captain Andrew William Palethorpe Todd, R.A.M.C.**

During an attack this officer, who was stationed at the advanced collecting post, behaved with great gallantry under the heavy artillery fire to which his post was subjected at frequent intervals during the day. He dressed and attended to large numbers of wounded men with unremitting devotion to duty, and also went forward under heavy fire with stretcher-bearers to the aid posts, and by his able leadership rendered valuable service in evacuating the wounded.

### Military Medal.

**Dr. Phoebe Chapple, R.A.M.C., attached Q.M.A.A.C.,** has been awarded the Military Medal "for gallantry and devotion to duty during an enemy air raid. While the raid was in progress Dr. Chapple attended to the needs of the wounded regardless of her own safety."

The Sultan of Egypt has conferred the Order of the Nile (Second Class) upon Lieut.-Colonel Sir John Godfrey Rogers, K.C.M.G., D.S.O., in recognition of services rendered under the auspices of the British Red Cross Society during the war.

**Dr. Charles G. Jarvis** has received permission to wear the Cross of Chevalier of the Legion of Honour conferred upon him by the President of the French Republic in recognition of his services as head of the Voluntary Hospital No. 4A, Paris.

### Corrections.

In the list of honours awarded for conspicuous gallantry and devotion to duty in the field, printed in our last issue, temporary Captain W. G. Cobb, R.A.M.C., and temporary Captain (acting Major) John Greene, M.C., R.A.M.C., were incorrectly stated to have received a bar to the D.S.O. These two officers, the descriptions of whose services in action were given on p. 446, have been awarded the D.S.O.

The King of Serbia has conferred the Order of St. Sava (4th Class) upon Lieut.-Colonel Charles Henry Straton and not the Order of the White Eagle (4th Class) as announced in the *London Gazette* of September 10th (BRITISH MEDICAL JOURNAL, September 21st, p. 331).

## NOTES.

### WINTER CAMPAIGN IN THE ARCTIC.

SPECIAL arrangements have been made by the War Office for the feeding and clothing of the force under General Poole on the Archangel and Murman fronts within the Arctic circle. A special ration scale has been drawn up and arrangements, which it is believed will be satisfactory, made for supply throughout the winter. The kit of special clothing issued to each man has been approved by Sir Ernest Shackleton. It includes a skin-lined sleeping bag, a sheepskin coat, fur cap, leather jerkin, cardigan, muffler, mittens, gloves, snow glasses, and special boots and stockings as well as warm underclothing. The medical provision made for the troops has been favourably reported on by a special officer.

## Correspondence.

### A NATIONAL SCHOOL OF MEDICINE FOR WALES.

SIR.—The final report of the Commissioners, under the vice-chairmanship of Viscount Haldane, on University Education in Wales, has been printed and circulated. The report as a whole is not referred to in this letter, as it concerns departments and questions about which I am only indirectly concerned; that portion of the report which bears upon the school of medicine in Cardiff will alone be discussed here. Among the Commissioners is the name of Sir William Osler, Bt., and that alone stands for much, for Sir William Osler has a first-hand knowledge of the methods of government and of teaching in vogue both in Germany, in America, and in this country.

The Commissioners, crystallizing ideas that have long been fermenting, propose in their report to make the school a Welsh school, and, following a suggestion of Sir Isambard Owen, whose work in connexion with the school is so well known, make it a constituent college of the University of Wales.

It is proposed that the school of medicine shall be separated from the University College of South Wales and Monmouthshire, of which it has hitherto been a department; a similar plan has, I believe, worked satisfactorily



in the case of the College of Medicine at Newcastle. The following passage occurs in the report:

We consider that the right way to meet the reasonable claims of the Cardiff University College is not to bring largely within its administration an institution whose government it is desired to place on a broad national basis, and for which separate financial provision seems advisable, but to give it—the University College of South Wales and Monmouthshire—a very substantial representation on the governing body of that institution—the Welsh School of Medicine.

It is proposed that the council of the Welsh school of medicine should consist of thirty-two members, of whom ten are to be appointed by the University College, six by the King Edward VII Hospital, three by the Senate of the Medical College, two by the University of Wales, and two by each of the colleges at Aberystwyth, Bangor, and the University College of Swansea (if and when constituted), etc.

This appears to me to be a very fair and equitable arrangement, taking it as a whole. The medical school, although partially separated from, is still joined to the University College, inasmuch as nearly one-third of its council are elected by the council of University College. In this way, too, the pressing claims of Glamorganshire and Monmouthshire can be satisfied, for the council can easily arrange that, say, two from each of these important shires should be elected; Glamorganshire and Monmouthshire are represented at present by at least four members each on the college council.

The number of medical men upon the council of the medical school may be far from large, for we must remember that all the members who represent Aberystwyth, Bangor, Swansea, those members elected by the university court, the college council, and even those elected by King Edward VII Hospital, need not of necessity be medical men. It will be seen, then, that the council of the new medical school may not consist of a moiety of medical men, and there is no fear of anticipating a preponderating medical element even in a purely medical school.

There is in Wales some dissatisfaction, which is caused by this proposed partial separation, and there are many who wish to see the council of the University College of South Wales and Monmouthshire governing the destiny of the medical school in the future as in the past. It should be pointed out that the present college council consists of nearly sixty members, of which only six are medical men—about one-tenth. It appears to me inadvisable to have such a body supreme in our new medical school, and I heartily endorse the line of action of the Commissioners in this respect.

As soon as the war is over the college council will have its hands full if we are not to be caught napping again. The raising of money, the erection of new buildings, the foundation of new departments—especially of science—will fill its hands to overflowing. It will then be glad that the Welsh medical school is in other hands.—I am, etc.,

JOHN BERRY HAYCRAFT, M.D., D.Sc., F.R.S.E.,

Professor of Physiology, University College, Cardiff.

October 21st.

## THE ADMINISTRATION OF ANAESTHETICS TO SOLDIERS.

SIR.—It is pleasing to note that other anaesthetists are beginning to appreciate, if somewhat tardily, the advantages of ethyl chloride as an agent in the induction of ether or chloroform anaesthesia. For years I have preached and practised this method, which I have now used in many thousands of cases. In my *Guide to the Administration of Ethyl Chloride* (first edition, 1905) I described under the heading of the "CE-ethyl chloride-chloroform sequence" my method, and about the same time read a paper before the Society of Anaesthetists on the subject. In those days "open ether" had not yet arrived, but the method is equally applicable to it. Some years later Dr. Hornabrook of Melbourne independently discovered the value of ethyl chloride as an inducing agent, and communicated his method, which differs in some particulars from mine, in a paper entitled "Open ethyl chloride . . . as a preliminary to open ether."

In his article to the *JOURNAL* (September 28th, p. 343) Captain Mills now advocates the use of ethyl chloride as a preliminary in the administration of anaesthetics to soldiers. Why only soldiers? The results are infinitely more satisfactory, like those of all other anaesthetics, in

a more delicate type of patient. The article, however, comes at an opportune moment. Ethyl chloride is not an absolute panacea for all the worries of the anaesthetist in the early stages of anaesthesia. Complications will occasionally arise, especially respiratory ones of a spasmodic nature. Of late in my practice these have been of more frequent occurrence, and I have sometimes pondered as to whether a fault might lie with the method, or possibly be found in a deterioration of quality in "wartime" ethyl chloride. However, Captain Mills's article reassures me. The same trouble is more marked in other methods with a certain type of patient which figures largely in all our practices just now. It is not the ethyl chloride, or any impurities in it, which is the cause of our troubles, but the type of patient which is particularly difficult.

I venture on two criticisms. In my view ethyl chloride is in this connexion much better given by the semi-open than by the closed method. My scheme for robust young adults is as follows: CE on mask up to about half an ounce (first stage, time about one minute), then ethyl chloride sprayed on, 5 c.cm. to 7 c.cm., and all covered in with a fourfold porring cloth till unconsciousness is produced and struggling has ceased (second stage, time one to two minutes). The third stage simply consists in removing the towel and continuing the anaesthesia with ether or chloroform on the same mask or in any other apparatus preferred.

Captain Mills advocates the administration of a preliminary injection of  $\frac{1}{2}$  gr. morphine. My experience is that  $\frac{1}{2}$  gr. is too much for chloroform and not enough for open ether.—I am, etc.,

London, W., Oct. 4th.

G. A. H. BARTON.

SIR.—The article by Dr. Arthur Mills in your issue of September 28th is interesting; but it seems to me there is infinitely more need, at the present time, to teach the rudiments of anaesthetic administration than to advocate new refinements.

Dr. Mills gives as the usual signs of anaesthesia, under ethyl chloride—"fixed eyeballs, dilated pupils, and insensitive cornea." Insensitive cornea is surely a sign no anaesthetist ought to look for. Why should the delicate cornea be unnecessarily prodded? I have given many anaesthetics weekly at a large hospital in Exeter for the last three and a half years, and I have not touched the cornea once in a year. If the palpebral reaction is not enough to let the anaesthetist know where he is, he is unfit to look for the cornea!

Dr. Mills is "convinced that the previous administration of  $\frac{1}{2}$  gr. morphine and  $\frac{1}{10}$  gr. atropine is of considerable value." This puts out of court the second sign of anaesthesia given by Dr. Mills, namely, "dilated pupils," since morphine prevents their dilating. What are learners to do when of three signs given for recognizing anaesthesia one should not be sought for and another should be masked by morphine? When  $\frac{1}{2}$  gr. morphine is administered the pupil becomes and remains contracted during at least the first part of an operation; thus one of the most useful guides to careful and scientific administration, of chloroform at least, is lost. Without morphine you can, if you will, reduce the chloroform till the pupil dilates, and yet have time to save the patient coming round. You can, on the other hand, increase it till the pupil dilates, and warns you of danger, and yet have time to stop the chloroform and wait, without anxiety, till the pupil contracts again. With morphine you have no comparatively safe limits. The pupil warns you dangerously late. You may give too much or too little chloroform easily, unless you have considerable experience, and you convert an easy duty into a complicated one, for no adequate advantage. In the absence of morphine I have never had any trouble or anxiety, and in its presence I have on one or two occasions had both; and moreover, the pupil reaction helps precision in administration.

Soldiers are excellent subjects for anaesthetics, smokers and drunkards included. Bronchitics are rare. Chloroform by the open method suits them admirably. I use on the average two ounces an hour, whether for one patient or three, including the induction of anaesthesia. Generally there is little or no after-sickness. The mask should be held three or four inches above the face at first, and approached about an inch per minute. If excitation or



struggling occurs it is soon over, though sometimes it wants a little management, and in from seven to ten minutes from the start the patient is ready.

The anaesthetic advocated by Dr. Silk is also excellent—chloroform 1 part and ether 15 parts—to be used when a patient is under. It goes well with morphine and atropine, as it is unnecessary to see the face or eyes. It is, however, uninteresting, as the mixture is mechanically dropped on the mask from the beginning till the end of the operation, and the respirations, which alone are noticed, go on steadily, in the absence of bronchial irritability, all the time. It causes more after-sickness, however, than chloroform.

Dr. Mills's new method of inducing anaesthesia seems scarcely wanted until the elements of straightforward and efficient administration of anaesthetics are better known and applied.—I am, etc.,

D. W. SAMWAYS.

Clyst St. George, Devon, Oct. 2nd.

#### HEAT-STROKE AND MALIGNANT MALARIA.

SIR,—With reference to Captain C. E. Milner's article on heat-stroke and malignant malaria in the *JOURNAL* of June 8th, 1913 (p. 638), I wish to state that Dr. Arthur Powell, police surgeon of this city and formerly of Assam, drew my attention fully fifteen years ago to the almost invariable presence of malignant tertian parasites in cases of heat-stroke. I have corroborated Dr. Powell's statement in the cases of heat-stroke I have seen since then, and also drew attention to the matter in my report last year as consulting physician to the Waziristan Field Force. I would, however, not go quite so far as Captain Milner does in saying that heat-stroke is an episode of malignant malaria, and that the association of the two is invariable.—I am, etc.,

C. H. L. MEYER,

Colonel I.M.S.,  
Consulting Physician, War Hospitals,  
Southern Command, India.

Bombay, Sept. 5th

#### MEDICINE IN PARLIAMENT—MEDICAL RECONSTRUCTION.

SIR,—I heartily endorse Dr. Barrie Taylor's letter in the *JOURNAL* of October 19th. Dr. Addison is in no way in a position to judge what the general practitioners should be paid or what they should do. Before he was a politician he was a teacher of anatomy, and outside the dissecting room he has no right to give expert advice on medical matters.

For the salvation of the profession, let every medical man support the British Medical Association, as the Association is the only body which has any organization for obtaining the opinion of the majority of general practitioners. If politicians want votes, let them support a Ministry of Justice with free legal advice for the insured.

I suggest the British Medical Association's policy should be to oppose absolutely any State scheme which is likely to prejudice in any way the general practitioner's practice—that is, his business capital—or which includes free medical attention to any household earning over £200 per year.—I am, etc.,

London, W., Oct. 21st.

E. H. WALKER, M.B., B.S.

#### BOOT HEELS AS A CAUSE OF FLAT-FOOT, ETC.

SIR,—I did not suggest, as Dr. Ellis seems to imply, that the tibialis anticus forms the arch, but that it supports it. This muscle dorsiflexes and inverts the foot, and during both these actions it lifts the crown of the arch higher off the ground. The peroneus longus, as Dr. Ellis admits, draws the crown of the arch downwards. Therefore, as the tibialis anticus is idle, the peroneus longus pulling the crown of arch downwards, and the body weight resting on it, these three influences combined tend to lower the arch. The elasticity of the arch depends not merely on the actual height of the curve, but on all the muscles concerned being allowed to act naturally and completely, one set of muscles balancing the other. Cycling and tiptoe exercises develop the extensors of the foot, without giving the dorsiflexors a fair amount of work. In infantile paralysis, with the tibialis anticus out of action, the arch is not of much use, just as the grasp of the hand is feeble in cases of wrist-drop, although the flexors are unimpaired. Dr. Ellis

would seem to have misapplied Sir Thomas Watson's and Sir William Turner's maxims by overlooking the influence of boot heels, and specially exercising only one group of muscles. Although civilized races have allowed the body weight to rest on the crown of the arch for 300 years, this was not Nature's intention. No advantage is derived from resting on the arch when standing; it is sufficient that the arch should be present and available for immediate use when required. The heels and outer sides of the soles of feet provide sufficient foundation to support the body, and no weight need rest on the ball of the foot when the feet are bare. When the heels are raised, say one inch, from the ground, the balance is disturbed and the weight is distributed between the heels and the front parts of the feet—that is, it falls on the arch, the outer sides of the soles being no longer in contact with the ground. With heelless boots the increased range of action of the calf muscles makes them more powerful and elastic, and this also helps to restore the arch.

The fatigue in walking with heeled boots is mostly due to the fact that, as the tibialis anticus is idle, the knee of the advancing leg must be lifted to let one foot pass the other, whereas, if the foot were dorsiflexed by the tibialis anticus, only the weight of the front part of foot would have to be lifted, instead of the thigh, leg and foot. This explains the supposed heaviness of an artificial leg. The wearer has to circumduct it or tilt the pelvis to get the artificial foot past the other. If his boots were heelless, the artificial ankle jointed, and a weak spring fitted to represent the tibialis anticus, the spring would dorsiflex the foot in passing the sound foot and the weight of the body would put the spring out of action when the artificial foot again reached the ground.—I am, etc.,

SYLVESTER D. FAIRWATER.

Kennmore, Perthshire, Oct. 6th.

Captain R.A.M.C.

#### THE LABOURER AND HIS HIRE.

SIR,—I notice that a fresh appeal is being made, both in Ireland and England, for medical men for the army. Those who come up now will, as in no other branch of the service, receive the same pay as those who have borne the heat and burden of the day. The R.A.M.C. is practically the only corps wherein a man has practically no expectation of increased remuneration after three or four years' active service. Is it too late to suggest that the only increase in pay since 1914—namely, children's allowance—should no longer be halved because of the fact that we are on consolidated pay?—I am, etc.,

B.E.F., Oct. 18th.

TEMPORARY CAPTAIN R.A.M.C.

#### THE PROPOSED MINISTRY OF HEALTH.

SIR,—I wish through the *JOURNAL* to enter my protest, as a member of the Metropolitan Counties Branch, against the action of the chairman and those responsible for the management of yesterday's meeting at the Toplady Hall, in refusing to admit any amendments to the resolutions.

Probably every one present agreed with the first, second, and fourth resolutions, but many present would have liked to have seen some amendment put to the test as regards the latter part of No. 3, in the direction of an agreement "to carefully examine and consider without prejudice any scheme put forward for a State service."

By refusing amendments the meeting was turned into a farce, as we did not go there to be spoon-fed with any resolution but to have the opportunity of expressing by amendment our desire for a cautious policy; not simply one of barring the door. By their action those responsible are virtually doing their best to defeat their fourth resolution.—I am, etc.,

Watford, Oct. 16th.

WM. P. PORTER.

SIR MARC ARMAND RUFFER, K.C.M.G., president of the Quarantine Board of Egypt, and vice-president of the Municipality of Alexandria, who was drowned when the transport *Arcadian* was torpedoed, left estate of the value of £21,239.

THE Italian tuberculosis unit of the American Red Cross, under the supervision of Colonel Robert Perkins, Commissioner of the Society for Italy, will conduct a campaign in that country for the stamping out of tuberculosis. Among the members of the unit, which consists of sixty persons, are many of the best known specialists of America.



## Medical News.

MR. JOHN COOPER, F.R.C.S., consulting surgeon, London Hospital, left estate of the value of £178,894, of which £178,135 is net personality.

SIR MALCOLM MORRIS, K.C.V.O., will open the winter session of the Tuberculosis Society with an introductory address on past and future of the fight against tuberculosis, on Monday, October 28th, at 8 p.m., at the house of the Royal Society of Medicine, 1, Wimpole Street, London, W. The meeting is open to all practitioners of medicine.

At the first meeting of the Central Midwives Board for Ireland, held at the office of the Local Government Board for Ireland, the following members were present: Sir W. J. Smyly, Sir J. W. Byers, Dr. E. Coey Bigger, Professor H. Corby, Dr. H. T. Warnock, Mrs. M. Blunden, Miss Annie Michie, Miss J. H. Kelly, Miss Genevieve O'Carroll. On the proposition of Sir W. J. Smyly, seconded by Professor Corby, and supported by Sir J. W. Byers, Dr. E. Coey Bigger was unanimously elected chairman. On the proposition of Dr. Warnock, seconded by Sir W. J. Smyly, Sir A. J. Horne was unanimously elected deputy chairman. Mr. J. E. Devlin was requested to undertake the duties of secretary. The Board appointed a Finance Committee and also a committee to draw up the rules and regulations to be submitted to the Board at its meeting on October 31st.

SIR JOHN TWEEDY, LL.D., F.R.C.S., has been re-elected president of the Medical Defence Union; Dr. Gunton Alderton, honorary treasurer; and Mr. A. G. Bateman and Mr. W. E. Hempson, general secretary and solicitor respectively. Surgeon-Commander C. T. Baxter, R.N., and Surgeon-Lieutenant-Commander H. B. Hill, R.N., have been made vice-presidents as representatives of the Medical Service R.N. The sister service has been well represented for some years. At the annual general meeting on September 19th the annual report was presented and adopted, and the usual statutory resolutions passed unanimously. The President reported that the work of the Union had greatly increased owing to the war; its services have been sought and greatly appreciated by members on active service who required advice and assistance in matters relating to military appointments and civil practice.

## Universities and Colleges.

### UNIVERSITY OF OXFORD.

At a congregation held on October 17th the degree of Doctor of Medicine was conferred, in absence, on Trefry O. Thompson.

### UNIVERSITY OF CAMBRIDGE.

At a congregation held on October 18th the following medical degrees were conferred:

M.D.—J. A. Venning, C. L. Gimblett.

M.B., B.Ch.—L. E. B. Daly.

M.B.—C. W. Bowle, H. G. Rice.

B.Ch.—S. Riddiough, A. H. Pearce.

\*Admitted by proxy.

### UNIVERSITY OF LONDON.

*King's College Hospital Medical School.* The University Entrance Scholarship in Anatomy and Physiology value £50 has been awarded to Miss A. M. Freeman.

### ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

Dr. R. McKENZIE JOHNSTON has been re-elected president of the College for the ensuing year.

The following gentlemen, having passed the requisite examinations, have been admitted Fellows:

T. H. W. Alexander, J. M. Rogers, E. S. Brentnall, F. D. Cairns, H. L. H. Linn, T. R. G. Melrose, G. Robertson, C. M. Rolsto, E. T. Ross, F. H. Sanderson-Wells, J. Z. Tait, W. R. J. Unthank, B. I. Vardon.

### CONJOINT BOARD IN SCOTLAND.

The following candidates have been approved at the examinations indicated:

THIRD EXAMINATION.—J. Stevenson, J. R. McCubbing, Agnes M. Hill, T. Peck, V. K. Parmanian, H. A. Newton, D. A. Dias, J. S. A. Rogers, W. G. Carey. *Pathology.* H. R. Fisher. *Materia Medica.* Alexander M. Lamont, P. F. Fairley.

FINAL EXAMINATION.—I. I. Reid, J. W. Gaston, Rebecca Goodman, G. T. G. Boyce, D. A. Waghela, Anup Singh Narula, Anwar Galstian, S. H. Monroe, J. B. Bourke, A. S. Hughes, F. D. Yourell. *Medicine.* W. Todd, V. A. Rankin, Kusuma Abasi Deodhar. *Surgery.* V. A. Rankin. *Materia Medica.* I. Hardie, W. Gibb. *Medical Jurisprudence.* A. F. Caudell, M. H. Carleton, J. M. A. McVey, A. E. Brighman, J. Stevenson, T. Poole.

## Letters, Notes, and Answers.

Authors desiring reprints of their articles published in the *British Medical Journal* are requested to communicate with the Office, 422, Strand, W.C.2, on receipt of proof.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the British Medical Association and *British Medical Journal* is 422, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the *British Medical Journal*, *Articulate*, Strand, London, W.C.2; telephone, 261, GERRARD.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Strand, London; telephone, 263, GERRARD.

3. MEDICAL SECRETARY, *Maliseva*, Strand, London; telephone, 263, GERRARD. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the General Medical War Committee for England and Wales is 422, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Services Emergency Committee is Royal College of Physicians, Edinburgh.

### LETTERS, NOTES, ETC.

An additional medical referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 7, to be attached more particularly to the Birkenhead and Runcorn County Courts, is to be appointed; the referee must reside in or in close proximity to Birkenhead. Applications to the Private Secretary, Home Office, before November 7th.

### THE MEDICAL SERVICE, R.N.

A MEDICAL OFFICER, R.N., writes to express his dissent from the opinion expressed last week to the effect that the changes in titles and uniform sanctioned by the Board of Admiralty will give satisfaction and tend to popularize the service. He does not think that the desired type of medical officer will be attracted by the change in the uniform, or by the compound titles, which he agrees are clumsy. The army, he says, long ago found out the stupidity of double titles.

### BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

At the meeting of the Executive Committee of the Fund on October 21st it was decided to send to Belgium £400 a month until the end of the year. Last August Mr. Ernest P. Bicknell, American Red Cross Commissioner for Belgium, announced the intention of that body to contribute £200 monthly and asked to be kept informed of the progress of the fund. A statement of the activities of the fund and its existing position having been forwarded, a letter was received from the American Red Cross confirming the subsidy of £200 a month to the fund until the end of the year, and alluding to the possibility of its continuance for a longer period. The Committee, acknowledging this munificent gift, expressed the confident anticipation that the British medical and pharmacist professions would continue to contribute their share to the fund. Sir Rickman Godlee, who was in the chair, said that it was understood that the local Belgian committees would continue to act in the regained territory, although the need there would doubtless not be so urgent as in the parts of Belgium still occupied. An audited cash statement for the period December 1st, 1917, to August 31st, 1918, presented by the honorary treasurer, Dr. H. A. Des Vaux, 14, 15, Langham Gate, S.W. 1, showed that £3,924 had been expended in relief, and £161 in administration. The second appeal at the New Year brought in about £963; the circular letter to the medical profession produced a further £1,715; and a special article in the medical press £1,155; a total of about £4,154—a sum exceeding the auditors' statement, inasmuch as £286 had been subscribed since September 1st.

### THE BELL FUND.

Dr. S. A. KENNEDY WILSON asks us to acknowledge a donation to the Dr. J. H. Bell Fund of £1 ls. from Dr. H. J. Norman. Subscriptions should be sent to Dr. Wilson at 14, Harley Street, London, W.1.

### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	...	...	...
Each additional line	...	...	...
Whole page	...	...	...

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so submitted.

Advertisements should be delivered, addressed to the Manager, 422, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *post restante* letters addressed either in initials or numbers.



# PURULENT BRONCHITIS COMPLICATING MEASLES AND RUBELLA.

BY

TAMP, LIEUT.-COLONEL W. M. MACDONALD, B.Sc., M.D.,  
M.R.C.P., N.Z.M.C.,

CONSULTING PHYSICIAN NEW ZEALAND EXPEDITIONARY FORCE;

MAJOR T. R. RITCHIE, M.B., N.Z.M.C.,  
PATHOLOGIST—NEW ZEALAND GENERAL HOSPITAL;

LIEUTENANT J. C. FOX, M.R.C.S., R.A.M.C.;

AND

P. BRUCE WHITE, B.Sc.,  
PATHOLOGIST TIDWORTH MILITARY HOSPITAL.

This epidemic of exanthematous disease complicated by purulent infection of the bronchi attacked several hundred men belonging to a recent draft from New Zealand; 418 cases of measles and rubella occurred between January 1st and March 8th, 1918. In the large majority there was a copious frothy or mucopurulent bronchorrhoea, in 75 of them there was a severe purulent bronchitis, and of these 26 died. If we take into consideration only the definite cases of septicaemic bronchitis the mortality amounted to one-third of the men attacked, but, as practically all the cases showed signs of a much

more severe bronchial catarrh than ordinarily occurs in measles, and as the sputa in these cases contained the same organisms as in the more severe ones, it seems reasonable to regard them all as cases of mul-

tiple infection, and, by doing so, to reduce the mortality to about 7 per cent.

We retain the name "purulent bronchitis" as bronchitis with purulent expectoration was common to all the cases, but the severe type consisted rather of a septicaemia accompanied by various lung lesions which were not constant but ranged from bronchial catarrh to bronchopneumonia, pleurisy, basal congestion, or lobar pneumonia. No one of these types could be said to prevail, but the serious cases which lived long enough passed through all these phases in succession, although they usually died before definite lobar pneumonia was well established.

There seems little doubt that the original infection occurred at an American port where the transports touched, as they had been free from infectious disease during the voyage, but measles and rubella broke out on board two of them just before arrival in England—that is, some fourteen days after leaving America. In the first five days after arrival at Sling Camp 77 cases developed, and thereafter the incidence was: Week ending January 19th, 60; January 26th, 125; February 2nd, 113; February 9th, 43; February 16th, 25.

During the same period 401 men suffering from febrile respiratory affections were admitted to the observation wards Sling Camp. These cases consisted largely of coryza or febricula, and 303 of them were described as "clinical influenza." It is noteworthy that none of these men developed purulent bronchitis, although most of them were respiratory cases, and had been living in the same

buts as the measles and rubella cases. The complication of purulent bronchitis was limited strictly to cases of measles and rubella and to one case of scarlet fever. Several organisms were recovered from the sputa and from the blood, and the virulence of the epidemic seems to be best explained by a symbiosis between one or more of these germs and the organisms of measles and rubella. If, as has been suggested in previous epidemics, the cause had been a symbiosis of the influenza bacillus with a pneumococcus or streptococcus, then we would certainly have expected to find some purulent bronchitis among 303 cases of clinical influenza which remained at Sling. But no single case of such a combination occurred.

Nor, again, did any purulent bronchitis arise among the 146 cases of measles and rubella occurring among British troops in the same district and at the same time, except in the case of a British motor driver who had been employed in transporting the New Zealand cases. Purulent bronchitis has only lately been clearly described and our knowledge of it is still in the mobile stage. It is undoubtedly much more widespread than is generally known. Thus, an officer (B.E.F.) died at Tidworth in February from bronchitis following some minor surgical intervention, and his lungs were found at the autopsy to show the same lesions as the cases dying from purulent bronchitis.

Further, three typical cases of purulent bronchitis complicating measles occurred in other New Zealand troops about the same

time—one at Christchurch and two at Brockenhurst. These men had never associated with the draft at Sling, and they all recovered. It seems fairly certain, then, that purulent bronchitis is a condition in which there is a definite symptom-complex resulting from a multiple pulmonary infection, but that the actual germs affecting this symbiosis are subject to variation. This does not necessarily lessen the stability of purulent bronchitis as a clinico-pathological entity, but seems rather to place it in the category of such conditions as haemolytic jaundice, pernicious anaemia, Banti's disease, typhoid and malignant neoplasm, in all of which a definite clinico-pathological condition is recognized as being of varied and multiple origin.

## CLINICAL COURSE.

In most cases the onset was that of an ordinary cold, but in a few it was more sudden and accompanied by a slight rigor. In others there had been a bronchial or nasal catarrh for a week or longer, while in a few cases the men complained of having had a severe cough or sore throat for a month or so beforehand. Headache and pain behind the eyes were common features, and in a few cases there was profuse sweating.

**Temperature.**—The temperature was usually high at the outset, 103° or 104°, and in the lighter cases it dropped by lysis in a few days. In the severe cases it followed no definite course and presented the curve sometimes of continued fever (Chart 1), but more often of an irregularly remittent or even intermittent type (Chart 2). There was frequently an *ante-mortem* fall of temperature in the twenty-four or thirty-six hours before death (Chart 1), while some of the worst cases followed an almost apyretic course, and some reached the worst phase after the temperature had been down for several days (Chart 3).

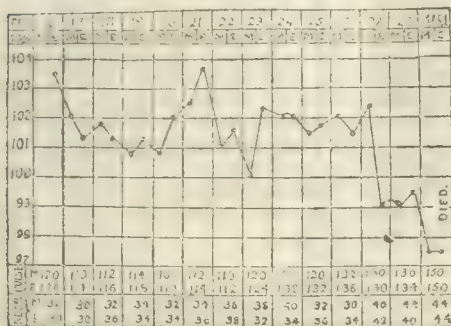


CHART 1.—Case 44. Rubella and bronchitis.

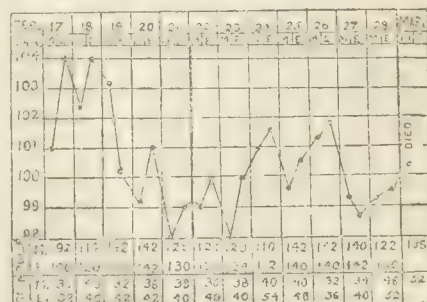


CHART 2.—Case 19. Measles and bronchitis.

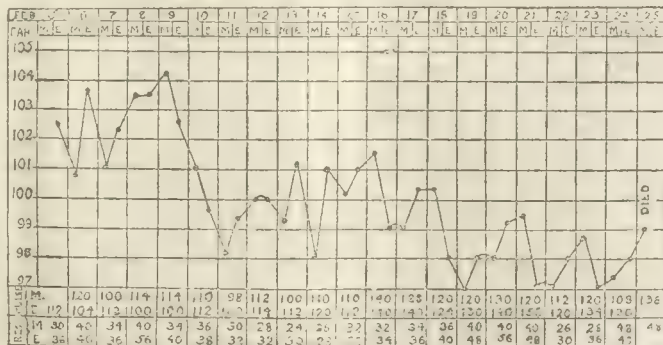


CHART 3.—Case 43. Rubella and bronchitis.



In no case could a falling temperature be taken as a guarantee of approaching safety.

**Rash.**—The eruption was morbilliform in 125 cases, in 240 it clearly resembled in appearance and distribution that of rubella, while in 3 it was scarlatiniform. In many of the cases Koplik's spots were present, and in 2 the rash became petechial. A marked feature was the frequent development of a secondary, and in one case a tertiary, rash. These later rashes developed about three or four days after the primary one had died down, and appeared mostly on the trunk and on the proximal portions of the limbs. They consisted chiefly of reddish maculae, and were probably of septic origin, as they could not be ascribed to any factor employed in treatment. Two patients developed measles and two others scarlet fever during convalescence from rubella.

**Expectoration.**—With very few exceptions the measles and rubella cases had purulent expectoration, but about 10 per cent. of these cases never became really ill. Usually the sputum became definitely purulent just about the time the rash came out or a day or two later. In four cases the original infection was so mild that the patients were sent on to the convalescent hospital at Perham Downs. Later they developed purulent bronchitis, which in these cases may be regarded as a secondary infection. This occurred respectively on the fifth, seventh, twelfth, and fourteenth days after the appearance of the rash. The last case, however, had been admitted with rubella and twelve days later developed measles which was followed by purulent bronchitis in two days, so that it is a little difficult to determine the incubation period. In more than 90 per cent. of the measles and rubella cases the sputum was copious, frothy, and later mucopurulent. In the more severe cases the sputum was definitely purulent from the outset, consisting of a tenacious, creamy pus, which was not offensive, and which stained the linen yellow. In the worst cases the sputum consisted of tough lumps of fibrino-purulent material, about the size and consistence of an American oyster, but they were yellow in colour, quite airless, and sank in water. They were expectorated with difficulty, and in the cases which recovered the sputum gradually became looser and freer, but persisted for many days after the temperature had fallen to normal. In the unfavourable cases expectoration ceased some twenty-four or thirty-six hours before death, and the bronchi became filled with pus. In a few cases the sputum was rusty, in a few streaked with blood, while one or two had definite haemoptysis or epistaxis.

**Cough, Respirations, etc.**—The cough was frequently hacking and persistent. Usually there was a marked tachypnoea from the outset without much distress, and this was increased by the slightest exertion, such as turning over in bed. Orthopnoea was rare, and most of the patients felt easier when the head was low. Painful respiration was not a prominent feature even when there was well marked pleurisy.

**Pulse.**—This was usually rapid from the outset, as is seen in the accompanying charts. The volume and tension were low, but the pulse was not definitely dicrotic. The heart showed early signs of fatigue by a weak short first sound at the apex, and later by failure of second sound at the base and some dilatation of the right side. Cupping was resorted to in some cases, but did not give marked relief. Even where the lung involvement was not extensive, the heart seemed to be affected in an extreme degree by the toxæmia.

**Lividity.**—One very marked feature was the intense degree of lividity. This came on in the severe cases before the heart was in difficulties, and affected the head, ears, face, and trunk, the face presenting a deep purple appearance as if the patient were on the point of choking, but there was no distress. Only two cases which presented this feature recovered.

**Throat, etc.**—In the severe cases there was usually a very dirty condition of the mouth and throat, and the tongue became dry, brown, and covered with sordes. A well-marked laryngitis causing dysphonia or complete aphonia was present in about 80 per cent. of the cases.

**Abdomen.**—Gastro-intestinal symptoms were uncommon, and vomiting was rarely troublesome.

**Nervous System.**—This was usually affected early and deeply, as shown by intense prostration, some degree of ataxia of the hands, and later by marked subsultus

tendinum, muttering delirium or mental depression with suicidal tendency. One patient did commit suicide by cutting his throat. Incontinence of faeces and urine was a terminal symptom, while in some cases there was retention of urine at an earlier stage. The early and marked mental depression was undoubtedly a factor which contributed to the fatal issue in many cases.

**Toxæmia.**—Albuminuria was rare and when present was slight. The blood count showed no very marked peculiarities. The spleen was usually not definitely enlarged. As the condition was undoubtedly a septicaemic one, these points are rather surprising. A very definite mousy odour, such as one finds in typhus, was present in most of the fatal cases.

**Complications and Sequelae.**—Conjunctivitis occurred in some cases and in a few was purulent. Two cases developed otitis media and two had thrombosis affecting one leg.

#### Physical Signs.

The most striking feature of the physical examination in the early stages was the absence of signs suggesting a marked or extensive involvement of the lung tissue in patients who presented all the clinical features of a severe pneumonia. In the mild cases the breath sounds were harsh and were accompanied by some sharp or sonorous rhonchi and by a few medium crepitations at the base of the lungs. In the more severe cases the signs of bronchitis were more marked and passed into those of bronchopneumonia with patches of dullness on the posterior aspect, deficient or, less frequently, broncho-vesicular breathing, and usually some pleural friction.

Signs of pleural effusion were rare and empyema never supervened. Evidence of consolidation (at one or both bases, more often the right, and occasionally at one apex) was present in most of the fatal cases for a day or two before death, but in some these signs were absent or very slightly marked. Towards the end coarse bubbling râles could be heard all over both lungs.

#### TREATMENT.

In dealing with the treatment of a small number of cases such as this it is not possible to do more than record the facts noted, as following the different lines of treatment, and point out certain indications of success, which must be interpreted according to the faith of the individual. The difficulty of arriving at a definite conclusion is enhanced by the fact that the cases were admitted for treatment at various stages of the pulmonary complication, the date of admission being dependent on the appearance of a rash which was not always coincident with the onset of the pulmonary symptoms.

#### Drugs.

The use of drugs was confined to symptomatic treatment in the way of combating the great strain involved on the heart, oxygenating the lungs, and so aiding the reduced area of normal lung tissue in its functions, helping the drainage of the pus from the lungs by expectoration, and hindering the growth of pyogenic organisms in the lungs by local applications.

For this purpose heart stimulants such as brandy, strychnine, and digitalis, ammonium carbonate, oxygen warmed and alcoholized, stimulant expectorants, and antiseptic inhalations were tried. Of these, it is enough to say that brandy, strychnine, and digitalis had the effect expected of them, but none on the general course of the disease, and can merely be classed as useful adjuvants. The same may be said of the stimulant expectorant mixture. Oxygen was most disappointing; in only one or two cases did it seem to give even transitory relief to the cyanosis and distressed breathing. Whether the inhalation of antiseptic vapours had any effect it is impossible to say.

#### Vaccines.

Three different vaccines were used, and in view of the later bacteriological findings it must be noted that no one of these three included all the organisms which appear to be responsible for the clinical symptoms.

#### Vaccines Used.

A. A mixed stock vaccine, obtained from Captain Eagleton, R.A.M.C., bacteriologist at Sutton Veny, consisting of 1,250 million Pfeiffer's bacillus and 250 million Friedländer's bacillus per cubic centimetre. This vaccine had been prepared under



instructions from command head quarters in anticipation of possible outbreaks of purulent bronchitis.

B. A vaccine prepared from cultures obtained from the blood and pericardial fluid of cases in the epidemic under consideration, consisting of two preparations, containing (a) *Streptococcus lanceolatus* and (b) *Streptococcus pyogenes longus*.

C. A vaccine prepared from the sputum of one case in this epidemic, consisting of two preparations, containing (a) *Staphylococcus aureus* and (b) pneumococcus, streptococcus, and a Gram-negative bacillus.

A number of cases were treated with vaccine A alone. Most of these had this vaccine within one or two days of the appearance of the measles rash, and the course of these cases was on the whole satisfactory.

Only six cases were treated with vaccine B alone, and results were not satisfactory, as it was tried rather late in the course of the disease and only in very serious cases.

Seven cases were treated with both vaccines A and B, with satisfactory results in five cases.

Three cases were treated with vaccine C only, and these may be eliminated as inconclusive, as in these one had his first dose of vaccine twenty-four hours before death on the seventh day of disease, when past all reasonable hope of recovery, the second had his first dose forty-eight hours before death on the fifth day of the disease, and although there was a marked fall of temperature, the general and pulmonary condition was such as to preclude recovery.

#### Dosage.

Vaccine A was given always in doses of 300 million Pfeiffer's and 60 million Freidländer's with an interval of four days before a second dose. There was never any untoward reaction.

Vaccine B was given in most cases in doses of 25 million *Streptococcus lanceolatus* and 25 million *Streptococcus pyogenes*, though in a few the dose was increased to 125 million *Streptococcus lanceolatus* and 33 million *Streptococcus pyogenes*. No untoward results were experienced from these doses.

#### Results.

- Of 36 cases treated with vaccine, 10 died, giving death-rate of 27 per cent.
- Of 25 cases untreated with vaccine, 16 died, giving death-rate of 64 per cent.
- Of 20 cases treated with vaccine A alone, 3 died, giving death-rate of 15 per cent.
- Of 6 cases treated with vaccine B alone, 4 died, giving death-rate of 66.6 per cent.
- Of 7 cases treated with vaccine A and B, 2 died, giving death-rate of 28.4 per cent.

Apart from statistical results we had the general impression that vaccine therapy had a good effect, whilst drug treatment was only of use as an assistant in combating special symptoms, that any treatment to be of use must be begun as early as possible, and that the recoveries after vaccine treatment had a more rapid convalescence than those untreated with vaccine. The good results of the vaccine were seen in an improved general condition rather than in the rapid subsidence of any special symptoms.

Ribadeau-Dumas and Brissand have recently published (*Bulletin de la Société Médicale des Hôpitaux*, February 15th, 1918) an account of two cases of malignant measles occurring in Arab soldiers, and they mention casually that the sputum was purulent. The first case died, but the second was given intravenous injections of citrated blood from a measles patient who was convalescent, and he showed immediate improvement, and ultimately recovered. Several patients suffering from purulent bronchitis have since been treated with injections of polyvalent streptococcal serum at No. 3 New Zealand General Hospital, and all but one recovered.

#### General Treatment.

The cases were nursed in roomy, well-ventilated wards, and, although the weather was cold, it was considered that, in an obviously septic condition, fresh air was of more importance than warmth, and therefore the windows were always kept well open.

In a few cases with irritating and exhausting cough a steam tent was used.

#### Typical Cases Treated with Vaccine.

##### CASE 10. (Typical of eleven cases.)

On February 17th, 1918, the patient's condition was as follows: Looked very ill and was cyanosed; lungs full of wheezing rhonchi; sputum airless and purulent. On February 18th

condition was unchanged; vaccine given. On February 20th general condition was much better, and though the lung symptoms only cleared up slowly, there was no further anxiety about the case.

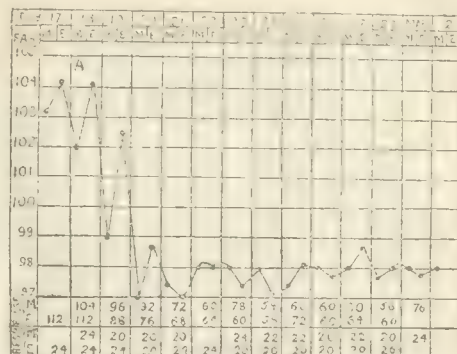


CHART 4.—Case 10. Measles and purulent bronchitis; recovery. A, Vaccine A.

##### CASE 8. (Typical of four cases.)

In this case, on the day a dose of vaccine A was given there was bronchitis with purulent sputum and cyanosis. Prognosis was not good. After the vaccine there was a rapid fall in temperature, and though five days later there was return of pyrexia the general condition was much improved and never afterwards went back.

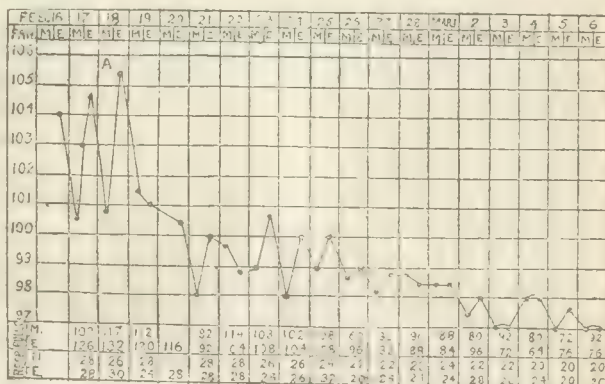


CHART 5.—Case 8. Measles and purulent bronchitis; recovery. A, Vaccine A.

##### CASE 7. (Typical of three cases.)

On February 14th, 1918, the patient looked very ill; was very cyanotic; lungs full of scattered rhonchi; sputum purulent and nummular. On the 16th the patient was worse, and a dose of vaccine was given. On the 18th the patient was no better with the exception of a fall in temperature. On the 19th the cyanosis was less, though lung signs were more advanced with signs of commencing consolidation at right base. On February

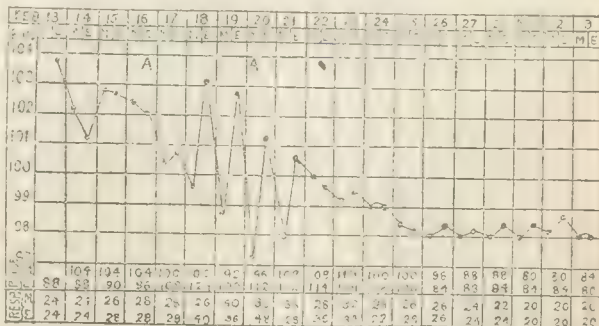


CHART 6.—Case 7. Measles and purulent bronchitis; recovery. A, Vaccine A.

20th another dose of vaccine was given. On the 21st the temperature continued to fall, the lungs to clear up, and respiration to become easier, and by next day there was no further cause for anxiety.

##### CASE 27. (Typical of two cases.)

On February 16th, 1918, there were signs of purulent bronchitis; some cyanosis, rhonchi throughout lungs, and purulent sputum. February 17th, vaccine A given; general condition improved up to the 23rd, when the cyanosis became more marked and pulse was not good. February 24th, given a



dose of B vaccine containing 200 million *Streptococcus lanceolatus* and 25 million *S. pyogenes* lozins. From Day 107 25th onwards progress was rapid, the lungs clearing up rapidly from the grosser signs of disease.

#### BACTERIOLOGY AND PATHOLOGY.

In the investigation of the bacteriology of the condition the main sources of information were the sputum and

blood during life and the blood, spleen, and exudates *post mortem*. The results were as follows:

##### 1. Sputum.

Specimens of sputum from forty patients were examined, both by smears and in cultures. The organisms most constantly present were streptococci, *Staphylococcus aureus*, and *B. influenzae*. Among other organisms less frequently met with were *Micrococcus catarrhalis*, *B. fusiformis*, diphtheria bacilli, pneumococcus, *Diplococcus crassus*, and *Staphylococcus albus*.

(a) *Streptococci*.—One or more varieties of the streptococcus were found present, both in smears and in cultures, in all cases examined, with the exception of two, from which the pneumococcus was isolated. Two streptococcal types were found to be of very constant occurrence—namely (1) *Streptococcus longus*, growing in small discrete colonies and producing active haemolysis on blood agar. (2) A streptococcus usually assuming a diplococoid or *brevis* form. This grew in flattened colonies, spreading at the margin and showing a tendency to coalesce into a greasy-looking greenish-grey film when densely sown. Its haemolytic action was small, and on blood medium it was found to be surrounded by a faint greenish halo.

(b) *Pneumococcus*.—In the two cases in which we failed to isolate streptococci from the sputum the pneumococcus was obtained in culture. In one of these cases, as mice were not available at the time, we were forced to rely upon the fermentation of inulin and the capsule stain of His in making the diagnosis. In the other case, examined during convalescence, smears of the sputum showed the presence of large numbers of Gram-positive capsulated lanceolate diplococci and numerous influenza bacilli. On culture media (tryptic agar + citrated human blood) a practically pure growth of these two organisms was obtained. A mouse which was inoculated with the mixed culture died in twenty-eight hours, and spleen smears showed the presence of Gram-positive capsulated lanceolate diplococci. Cultures from the spleen were made and the pneumococcus and a minute Gram-negative bacillus, probably *B. influenzae*, recovered. In several cases where preliminary cultural and microscopical features had been suggested, inoculation experiments proved the organism to be the streptococcus.

(c) *Staphylococci*.—*Staphylococcus aureus* was present in cultures from the majority of cases, often being one of the predominating organisms of the sputal flora. *S. albus* was less frequently found.

(d) *B. influenzae*.—This organism was present in smears in 24 of the 40 sputa examined and was grown in culture in 21 cases. In 8 cases it was present in smears, but failed to grow in culture, and in 5 cases where it was not found in smears it grew in cultures. It was therefore present either in smears or cultures, or both, in 29 of the 40 cases examined.

#### Summary of Results of Examination of Sputum.

Organism.	Frequency per 40 Cases.	Frequency per Cent.
<i>B. influenzae</i> ... ..	29	72.5
Streptococcus ... ..	38	95.0
Pneumococcus ... ..	2	5.0
<i>Staphylococcus aureus</i> ... ..	27	67.5

2. *Blood Cultures*.—Careful investigation of organisms isolated from the blood of several patients during life showed that streptococci were almost exclusively and constantly present. In only one case was the pneumococcus demonstrated with any degree of certainty. The streptococci isolated seemed to coincide, in their appearance on culture media, with the two forms described as

most uniformly occurring in the sputum.

##### 3. Additional Investigation during Life.

A number of throat swabs were examined, and from most of these the streptococcus and the *Staphylococcus aureus* grew abundantly on culture media. In one case the Klebs-Loeffler

bacillus was isolated. In two cases the streptococcus was found in the aural discharge from patients suffering from otitis media.

4. *Blood Counts*.—The blood count of patients suffering from this disease gave rather unexpected results. In place of the marked leucocytosis to be expected in the presence of a bacteraemia, the typical count seemed to lie between 8,000 and 12,000 per cubic millimetre. On the whole the differential count registered the septicaemia more definitely, though the relative polymorphonuclear leucocytosis appears below what might be reasonably expected.

#### Differential Count in Seven Cases.

Case.	Poly-morphs.	Mono-nuclears.	Large Lymphocytes.	Small Lymphocytes.	Remarks.
34	78.0	1.0	2.0	19.0	Died.
35	87.0	1.5	2.5	15.0	Died.
7	74.5	2.0	1.0	22.5	Recovered.
36	77.0	3.0	2.0	18.0	Recovered.
37	69.0	3.5	2.5	25.0	Recovered.
38	75.0	3.0	2.0	20.0	Recovered.
39	83.0	—	1.0	16.0	Died.

5. *Bacteriological Examination of Material obtained post mortem*.—Twelve cases were investigated *post mortem*. The cultures made from the bronchial discharges showed the same disparity as in the case of the sputa. The majority were typically streptococcal, though *Staphylococcus aureus* was present in several cases. In two cases only was *B. influenzae* isolated in pure culture, though smears of the secretions were sometimes suspicious. On the other hand, this organism could not be found either in the smears or cultures made soon after death in certain carefully studied cases. In addition to one or more of the organisms mentioned the bronchial secretion yielded a growth of the pneumococcus in three cases and of Gram-positive cocci in other three. Cultures from the blood, spleen, and pericardial fluid yielded uniformly a mixed growth of the two types of streptococci already described; sometimes one type appeared to predominate, sometimes the other. The heart blood and pericardial fluid in one case (No. 24), in addition to streptococcus and staphylococcus, yielded a Gram-positive bacillus and a Gram-positive coccus. Smears of the fibrinous exudate of Case 40 showed a capsulated diplococcus, streptococcus, and a Gram-positive coccus. Inulin-fermenting organisms of the pneumococcus type could be shown in two cases only. In two cases *Staphylococcus aureus* was encountered in the pericardial fluid.

#### INOCULATION EXPERIMENTS.

The study of the pathogenicity of the organisms associated with the disease has been mainly restricted to those isolated from the blood and organs at autopsy.



Serotype cocci from the spleen, pericardial fluid, and blood have been shown to be lethal to mice in moderate doses. In the case of both the streptococcal types already mentioned death occurred four to six days after injection. The organisms were recovered from the blood and spleen after death, and were found in abundance at the point of injection, where an accumulation of pus occurred.

On several occasions attempts were made to demonstrate the pneumococcus by injection into mice. Either results were negative or the suspicious organism proved to be streptococcus, except in one case, already referred to, where the pneumococcus and a minute Gram-negative bacillus were recovered from the spleen.

#### POST-MORTEM CONDITIONS.

As the conditions found *post mortem* varied considerably, it is difficult to describe any particular state as typical. It seems probable, however, that there is a definite sequence of pathological changes. This sequence of events is not apparently conditioned by the duration of the disease, and a fatal termination may ensue at any stage of the series. This was particularly noticeable in the case of the lungs, where more advanced changes were found in some cases of short duration than in others where death occurred after an illness lasting fourteen to twenty-one days.

#### Summary of Main Pathological Findings.

1. *Pleura*.—In the majority of cases a greater or lesser degree of fibrinous or sero-fibrinous pleurisy was present; in three cases the adhesions were very extensive. As a rule the accumulation of fluid was very small. The condition was usually more marked on the right side.

2. *Lungs and Bronchi*.—A constant feature was the presence of petechiae on the lung surface, most marked towards the base and along the interlobar fissures. As already mentioned, the conditions found varied considerably, but the differences were apparently a series of phases in the course of the disease, varying from typical purulent bronchitis with slight basal bronchopneumonia to complete lobar consolidation. In the advanced cases the following conditions were usually found in basifugal succession:

- (1) A basal consolidation.
- (2) A zone of slightly aerated lung intermediate between lobar pneumonia and bronchopneumonia.
- (3) A belt of bronchopneumonia. This was usually found in the lower portions of the upper lobes.
- (4) A belt in which minute elements of consolidation around the bronchi were closely dotted over the congested and oedematous lung.
- (5) An upper region of simple bronchitis.

The above must be qualified by the statement that in a few cases apical consolidation was present, and in most the anterior margin of the lungs and the middle lobe of the right lung were relatively unaffected. The state of the right lung was usually more advanced than that of the left. Patches of interstitial emphysema and small haematomata were encountered from time to time, and in one case multiple abscesses, about the size of half a crown, in cross section, were found in the consolidated lower lobes. The bronchi were in all cases acutely inflamed. The secretion varied considerably from case to case. In a few the bronchi contained a chocolate-coloured froth, interrupted here and there by plugs of yellow pus, but in the majority of cases the lumina of the bronchi were occupied by a yellow purulent discharge, which poured from the larger bronchi when they were severed. The bronchial glands were uniformly enlarged.

3. *Heart*.—In six of the fourteen cases examined there was marked sero-fibrinous pericarditis—the fluid either faintly turbid or flecked with fibrin. Fibrinous patches were most frequently found on the apex anteriorly and round the base. In several cases the right heart was dilated, and was usually gorged with clot.

4. *Spleen*.—In only four cases was the spleen found to be enlarged and pulpy. In the majority this organ was fairly normal in size and consistency, showing at most a tendency to become flattened. In view of the bacteriological findings already discussed, this is somewhat remarkable.

Organ.	Condition.	No. of Cases.	Cent.
Lungs ...	Basal consolidation and slight	3	21
	Zone of slightly aerated lung	5	35
	Belt of bronchopneumonia	6	43
Pleura ...	Pleurisy	12	83
Pericardium ...	Pericarditis	6	43
Heart ...	Dilated	5	36
Aorta ...	Aortitis	6	43
Spleen ...	Enlarged	4	29
	Normal	8	57
	Flattened	2	14

#### Histology.

There is little to say about the morbid histology of the condition, for, apart from the lungs, there were but small signs of inflammatory change.

While sections cut from the more gravely affected lung tissues show the typical appearances of bronchopneumonia and lobar pneumonia some interest attaches to those which demonstrate the transition from a state of simple bronchitis to one in which the alveoli are involved.

This process commences with a marked infiltration of the peribronchiolar tissue by cells of the small round type, in a manner identical with that described by the Aldershot observers. The zone of inflammation extends to the surrounding tissue, and consolidation of the alveoli immediately adjacent to the pus-filled bronchioles ensues. The round cell infiltration is transient, and is soon replaced by one in which polymorphonuclear cells predominate. At this stage the microscopical picture is somewhat characteristic, showing numerous elementary consolidations about the bronchioles scattered over approximately normal lung tissues.

In a certain number of the cases examined *post mortem* there was little advance upon this condition; in others, however, the primary consolidations were found to extend and coalesce until their individuality was lost in bronchopneumonic patches.

Of other lesions of which microscopical evidence was obtained note may be made of a small amount of cloudy swelling in the kidney and a more or less marked congestion of the spleen, accompanied in some cases by small haemorrhages.

#### CONCLUDING REMARKS ON THE PATHOLOGY AND BACTERIOLOGY.

In view of the complex nature of the infection it is somewhat difficult to sift out the essential pathogens from those of subsidiary or individual importance.

The outstanding feature from this point of view is undoubtedly the almost universal association of measles and rubella with a streptococcal bronchitis and septicaemia. We have been much occupied by the question as to whether there was a direct symbiosis between the virus of measles and the streptococcus, enhancing the virulence of the latter and lowering the resistance of the host, or whether the symbiosis was an indirect one through the medium of the influenza bacillus. In the latter case the analogy with the Aldershot cases of purulent bronchitis described by Abrahams, Hallows, French, and Eyre would be very close. It is certain that the *Bacillus influenzae* has played an important rôle in this epidemic, but there is reason to believe that the measles attack in itself lowered the body resistance sufficiently to permit of a general invasion by the streptococcus. In any case, our observations tally in principle with those of the above workers, and are an interesting variant on the pneumococcal infection found by them.

It is interesting that, in a recent paper dealing with pulmonary complications following measles, Cumming, Spruit, and Lynch (*Journal of the American Medical Association*, April 13th, 1918, p. 1056) ascribed 94 per cent. of the fatalities to an infection by haemolytic streptococci. These authors make no reference to the influenza bacillus.



We have been frequently struck, both at Codford and at Tidworth, by the unusual preponderance of streptococcal, as contrasted with pneumococcal, infections in all types of pulmonary disease occurring amongst Australians and New Zealand troops on Salisbury Plain, and this has been especially noticeable in the cases of lobar pneumonia we have examined.

In many cases *Streptococcus aureus*, although not one of the constant pathogens, must have contributed much to the acuteness of the pulmonary attack. As regards the pathology of the condition, two points are of special interest. In the first place the very varying gravity of the lung lesions found at autopsies shows that these lesions in themselves could not be held responsible for the fatality of the outbreak, which must without doubt be traced to the general toxic condition. In the second place, the exhaustion of all protective measures on the part of the body is typified by the feebleness of the leucocytosis and the absence of splenic and hepatic enlargement. Indeed it is almost to be wondered at that vaccine treatment elicited from the jaded patients the response which our charts exemplify, and it is unfortunate that time did not permit of opsonic comparisons being made.

We are indebted to Lieut.-Colonel G. H. Goddard, D.S.O., R.A.M.C., O.C. Tidworth Military Hospital, for permission to publish this article.

**Postscriptum.**—In a recent epidemic (October, 1918) of malignant influenza we find that respiratory symptoms are prominent, but only in a few cases is the sputum purulent. Moreover, several non-purulent cases present the features of profound toxæmia, collapse, and heliotrope cyanosis, which seems to suggest that purulent bronchitis is only one incident in a virulent mixed infection by Pfeiffer's bacillus and other organisms.

## THE DIFFERENTIAL DIAGNOSIS OF SCARLET FEVER, MEASLES, AND RUBELLA.

BY

LIEUT.-COLONEL J. S. WARRACK, M.A., M.D., D.P.H.,  
R.A.M.C.(T.F.).  
— STATIONARY HOSPITAL, B.E.F.

It is of the greatest importance that these diseases should be distinguished from each other and from non-infectious diseases in the army, because (1) the quarantine periods vary, (2) the infectivity varies, and (3) the severity varies in different cases.

A definite method should be employed in the examination of cases so that nothing is missed, and the result of the examination should be accurately recorded for the benefit of subsequent observers. It is necessary that a good light be available, and that the throat, mouth, and skin be examined from above downwards. The temperature should be taken. Koplik's spots require a good light to be seen, and the mucous membrane opposite the lower molars should be turned out to the light by means of the forefinger of the hand outside, and the mouth should be open. The patient should be asked when he felt ill first, not when he reported sick; particulars of the onset should be obtained, especially where and when the rash appeared first. The incubation periods are useful to keep in mind.

### The Onset.

**Scarlet Fever.**—Sore throat, shivering, sometimes vomiting, and the rash out within forty-eight hours, missing the face, and being seen on the neck, arms, and upper part of the body. Circumoral pallor is indefinite in adults, and I do not attach much importance to it.

**Measles.**—Headache, malaise, coryza the first day; Koplik's spots the second day, remaining the third, fourth, and fifth days. They should be seen two days before the rash comes out on the forehead, and still be seen the first two days of the rash; after this period they fade away. The rash comes out late on the third day or early on the fourth.

**Rubella.**—Little or no malaise, headache, slight fever, slight sore throat, the rash out from the second to the third day, but in a number of cases the appearance of the rash is the first indication that anything is wrong.

### The Position of the Rash.

This is most important. These rashes have a definite distribution, a definite way of appearing, and a definite way of fading.

**Scarlet Fever.**—This rash does not usually appear on the face; it avoids the face as a rule. It is seen first on the neck, and spreads from above downwards. The feet are the last to show it. In the same way it fades, and the dorsum of the feet will show the rash distinctly when it is fading or has faded higher up. This is specially important when the rash is not a very heavy one. On the flexures of the joints the rash is likely to be more pronounced, or even haemorrhagic.

**Measles.**—The rash begins upon the forehead as a blotchy, livid discoloration, and spreads downwards. In twenty-four hours it is out on the legs, and is beginning to fade on the face by the time it is fully out on the feet and legs. It affects the whole body when it is fully out. It disappears from above downwards, and can be distinguished last on the feet.

**Rubella.**—This rash may be seen on the face first, but is evanescent. It also spreads from above downwards. It is necessary to look at the dorsum of the feet in all cases because the rash may be seen there when it has faded from the body. This is essential to remember.

### The Character of the Rash.

**Scarlet Fever.**—This rash is composed of fine red points on the background of an erythema; it may be discrete or confluent. When the latter, there is a bright general redness, and the skin may be swollen. The flexures may show in addition a haemorrhagic staining of the skin, not necessarily petechial. This is never found in rubella; the rash is more lasting, and may take several days to fade.

**Measles.**—This rash comes out as a papular rash, small red papules which can be felt projecting by the examining finger. Round a papule is a livid dark blotch. There may be several papules together, with one blotch around them. The rash is discrete at first, but rapidly the blotches become larger, more come out, and the general appearance becomes what is described as measly, or morbilliform, hence the name measles. These papules may be petechial, but the surrounding blotch is always there.

**Rubella.**—There are two types of rash—the scarlatini-form and the coarsely punctate with macules. It must be distinguished from scarlet fever, and the tests are: the evanescent character, the colour, and the fact that on some part of the body the rash will be found to be coarsely punctate and macular. In the scarlatini-form type the rash is not red but pink in colour, composed of pink points closely set together. This rash is usually found on the trunk, but if the feet are looked at, the rash will be found to be coarsely punctate and macular. In the ordinary type the rash is composed of large points, pink in colour, and mixed up with pink macules. The rash is discrete, but sometimes it is petechial as well. In all cases it is evanescent, and begins to fade in twenty-four hours, so it should be seen as soon as possible. It is last seen on the feet. The rash does not become deeper on the flexures. When associated with glandular enlargements and pink eye, there should be no difficulty in distinguishing it.

### Early Symptoms.

Sore throat is a prominent feature in scarlet fever; coryza in measles; and slight headache, and slight watering of the eyes in rubella. Vomiting is not uncommon in measles and scarlet fever, and shivering in scarlet fever, while in rubella there may be no symptoms at all and the first thing noticeable is the rash.

### Glandular Enlargements.

Enlarged glands below the ear are common in scarlet fever, and are associated with the sore throat. In measles, where there is a catarrhal throat and a measles rash on the mucous membranes, there are enlarged glands. In rubella the suboccipitals should always be examined; they are sometimes tender, and always easily palpable, but in some cases they are not enlarged, but the posterior cervical instead. The epitrochlear groin and axillary glands may be found enlarged. In other cases no glandular enlargements can be found, so that their absence does not exclude rubella, but when they are found it is valuable corroboration of other symptoms and physical signs.



*State of the Throat.*

In all three diseases the involvement of the throat is the exanthem of the disease.

In scarlet fever the throat is bright red, and red pin-points are to be seen; there may be purulent matter on the fauces and coming down from the nasopharynx. If there is any suggestion that there is membrane, a swab should be taken for bacteriological examination.

In measles the throat is livid and catarrhal, also swollen; Koplik's spots are part of the rash here, and should invariably be looked for. These are small raised spots, whitish in colour, lying on a red blotchy background. I find them in all early cases, and I find them either singly or stippled together in clumps, and I have seen the mucous membrane of the cheeks and palate covered with them. They appear two days before the rash comes out, and last four days. After this time the rash on the mucous membrane has faded, and the spots as well.

In rubella the throat is neither so bright red nor so livid. The soft palate only is reddish-pink. The fauces are only a little engorged, and there are never Koplik's spots.

*The Tongue.*

In scarlet fever the strawberry tongue is described. There the papillae project through the fur, and if there is no fur the tongue is bright red and rough, but in time the tongue becomes quite smooth. This condition is part of the exanthem, but cases occur where this condition is absent. The mild case is a likely example of this.

In measles the tongue is livid and flabby, it is furred, and not so red as in scarlet fever. In both cases if there is much pyrexia the tongue may be dry and cracked. In a late case the smooth tongue will give an indication of what has been the matter.

In rubella the tongue may be furred and flabby.

*The Eyes.*

In scarlet fever the eyes are not catarrhal; they are either red or white. In measles they are catarrhal, suffused, and running. In rubella they are slightly catarrhal, and look pink. In some cases this feature is absent.

*The Significance of Peeling.*

Measles does not peel usually, and when it does so the peeling is branny, and on the body only. Rubella does not peel as a rule, but I have seen slight temporary peeling on the hands only of a pinhole character on the tenth day. In scarlet fever peeling is the final thing which clinches the diagnosis.

Scarlatiniform rashes as I have described them are seen with little or no constitutional disturbance, with only slight sore throat, slight erythema, and no strawberry tongue. If the disease is a mild form of scarlet fever peeling will occur. It may occur on the neck or body in the first week, on the hands about the fourteenth day, on the feet about the twenty-first day, having missed the body. If it appears as pinhole points, with scales or casts coming off the fingers or toes, then the case is one of scarlet fever, and if infection is considered to last until peeling is finished, then the case should be isolated. It is this class of missed case which is often responsible for the sporadic cases which occur from time to time, and the origin of which is uncertain.

*The Temperature.*

This is raised in all these cases. In the first two it is high, and remains high. In the mild case of scarlet fever there may be little rise of temperature. In rubella also the rise of temperature may be slight or not at all, and only temporary. A typical rubella rash may be found with a normal temperature. This class of case is responsible for the disease becoming established in units, and the only thing to do is to have routine inspections and round up all cases showing the rash.

*The Possibility of Diagnosis before the Rash comes out.*

This can be made in all cases of fever and coryza, if the mouth is examined for Koplik's spots, and they are found. Fever and sore throat only suggest scarlet fever, if there have been previous cases, but the rash coming out will soon settle the diagnosis. Malaise and backache with slight fever and slight coryza suggest rubella, and such

cases, where there have been previous cases, should be segregated. The rash will be out in two or three days and settle the matter.

*The Possibility of Diagnosis with the Rash Faded or Fading.*

The distribution will be seen, and in scarlet fever there will be staining of the skin, and the bends of the elbows and the shoulders will show dark punctate discoloration. Moreover, peeling will be starting. In measles there will be a blotchy mottling on the parts where the rash has been. This may be in evidence for a few days, but there will be little seen after a week. In rubella there will be a punctate and macular mottling, corresponding to the rash, but this will not last long, and if one sees the case after the third day it may be impossible from the rash alone to say what has been wrong.

*Differentiation from Non-infectious Rashes and Skin Eruptions.*

By following the character and distribution of the eruption or rash there should be no difficulty. A dirty and sweaty skin, and a parasitic condition associated with a chill, may imitate an exanthem, but these do not show the proper distribution. The eruption is indifferently distributed. The parasitic condition will show scratch and bite marks. Ordinary skin lesions have their characteristic appearance and distribution, but an exanthem may be present also. An exanthem may complicate a gas dermatitis, but on looking at a piece of skin which is free from the irritative condition, and at the throat, and remembering the points about the distribution and character, there should be no difficulty. Scarlatiniform and other rashes, erythematous or blotchy, are described in influenza and in other forms of pyrexia of uncertain origin. Where scarlatiniform, the distribution is wrong; where urticarial or blotchy, the distribution on the body and limbs is indifferent, and the rash is evanescent. It tends to come out on repeated rises of the temperature, and where blotchy there are no Koplik's spots nor papules. The throat will not be characteristic.

*Mixed Infections.*

Diphtheria may complicate scarlet fever and measles. Where there is membrane or sloughing a throat swab should be taken and serum used without delay.

## NOTES ON SURGICAL SCARLET FEVER.

The subject of surgical scarlet fever is one which is of some importance in view of the large number of surgical casualties now under treatment. It is thought that this condition is identical with the ordinary scarlet fever of civil life.

There are three classes of cases: (1) Where the infection is through the wound; (2) where the infection is through the wound after an operation for the removal of a foreign body or other proceeding of a cutting nature; (3) where the infection is through the throat.

In the first class the wound may be recent or not. It is septic. The patient develops fever, vomiting, shivering, and sore throat. The rash appears from twenty-four to thirty-six hours after, commences on the face, and rapidly spreads to the body, and finally to the feet. It is a red punctate erythema, in severe cases confluent, and the distribution is on the body, back and front, the neck, shoulders, flexures of joints, and inside of thighs. The wound is much inflamed, and the redness is more marked around the wound, the skin being swollen. The redness gradually lessens the further it gets from the wound. The temperature remains high for three or four days, and peeling begins from the face and neck as early as the fifth day, spreads to the body, the hands are affected about the fourteenth day, and the feet subsequently, sometimes as late as the twenty-first day. Peeling may take longer to finish than six weeks. It has been noticed that any surgical procedure after the rash has gone does not produce a recurrence.

The second class of case is one in which, after removal to a hospital, an operation is performed to remove a foreign body. The wound, which is already septic, and which has been opened up, becomes very inflamed, and in about twenty-four hours or less there is shivering, vomiting, and rise of temperature. Sore throat is present, and



the attention of those concerned is attracted by the appearance of a rash on the body. The wound is very inflamed, even slogging, and round the wound the skin is bright red and swollen. The swelling of the skin becomes less the further it is from the wound. The rash on the skin is bright red and confluent in some cases, and where it is not confluent it is a punctate erythema. There is a red and congested throat and a red and swollen tongue. In three or four days peeling begins on the neck and rapidly spreads to the body and limbs. It is prolonged, often over six weeks. It commences from above downwards and finishes in the same order. This class of case closely resembles the first class, but is more severe. Obviously, a greater and more virulent amount of infective matter has found an entrance through the cut surface of the operation wound.

The third class of case is where there is a wound, or lesion of the skin, but there is no local erythema. In this class of case there are the early symptoms—the sore and dirty throat with exudation, the shivering, fever, and malaise, but the rash and tongue are not such prominent features. The rash may be confluent on the back and elbows, but is a discrete and punctate erythema on the body and limbs. It is often evanescent, lasting only a day or two, and in times of stress may be missed, and attention be subsequently drawn to the condition by the discovery of desquamation. In this class of case desquamation follows in the same order as in the first two, but may be later in commencing. Cases occur with little rash where desquamation starts as late as the eleventh or fourteenth day, misses the body, and is found only on the hands and feet.

Operation in this class of case did not produce any recurrence of the symptoms.

All these cases seem to belong to the group of streptococcal infections. They vary in their intensity with the facilities for the admission of the coccus or its toxin into the circulation. I cannot distinguish them from ordinary scarlet fever, and am of opinion that the diseases are identical. These diseases have been treated in the same ward with ordinary scarlet fever cases, and there have been no cases of secondary infections. It is impossible to say that it is safe to keep them in the same ward with general surgical cases, whether clean or infected, but where missed cases have been found late in the disease, it does not appear that they have left a track of infection behind them.

The period of observation has been eighteen months, and the number of cases sixty, and the wounds in most parts of the body.

## INCUBATION PERIOD OF INFLUENZA.

BY

PETER MACDONALD, AND J. C. LITTLE, M.B.,  
M.D. B.S.

YORK.

The incubation period of influenza is not yet definitely settled, and although the number of the cases we describe below is small, the opportunities for their observation were so close that we give an account of them, as they go some way towards fixing it within small limits of error.

We travelled from London together on Thursday, October 3rd, by train leaving King's Cross at 5.30 p.m., arriving at York 9.30, and as we were leaving the carriage a young flying officer who had come the whole way with us, and was coughing and sneezing at intervals, informed us that he was ill, and had had "influenza" for several days. On Saturday, October 5th, we both became ill, and both developed typical attacks of influenza. With both of us the illness developed suddenly with laryngitis; in both the first signs were a severe attack of coughing; and in both the time was noted fairly accurately as being between 2 and 2.30 p.m. One case was quite mild, the temperature was never over 101°. The other was more severe: the temperature rose to 104.5°, and the catarrh extended to the bronchi. His wife and two children also developed influenza, and in their cases the first symptoms showed suddenly about 2 p.m. on Monday, October 7th.

Now we are convinced that we became infected from our travelling companion during our train journey, more likely towards the end of the journey: and if we take the time of infection as 9.30 this fixes the incubation period

for both of us at a minimum of forty-one hours, with a maximum margin of error of four hours. But as we may presume that the bacterial content of the railway carriage increased with the time of our journey, we incline to regard our infection as dating from the end of our journey rather than the beginning; so that we take the incubation period to have been nearer forty-one than forty-five hours.

The three cases developing in the family of one of us point to a similar incubation period, as their illness started almost exactly forty-eight hours after his, and as it is likely that infection would not take place until a few hours after the first symptoms, the incubation period in these three cases must have been very nearly the same as in our own two.

It can readily be understood that we were in no condition to conduct extensive bacteriological examinations, but a culture taken from the posterior nares of one of us on October 10th, with a guarded swab to prevent soiling from the flora of the mouth, showed colonies of Pfeiffer's bacillus and of *Micrococcus catarrhalis*.

## Reports of Societies.

### DISCUSSION ON ENCEPHALITIS LETHARGICA.

At a meeting of the Sections of Medicine, Epidemiology, and Pathology of the Royal Society of Medicine held on October 22nd, Surgeon Rear Admiral Sir HENRY ROLLESTON, R.C.B., R.N., in the chair, a discussion took place on encephalitis lethargica.

Lieut.-Colonel F. W. Mott gave a summary of the results of the examination of two brains, by M. Marinesco, Professor of Neurology at Bucharest, who had been working for some time past in the pathological laboratory of the Maudsley Neurological Clearing Hospital. Disseminated miliary or punctiform haemorrhages visible to the naked eye existed in the grey matter in the neighbourhood of the floor of the fourth ventricle; the aqueduct of Sylvius, and even the third ventricle, and were also found in the posterior part of the pons and the peduncles. The cerebral cortex, except for congestion of some of the vessels of the leptomeninges, had shown in these two cases neither macroscopic nor microscopic lesions. On the contrary, the first segment of the spinal cord, which was the portion of the cord available, had presented the same histological lesions as the pons, bulb, and peduncles. Microscopical study of the above mentioned regions had demonstrated the existence of four kinds of lesions:

1. Infiltration of the walls of the small vessels and especially the veins, consisting of lymphocytes and plasma cells in the adventitia, disposed in several layers. The endothelium and fibroblasts also take part in the inflammatory process.
2. Foci of interstitial inflammation consisting of neuroglia cells of several kinds, including large cells with voluminous eccentric nucleus, and many fibrillar prolongations, macrophages, and polymorphs. The foci of interstitial inflammation appeared sometimes to be altogether independent of vascular infiltrations, and might occur in the roots of the nerves—for example, hypogastric, pneumogastric, etc.
3. Lesions of the nerve cells which did not correspond with those usually seen in infantile paralysis. There was dissolution of the "satellit" Nissl bodies, relative achromatosis, reduction in volume of the cellular body and of the number of prolongations and multiplications of the satellite cells, but only exceptionally was there evidence of neuronophagia, as was described by E. Ramon.
4. The foci of haemorrhage, the most obvious macroscopic change, were seen to be much more numerous when microscopic examination was made. These haemorrhagic foci remained circumscribed around the walls of the small vessels, and red corpuscles were mingled with the cells of inflammatory infiltration, or they constituted a kind of covering, and floated about around the vessels. In spite of the very great number of haemorrhages the vessel wall did not appear to be necrosed but sometimes a solution of continuity of the vessel wall could be seen.

From microscopic investigation of these two cases M. Marinesco drew some conclusions upon the nature of the disease. He regards lethargic encephalitis as a disease entirely different from botulism, from the haemorrhagic poliomyelitis of Wernicke, from the poliomyelitis of Heine-Medin, and from sleeping sickness. Like these two last diseases, it was an infectious inflammatory disease, but the nature of the infectious germ had not yet been determined. It was distinguished from botulism by its



symptomatology and by the four above mentioned histological lesions. The vascular lesions due to the presence of an infiltration of the walls of the vessels by migratory elements are absent in botulism, and the readily recognizable *Bacillus botulinus* had not been found in these cases.

Lieut.-Colonel Mott then showed photomicrographs illustrating the coronal inflammatory conditions of the perivascular lymphatics in sleeping sickness and cerebro-spinal syphilis, in which there was definite infection by a specific organism, and which might be accompanied by meningitis. In epidemic encephalitis and the bulbo-pontine encephalitis of Heine-Medin disease, which, as Wickman had shown, was a form of anterior poliomyelitis, somnolence was a frequent symptom, passing on to coma. Epidemic encephalitis was an acute inflammation of the subadventitial perivascular lymphatics, and was characterized by naked-eye haemorrhages in the pons, the medulla, the peduncles, and around the third ventricle. Microscopic examination showed not only lymphocytes and plasma cells in the lymphatic sheaths of the arteries and veins, but large numbers of polymorphs, and the inflammation was so acute that there were haemorrhages not only into the lymphatic sheath and perivascular space, but into the tissues around. There was proliferation of neuroglia cells around the vessels and in the nervous tissue in the proximity of the inflamed vessel.

He could find no essential difference between this epidemic encephalitis, with its characteristic clinical symptoms of fever, headache, oculo-motor, facial and bulbar symptoms of difficulty in swallowing, paralysis of soft palate, and respiratory symptoms, and the ponto-bulbar encephalitis of Oppenheim and Cassirer, and observed frequently in the epidemic described by Wickman. In the Heine-Medin disease, as in cerebro-spinal syphilis, different forms arose according to the maximum seat of the lesion, and this might be explained by supposing that the primary seat of invasion of the lymphatics of the nervous system varied in different cases and in different epidemics. Thus the spinal cases might start from the intestines and find access to the spinal cord by the lymphatics surrounding the lumbosacral arteries; lesions in the bulbo-pontine and upper spinal region might start from infection of the lymphatics surrounding the vertebral artery when the throat and nose was the primary seat of invasion of the perivascular lymphatics, or by the infection of the internal carotid in the encephalitic and meningeal forms. It was said that this epidemic of ponto-bulbar encephalitis could not be the same as Heine-Medin disease, for the cerebro-spinal fluid obtained by lumbar puncture contained no lymphocytes. Dr. Box had had cases in which lymphocytes had been found. It appeared that when the meninges were affected lymphocytes and albumin were certain to appear in the cerebro-spinal fluid.

Dr. P. N. PANTON said that the examinations made of cases in the clinical laboratory of the London Hospital consisted in investigations of the leucocytic content of the blood and the protein and cellular contents of the spinal fluid. The results were compiled and published by his colleague Dr. Vaidya in the *Lancet* of September 7th, 1918, and he proposed to give a brief summary of these findings:

Twenty of the most typical cases were examined, and it was probable that the diagnosis was incorrect in two only. In both these cases the error in diagnosis was indicated by the laboratory examination. One case had a leucocytosis of 21,200 per cubic millimetre, by far the highest count of the series, and proved to have lobar pneumonia. In the other tubercle bacilli were found in the spinal fluid during life, and military tuberculosis *post mortem*. In the remaining cases the average leucocyte count, 7,600 per cubic millimetre, and the relative proportions of the cells were about normal. An occasional somewhat higher leucocyte count was explained by the presence of a septic rash or some other complication.

The spinal fluid was in all cases clear and without any coagulum on standing, such as was found in tuberculous cases. The protein was never more than slightly increased, and the cellular content was either normal or slightly increased also, the type of cell being always lymphoid. In some cases the protein excess, which, though not great, was constant, was greater than might have been expected from the small number of lymphocytes found.

Although these changes were very slight they appeared to them to be constant. The value of leucocytic and, in particular, of spinal fluid examination as a means of excluding diagnoses of epidemic encephalitis was abundantly manifest in numerous cases of other diseases occurring during this epidemic, but not included, with two exceptions, in the series.

Dr. H. G. CROOKSHANK said that in describing the cerebro-spinal fluid examination it was necessary to state the day of the disease on which the fluid was taken, as the cell count, etc., differed from day to day.

### Epidemiology.

Dr. W. H. HAMER pointed out that just as in 1915 the so-called epidemic of cerebro-spinal fever was really only a small part of an influenza prevalence, so in the epidemic encephalitis of the spring of 1918 a particular cluster of symptoms was once more being singled out for scrutiny, and that here again the epidemic, so called, was merely part and parcel of a prevalence of influenza. He referred to Brorström's demonstration of the influenzal nature of poliomyelitis, to the London evidence relating to the common origin of cases of influenza and of cerebro-spinal fever, and to the similar conclusions arrived at by an army bacteriologist from study of the 1915 outbreak in camps. The proof that epidemic lethargy was no new disease was writ large in Hecker and in Creighton, and was now being followed out in detail by Dr. Crookshank in his Chadwick lectures in course of being delivered. In view of the fact that "Spanish influenza" had followed hard upon the heels of epidemic encephalitis, he ventured to plead once again for the epidemiological point of view. These new diseases could not be completely understood by making cell counts and cultivating various strains of organisms, nor fully comprehended by insisting upon the fact that particular structures had been picked out in the cerebro-spinal nervous system, and that the lesions were here at one level and there at another, nor satisfactorily explained by focussing attention upon some particular sign or symptom, whether it were sweat, lethargy, paralysis, an exanthem, or some evidence of involvement of the pulmonary, nervous, or gastro-intestinal systems, and by considering each phase of the epidemic prevalence in relation thereto, and studying it apart from all the other phases. Recognition of the epidemiological point of view implied, he submitted, a return to Sydenham's method. Creighton had declared that there was something more than accident in the association between epidemics of influenza and epidemics of "ague." Study of the last named showed clearly that they were not, of course, outbreaks of malaria, but precisely those very gastro-intestinal, pulmonary, and nervous manifestations which we were now beginning to realize actually constituted part and parcel of the influenza prevalence.

Lieut.-Colonel S. P. JAMES (Local Government Board) said that Sir Arthur Newsholme had authorized him to give a brief summary of the results of an inquiry into encephalitis lethargica recently carried out by the medical staff of the Local Government Board in collaboration with the Medical Research Committee. Owing to printing difficulties the issue of the report of this inquiry had been greatly delayed. The summary he gave was abbreviated from Sir Arthur Newsholme's general review which prefaced the report.

In its initial stages last April the inquiry was concerned chiefly with an investigation of the hypothesis that the illness was a manifestation of botulism. In connexion with that view Dr. McIntosh, on behalf of the Medical Research Committee, carried out a complete bacteriological investigation, and Drs. Hancock and Pearce, of the Food Branch of the Board's Medical Department, personally investigated, from the point of view of a possible food origin, 53 cases reported up to May 7th. The result of these preliminary inquiries was that neither on the bacteriological nor on the epidemiological side could any direct or indirect evidence be obtained of an association of the illness with the *Bacillus botulinus* or with infection from food.

In addition to proving that the illness was not due to food, the results of the preliminary inquiry pointed to a possibility that it might be one of the many forms of the disease, or group of diseases, to which nosologists at present attached the indiscriminative label "Heine-Medinische Krankheit," of which infantile paralysis—officially termed acute poliomyelitis—was the commonest type of illness.

It was found, however, that from infantile paralysis the present illness differed very strikingly not only in the localization of the paralysis and some of the equally obvious signs, but in its age incidence, seasonal prevalence, course, duration, and fatality.

In these circumstances it was decided to carry out a more complete clinical and epidemiological study of the illness than had been attempted in regard to the first fifty-eight cases. The Public Health Department of the London County Council agreed to investigate all cases in the London area. Up to the end of June the number of cases in the London area inquired into was 107,



and the number in the provinces was 121. Apart from these special inquiries Dr. MacNalty was deputed to undertake a detailed personal study of the clinical symptoms of the illnesses, conferring with Sir William Osler and with Major George Draper of the United States Army Medical Corps, who examined and reported cases in Birmingham, Leicester, Oxford, and other localities. On the bacteriological side, in addition to the research in connexion with a possible food origin, the problem of the nature of the illnesses was attacked from the point of view that the virus might be closely allied to, or perhaps identical with, that of acute poliomyelitis, and in this line of research animal experiments were begun as soon as the necessary monkeys could be obtained. In addition Sir Walter Fletcher, F.R.S., Secretary to the Medical Research Committee, secured the services of Professor G. Marinesco of Bucharest for the examination of specimens from fatal cases of the disease. The accounts given by all the observers might be summarized very briefly as follows:

1. For identification and description it was decided to follow von Economo in terming the illness encephalitis lethargica—a name which had the right of priority, and indicated a characteristic clinical feature.

2. Dr. MacNalty, from his clinical study, concluded (a) that in its essential primary features the illness had a characteristic and constant symptom series of its own; (b) that between this symptom series and that of the rare forms of poliomyelitis, with which alone it could be confused, the clinical differences were more marked than the resemblances.

3. The results of the epidemiological inquiries were to the effect that encephalitis lethargica was not a form of acute poliomyelitis, and that its presence and epidemic prevalence depended on conditions other than those necessary for the presence and epidemic prevalence of that disease.

4. Both Professor Marinesco and Dr. McIntosh, as a result of their separate researches, arrived independently at the conclusion that encephalitis lethargica, as it appeared in the present outbreak, was identical with the illness described by von Economo in Austria and Professor Netter in France, and that it was a disease *sui generis*, anatomically and clinically distinct from analogous affections.

Various hypotheses had been suggested by different workers engaged in the inquiry, but the view which appeared best to agree with the present knowledge was that encephalitis lethargica was one of the groups of diseases in which, as in cerebro spinal fever and acute poliomyelitis, the pathogenic agent was much more generally present in the human organism than the clinical evidence implied. As regards cerebro-spinal fever, this was no longer a hypothesis, but a well-established observation. In that condition the specific reaction named cerebro-spinal fever arose in one or other of two ways: first, as the result of a breakdown in the immunity to the effects of the virus which the individual who harboured it had up to that time enjoyed; second, as the result of a non-immune person becoming infected with a strain of virus which had attained the degree of pathogenic action described as specific. During severe epidemics evidence could sometimes be obtained that cases of cerebro-spinal fever arose in both these ways, but during the inter-epidemic and mild epidemic periods, it was seldom or never possible to obtain evidence that the illness was infectious; at such times cases of the disease were always scattered sporadically, and, except the patient himself, they could not be traced to any known source of infection. This was the view that best explained the irregular widespread sporadic distribution of encephalitis lethargica. Until further research yielded precise information, we might assume that many people harboured the organism of the illness, perhaps as a harmless saprophyte, perhaps as a "conditional parasite," perhaps in the stage when it must be termed a "specific pathogenic parasite"; and that in certain of these persons there occurred for some unknown reason an enhanced virulence of the parasite, or a lowered resistance of the tissue cells, or both, the result being that the stimulus of the parasite overcame the resistance of the tissue cells, and the host suffered from the effects of the virus, which previously he had harboured with impunity. This explanation implied that the key to the problem rested, not in the purely bacteriological view of the causation of disease, but in the wider view that disease resulted from the interaction of several factors, of which changes in the properties of the tissue cells on the one hand, and in the provoking stimulus or pathogenic agent on the other, were the chief. The view emphasized the rôle of the individual in the origin and progress of the disease; and the practical indication would seem to be to enlist all the resources of

personal and public hygiene in an endeavour to influence favourably the potential energies of body and tissue cell resistance, especially in individuals who might seem to be predisposed to a disease of this nature if they happened to become a host of its parasite. At the same time it was clearly of importance to pursue research both to ascertain what pathogenic agent was concerned and into the factors of individual predisposition and correlated resistance, the variations of which were subject to so many influences. The first necessity for these studies was early and complete information of all cases of the disease in different parts of the country, and for this reason the Local Government Board had decided as a temporary measure to make encephalitis lethargica compulsorily notifiable for a period of one year.

Lieut.-Colonel James then reviewed briefly the relevant epidemiological data collected up to the end of June, and thought that the evidence adduced, in both quantity and kind, supported the conclusions: (1) that the illness under consideration was not a form of acute poliomyelitis; (2) that its presence and its prevalence in epidemic form depended on conditions other than those necessary for the presence and epidemic prevalence of that disease. He displayed charts comparing the seasonal incidence of poliomyelitis and encephalitis lethargica, and maps comparing the distribution of the two diseases.

Dr. A. S. MacNalty described the disease of encephalitis lethargica occurring in the recent outbreak as an acute illness in which nervous localizing signs might or might not be present. There were three types:

(1) A type displaying general disturbance of the functions of the central nervous system but without localizing signs. (2) Types with nervous localizing signs: (a) clinical affection of the third pair of cranial nerves; (b) affections of the brain, stem, and bulb, with local lesions of other cranial nerves; (c) affections of the long tracts—for example, pyramidal, prepyramidal, and ascending afferent tracts; (d) ataxic types (involvement of cerebellar mechanism); (e) affections of the cerebral cortex; (f) types indicating some evidence of spinal cord involvement; and (g) polyneuritic type. (3) Mild or abortive types, with or without localizing signs in the central nervous system. The incubation period was probably variable. The prodromal period ranged from the first to the seventh day but might be as protracted as three weeks, during which occurred lethargy, headache, giddiness, and diplopia, as well as lassitude, fatigue, vomiting, and diarrhoea.

The acute manifestations included a slight early rise of temperature to 101° or 102° F., marked asthenia, cataplexy, sleep alternating with nocturnal delirium, emotional changes, changes in speech (which became either nasal, monotonous and slurred, or chattering, rapid, and unintelligible), fibrillary movements, and choreic movements of face, trunk, and limbs, muscular pains, hyperaesthesia, retention or incontinence of urine, incontinence of faeces, and sweating. Skin eruptions and other symptoms might occur. Marked constipation was the rule.

The rapid complete or partial clearing of the paralysis was the most remarkable feature of the types with nervous manifestations. Mild or abortive types were rare. Recovery was gradual and tedious, chiefly on account of the great prostration and muscular weakness. Death appeared to be due to paralysis of the respiratory centre in the medulla and was preceded by intensification and frequency of delirious attacks, deepening of the stupor, and coma. After-effects noted were (1) alteration in the mental condition, (2) persistence of cranial nerve palsies, (3) the subsequent appearance of paralysis, apparently of spinal origin, and (4) athetosis. He concluded that though the disease resembled poliomyelitis it differed from it in important respects, and displayed characteristic symptoms. It was possible that the accepted classification of poliomyelitis had been made on too wide a basis, and certain cerebral, ponto-bulbar and ataxic types might have been examples of the clinical forms observed in this outbreak. Cases of poliomyelitis and encephalitis had been known to occur side by side. He thought that the relationship between them might be comparable to that existing between typhoid fever and paratyphoid.

Lieut.-Colonel A. J. Hall discussed the clinical side in a communication printed in the JOURNAL of October 26th.

Dr. F. G. Crookshank gave statistics of 127 cases observed by him, 120 occurring at the London Hospital, 4 at the North-West London Hospital, and 3 private cases.

Of these, 77 were males and 50 females. Under 5 years there were 28 cases (17 males and 11 females); from 5 to 10 years, 29 cases (16 males and 13 females); and over 10 years, 70 cases (44 males and 26 females). There were 26 deaths (for 20.39 per cent.), and 11 post-mortem examinations were performed.



*Cerebro-spinal Fluid.*—In 51 cases lumbar puncture was carried out, and in 44 cases the cerebro-spinal fluid was examined. In 43 cases cytological reports were made. In 25 cases lymphocytes and in 4 cases leucocytes were found in excess. In 2 cases phagocytes and in 2 cases leucocytes were in marked excess. Protein was present in excess in 26 cases. Organisms were found in 16, no organisms were found in 12, and no organisms were found in 2, and Gram-positive

*History and Mode of Onset.*—A history of injury to the head was given in 9, of tooth extraction in 2 cases. There was a two- to three history in 46 cases, sudden onset of nervous symptoms in 17, previous illness in 33, gradual onset of nervous symptoms in 17, whilst the onset was undetermined in 23.

*General Symptoms.*—Swelling was marked in 13, diarrhoea in 7, and constipation in 29 cases. Glycosuria occurred (without previous history of it) in one case, and acetouria in 4 cases. Delirium and vomiting occurred in 33, and pain in hypochondria in 13 cases.

*Rashes* occurred in 27 cases, which were miliary in 2, erythematous in 12, petechial in 5, and herpetic in 8, and of these 6 were labial and 2 gluteal. Desquamation was observed in 2 cases, joint swellings in 2, oedema of legs in 1, enlargement of the glands of head and neck in 1, and bedsores in 1 case. Dental irregularities were not positively recorded in more than 10 cases.

*Signs and Symptoms Referable to the Nervous System: Mental.*—Emotionalism, or "hysteria," was marked in 5 cases. Mutism (apart from stence during drowsiness) was noted in 7 cases. Delirium was marked in 19, maniacal delirium noted in 2, "acute delirious mania" following "stupor" in 1, delusions or hallucinations (apart from delirium or mania) in 3 cases. Nocturnal sleeplessness with diurnal drowsiness was marked in 3 cases, drowsiness in 30, stupor or prolonged lethargy in 26, "unconsciousness" or coma in 25, and sequential dementia in 5 cases.

*Physical.*—Epileptiform fits or convulsions were present in 15 cases; tremors, twitching, or choreiform movements were marked in 22 cases, trismus was marked in 2, head retraction in 23, and hyper-spasticity in 29 cases. Paresis or paralysis of limbs (apart from general asthenia) occurring transiently or otherwise without hypertonia was noted in 47 cases, atrophy of limb muscle groups (apart from generalized muscular atrophy) in 10, facial paralysis (other than transitory) in 8, amaurosis (partial or marked, with slight changes in papilla) in 5, ptosis was marked and persistent in 23, strabismus occurred in 19, nystagmus in 14. Deafness and tinnitus was marked in 5, pain and tenderness of limbs in 11, formications, tingling, and numbness in 6 cases; dysphagia occurred in 5 cases, and hypoglossal palsy was marked and persistent in 5. In 6 cases ascending paralysis occurred, and in one case (not included in these statistics) trophic changes and gangrene of the fingertips appeared, probably due to an acute ascending central myelitis.

A very careful inquiry had convinced him that the various *Heine-Medin* categories—paralytic, spasmodic, and psychical—had been known in Europe for many centuries. Their prevalences or occurrences (pandemic, epidemic, endemic, communal or commensal) had invariably been associated, conveniently or coincidentally, with wider but similar prevalences or occurrences of catarrhal, sudoral, or nervous fevers, now generally regarded as influenzal. The cases spoken of as "infantile paralysis" represented only one end of a spectrum. The other end was represented by various forms of "encephalitis," including the "acute delirious mania" of Drs. Luther and Bell.

Sir ARTHUR NEWSHOLME pointed out that diseases which might occur in conjunction with each other and under similar epidemiological conditions were not necessarily the same.

Lieut.-Colonel GOODALL agreed with Dr. Hamer that this disease was the same as that described by Sydenham, who also called it "the new disease." It was the duty of pathologists, clinicians, and epidemiologists to separate diseases. Diseases which were similar were not necessarily identical.

Dr. CROOKSHANK drew attention to the fact that poliomyelitis attacked a part of the organism in children which was in a very early stage of development—namely, the anterior horn cells. This might be the reason why growing children showed flaccid atrophy in a manner which did not appear in grown-up people. The child grew and developed, whilst the anterior horn cells remained stationary.

Dr. F. BUZZARD said that encephalitis in children was more common than was generally recognized. He had seen two cases of encephalitis lethargica which at first sight appeared typical of parolysis agitans. If the mid brain were attacked, cases of the paralysis agitans class were produced.

Captain BOX said that he had seen a case of encephalitis lethargica in 1913 with typical clinical findings and post-

mortem lesions as described by Colonel Mott. Out of 24 cases in which he had had the cerebro-spinal fluid examined, 6 showed excess of lymphocytes, blood was present in 6, and 2 were negative. In no case was the fluid under pressure. Two cases had rashes, pustular in one case and in the other like measles, but with a different distribution. There was one case of optic neuritis. In 3 cases there were false attitudes of the head, showing a deviation from one or other shoulder, produced by some interference with the peduncular system.

Dr. J. H. MURRAY, Captain D.A. FARR, and Dr. HILTON INGLEBY also spoke.

## THE QUATERCENTENARY OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

At the end of the Harveian Oration, delivered before the Royal College of Physicians of London on October 18th, the President, Dr. NORMAN MOORE, after congratulating the Orator, said:

Fellows of the College and Guests.—This day may be regarded as the four hundredth anniversary of the foundation of our College. The portrait of our founder has been placed in view of the congregated College, and the original letters patent which founded it are placed upon the table before me. They are dated September 23rd, 1518, the tenth year of King Henry VIII, whose great seal in green wax is attached in its proper place. I may remind the College that when this charter was granted the King had not displayed the violent conduct in so many directions which afterwards characterized his reign. The last word written on the vellum is the name of Cuthbert Tunstall, then Master of the Rolls and afterwards Bishop of London and of Durham, who attests the affixing of the Great Seal. A friend of Sir Thomas More, of Archbishop Warham, and of Erasmus was an appropriate witness of the origin of our College.

We should like to have celebrated the four hundredth anniversary of this event with a brilliancy suited to it, but the times in which we are living forbid it. Our sons have gone out to meet our enemies in the gate, and many of them will never return. We venerate their actions and their memory, and their absence might not alone have prevented some appropriate celebration, but when we reflected in what a war we were engaged, more or less every one of us, in defence of our liberties and of those of Europe, and indeed of all mankind, we felt that we could not at present take part in the happy kind of ceremonial suitable to times of peace.

Thomas Linacre, a member of the University of Oxford, was our founder. He had studied in Italy and brought the model of our College thence, perhaps chiefly from Bologna where there was a College of Physicians which Leo X, who had been a fellow student of our founder, had reconstituted about 1517. It had a central body of four physicians like our four censors who are now sitting to right and left of me. Linacre knew Wolsey, and partly by his influence obtained the royal charter which you see upon the table. I like to think of Wolsey not merely as an ambitious statesman, and to bear in mind that "he was a scholar, and a ripe and good one, exceeding wise, fair-spoken, and persuading." We ought to remember him kindly as one of our benefactors.

We are all familiar with the learning of Linacre. On the table on one side of the charter are placed one of his translations of Galen into Latin with a note in his own hand addressed to Fox, Bishop of Winchester, and on the other his copy of the first Greek printed edition of Plutarch. He, too, was a friend of More, and Warham, and Erasmus.

The first six Fellows constituted the College, and were John Chambre, Thomas Linacre, Ferdinand de Victoria, Nicholas Halsewell, John Francis, and Robert Yaxley. Linacre occupied the office in which I address you. The Fellows began to carry out the spirit of Linacre's teaching, and were devoted to learning in medicine, in philosophy, and in literature, and handed on that tradition to this day. It seems a proper occasion to give the College a rare book from my own library in memory of the day. It belonged to John Chambre, the very first Fellow named in our charter, physician to King Henry VII and King Henry VIII, and he has written his name on its last page. It is a copy of the 1492 edition of the *Rosa Anglica* of



John of Gaddesden, one of the most famous of the medieval physicians of England. Dr. John Chamberlaine made notes showing that he had read it through, and it is bound in the oak boards covered with stamp leather in which he saw it. I have ventured to wear an exception, giving it to the College.

I have heard that sixteen Fellows of our College, all serving in France, dined together on September 23rd, in memory of the foundation, and that they have sent a letter to us by the hands of Major Michael Foster.

[Major Foster here stepped forward and handed to the President a Latin letter.]

It is engrossed on vellum, illuminated, and signed by the Fellows who dined together. Its initial shows a sketch of the French coast near Boulogne where they dined, with England on the horizon, and in France, on the left, the Roman bricks of the tower built by Caligula, and on the right Ambleteuse. At the top are the arms of the city and those of the county of Boulogne.

The composition does credit to the scholarship of those present, and the decorations to the skill of the scribe, who was found in the ranks of our army, and shows how many branches of learning, of art, and of handicraft are to be reckoned among the accomplishments of the officers and men of our gallant army.

The letter is not long:

COLLEGIO Regali Medicorum Londinensium quartum saeculum vitae suae feliciter conditum celebranti et quantum jam faustis auspiciis incunanti salutem plurimam dicunt et libentissime gratulantur Socii insignati, Gesoriaci Bononiensium inter arma collocati. Longum est nomina percurrere tot virorum illustrium qui sine ulla intercapidine continenter honorem Collegii nostri sustulerunt, scientia artem medicinae artius prosequerunt, feliciter latinum corpora morbis oppressa ad integram valetudinem revocare docuerunt. Sed quotum quidque invenimus Collegium cuius alumni literas quoque humaniores urbanitate tanta et lepore ornaverunt, scientiam omnis generis tutius ingenio aedificaverunt, rei publicae insignis profuerunt?

QUARTO jam anno belli consensu omnium furore teutonico incepti peracto, militantes videmus eheu! qualis nova febrim teris incubuerit cohors, velut e Pandorae pyxide liberata, quot morbos pediculi naevon muscae, quot vapores noxii attulerint, quanta denique strage nostrorum et totius gentis humanae hostis barbarus Marte illacrimabili maxime abusus sit debellandus. Sed sortes jamdudum faustae, florent arma ampliusque floreant, praevalerit tandem iustitia. Quin etiam (cum licet denique) Pheidippidis verbis sine superbia usi, spe victoriae certa Collegium nostrum valedicentes jubemus χαίρετε, νικαετε.

Gesoriaci Bononiensium,

A.D. ix. Kal. Oct., MDCDXVIII.

W. P. Herringham, Major-General.

W. F. Furse, Colonel.

John Rose Bradford, Major-General.

J. Hugh Thurstfield, Major.

E. A. Nixon, Colonel.

A. J. Jess-Brake, Major.

W. P. S. Craunson, Major.

Gordon Holmes, Lieut.-Colonel.

T. R. Elliott, Colonel.

Michael Foster, Major.

Charles Miller, Colonel.

Charles J. Martin, Lieut.-Colonel.

W. E. Hume, Colonel.

Henry MacGormac, Lieut.-Colonel.

A. M. H. Gray, Lieut.-Colonel.

S. W. Curl, Captain.

The following is an English rendering of the letter:

To the Royal College of Physicians of London celebrating the fourth century of its existence, now happily concluded, and the fifth with new prospects, now beginning, the undersigned Fellows now at the front with the army wish a warm and often congratulatory, long would it take to mention the names of the very many illustrious men who without number have continually sustained the honor of this College, who have raised higher by science the art of medicine, and have taught successfully how to bring back to perfect health the victims of men expressed by disease. How rare to find a college which, as yours has, their medical knowledge have also been placed in the world their time with each cultivation and refinement, and who have made sound additions to science of every kind, and have done good service to the State.

The fourth year of the war, which all agree was begun by German madness, is now done; we fighting, may see, alas! what kind of new remnant of fevers has descended on earth, as if set free from Pandora's box, and how many diseases lice and flies and noxious vapours have brought and in how great a catastrophe shall the savage too of our race and of the whole human race who has put ruthless war to its foulest uses be their mightly beaten down. But the chances have now been for some time favourable, our arms flourish and will flourish yet more; justice at length will prevail. Now, moreover, we may be allowed to use the words of Pheidippides without exaggeration, in certain hope of victory, when bidding farewell to our College, χαίρετε, νικαετε.

Boulogne, September 23rd, 1918.

It was long a custom of the College in letters and prefaces to include some words of Greek, and our Fellows abroad have followed this usage and their letter ends:

χαίρετε, νικαετε.

Continuing the custom, I reply:

χαίρετε, το εὐ νικαετε.

We are delighted that our brothers, the Fellows serving in France, have thus remembered us. What place could at this day be more appropriate for their feast than the city of Godfrey of Boulogne, conqueror of Jerusalem, the prototype at the end of the twelfth century of General Allenby in our time. The writers of the letter rightly think Major Foster reminiscent of Pheidippides, the messenger sent from Athens to Sparta when the Persians were advancing. When the letter to us was written good fortune had not so distinctly begun; the tide has risen since. Major Foster is indeed today a messenger of victory. It was, and I think is still, the custom to give a substantial reward to such a messenger. The officer who brought the news of Blenheim received 500 guineas. I should have liked the gift which I hand to Major Foster to be as splendid, but it is suitable in its kind, even if less magnificent. In this little box which I now give to him are two silver coins: one is a denarius of Caligula, in memory of the place where our colleagues died, and where some remains of Roman brickwork mark the site of his tower; the other is a drachma of Larissa struck at the place where Hippocrates practised medicine, and not long after his time, which will remind Major Foster of our profession, to which he and the other signatories of the letter are so nobly adding honour in the field.

I have one more pleasant duty. It is to present the Moxon Medal to Dr. Mott. The war has led to increase of knowledge in many ways in medicine, perhaps most in relation to diseases and injuries of the nervous system, and the College has awarded the Moxon gold medal for Clinical Medicine, a reward commemorating a famous clinical teacher of Guy's Hospital, to Dr. Frederick Walker Mott, who before the war and since its outbreak has been a most distinguished and persevering observer in this and other parts of clinical medicine.

## THE FRENCH VIEW OF INTERNATIONAL SCIENTIFIC RELATIONS AFTER THE WAR.

The following resolutions, recently adopted unanimously by the Académie des Sciences of the Institut de France, were unanimously endorsed by the Académie de Médecine on October 15th:

1. The Academy, believing personal relations between scientific men of the two groups of belligerents to be impossible and repair and expiation of the crimes which have put the Central Empires under the ban of mankind presents them again to enter the concert of civilized nations, has adopted the following resolutions:
2. The Central Empires shall be compelled by a provision of the treaty of peace to retire from international scientific associations established by diplomatic conventions and implying personal relations between the members. This exclusion would not apply to common action in such common administrative relations indispensable between such public services as those affecting the regulation of navigation, railways, telegraphs, etc.
3. As soon as circumstances allow, those international conventions not belonging to the two categories noted above shall be denounced by each of the competent groups of the Entente and of the United States of America in accordance with the statutes and regulations of each of them. New associations recognized to be needed for the progress of the sciences and their application shall be established forthwith by the Allies and the United States with the contingent co-operation of neutrals.
4. The Governments of the allied countries and of the United States shall refrain from sending delegates to any international assembly at which representatives of the Central Empires would be expected to figure. It is desirable that the nationals of the Entente countries and of the United States should adopt the same line of conduct and not take part in any enterprise with which the nationals of the Empires would collaborate.
5. Inquiry should be made as to the steps to be taken to establish intimate collaboration between the Allies and the United States, particularly in the domain of allied science and in the publication of certain bibliographical works.

<sup>1</sup> The Allies are winning.

<sup>2</sup> A good cause; now, the right prevail.



# British Medical Journal.

SATURDAY, NOVEMBER 2ND, 1918.

## THE WORK OF THE COUNCIL.

THE Central Council is the executive body of the British Medical Association; subject to the decisions of General and Representative Meetings, it is responsible for the management of the affairs of the Association. In addition to the control of routine work the Council has the duty of fashioning policy, with the aid of various standing and special committees, and of carrying policy into effect when approved by the Representative Body. Thus the functions of the Council are threefold: deliberative, advisory, and administrative. It is well that this should be restated from time to time, for the benefit of new members and others who are not familiar with the constitution of the Association. In the ordinary course the Council holds quarterly meetings at the head office in London, and it meets at least once on each day of the Annual Representative Meeting.

At the last quarterly meeting of the Council, on October 23rd, various matters of moment to the medical profession were discussed, and we propose to mention some of them briefly here. The important decision to lodge an appeal against the recent judgement in the Coventry case has already been reported in our columns, and is briefly referred to on page 497. For obvious reasons the merits of this case cannot be gone into now.

In view of the possibility of a general election in the near future, the Medico-Political Committee has had under consideration the action which could properly be taken in this matter by the Association. For the assistance of secretaries of Divisions in interviewing candidates for Parliament a paper has been drawn up indicating the subjects deemed by the Council to be the most important at the present time, from the standpoint of medical politics. The matters thus chosen relate, among others, to the proposed Ministry of Health, death registration and coroners' laws, the position and payment of Territorial Force and Special Reserve medical officers, the remuneration of women medical practitioners, the State registration of nurses, and the extension of medical benefit under the Insurance Acts to provide a complete medical service for insured persons. As for the hard case of officers of the Territorial Force and Special Reserve, R.A.M.C., who were called up at the outbreak of war, representations have been made by the Association both to the War Office and to the War Cabinet, urging that if nothing else is done to remedy injustice the gratuity to which these officers are entitled on demobilization should be increased and that its payment should not be deferred. It is not proposed to let this subject drop, and further steps are being taken by the Association to enlist the support of members of Parliament, in accordance with a suggestion by Commander Bellairs, M.P., who has already more than once raised this matter in the House of Commons. Here we may repeat that the Central Medical War Committee, impressed with the claim of the Territorial, Special Reserve, and R.N.V.R. medical officers for special consideration, has recorded its opinion that in the process of demobilization after the war these medical men should be released before any others. We understand that the Ministry of National Service has recently presented a memorandum to the

War Cabinet recommending that the early stage of medical demobilization should be guided by this principle.

With regard to parliamentary elections generally, the principle laid down by the Representative Meeting twelve years ago remains in force—namely, that candidates should be invited to consult and co-operate with the Divisions of the British Medical Association in any matter that may come up in Parliament affecting the medical profession or public health. The Council has now strengthened this by its recent approval of an arrangement whereby medical members of Parliament may be brought into working contact with the Association as members of the Parliamentary Subcommittee. Beyond that point direct medical representation in Parliament is still somewhat in the air. The proposal to form a fund in support of the candidature of the right kind of medical man has been advanced several stages, but those who are engaged on this business find it hard to make headway against the political inertia of the profession.

The Representative Body last July authorized the Council to press upon the Government the formation of a Ministry of Health, and instructed the Council to seek the co-operation of the Royal Colleges, and such other medical bodies or corporations as shall interest themselves in the matter, in securing this effect. The Ministry of Health Committee reported to the Council on October 23rd that copies of that resolution had been forwarded to the Royal Colleges in England, Scotland, and Ireland, and to the Royal Faculty of Physicians and Surgeons of Glasgow. The Royal College of Physicians of London and the Royal College of Surgeons of England each replied in a favourable sense. The Royal Colleges of Edinburgh, in forwarding copies of the statements already issued by them, have replied to the effect that, in their view, the time is not ripe for proceeding with the formation of a Ministry of Health. The Royal Colleges of Ireland and the Royal Faculty of Physicians and Surgeons have not yet replied. Acting in accordance with the spirit of its instructions, the Ministry of Health Committee of the Association has recently got into touch with the corresponding committees of the English Royal Colleges and of the Royal Society of Medicine, and a conference is being held between the three bodies this week in order to discuss the basic principles upon which any Ministry of Health should be formed. This must obviously be of advantage to all concerned. While it may be doubted whether complete fusion is likely to take place between the three committees, a common working programme should be possible, as the outcome of this conference and of others to which we look forward in the near future. For technical reasons medicine may not be able to speak collectively upon this matter, but harmony of thought and purpose should be attainable.

In his quarterly report of the work of the Central Medical War Committee, the chairman, Dr. Verrall, gave the Council a sketch of the procedure for bringing about substitution in civilian medical practice. The task is admittedly very difficult, and there is no precedent for anything of the kind; but in order to meet the continued demands for medical men for the services the Committee has been obliged to tackle it. During the past three months an assessment has been made on many of the Local Medical War Committees for more medical men—first for those who, in the opinion of the Central Committee, can be spared by a distribution of their work among their neighbours, and, secondly, for those who can only be spared if a whole-time substitute is provided. Selection has



been made more difficult by the decision of the War Office to accept for military service only men under 46 and in Grade 1. With infinite trouble a scheme has been devised, the underlying object of which is to put the substitute and the absentee as far as possible on terms of financial equality; but every inducement will be given to both parties to make private arrangements. For those who cannot so agree a "standard arrangement" has been drawn up, the details of which are now in the hands of the Local Medical War Committees. The financial terms are framed with the idea of encouraging the substitute to keep up the practice to the best of his ability, while overcoming his natural dislike for a form of compulsory service which cannot be made inherently attractive. The plan is at present only on paper, but if the fighting goes on in the present style, it will soon have to stand the test of experience. If peace should intervene, no one, we are sure, would be better pleased than its authors.

### THE ETIOLOGY OF INFLUENZA.

THERE is humour in the statement of the President of the Local Government Board that "he has instructed the various local authorities to take precautionary steps, and will not allow red tape to tie his hands, but will take immediately any remedial measures that may be recommended," and his further statement that he is calling a conference of medical authorities and bacteriological experts this week in order that the fullest research may be made into the cause and nature of influenza, in the hope of tracing the microbe and finding methods of destroying it. The humour is that the head of the ministry which is at present the only central authority in health matters should show such a curious misunderstanding of the functions of a central health ministry. At this late date to summon a conference of medical authorities and bacteriological experts and to instruct local authorities to take precautions is putting the cart before the horse. The local authorities have been taking precautions and are ready and willing to make them more effective. What they want is better information. The epidemic which began last spring, though it died down in the early autumn, gave ample warning of what might not improbably follow, for the history of influenza affords many instances of a recrudescence at the beginning of the winter. We conceive it to be a chief duty of a central health authority to institute investigations into the nature of epidemic diseases by every means available—that is to say, in the laboratory, at the bedside, and by the early collation of statistics. Apparently the Local Government Board has not made use of its opportunities during the last six months and can make no contribution to our knowledge in any one of these directions.

It is customary to give lip service to the doctrine that influenza is a specific disease, as are measles and scarlet fever, and some may admit that it is possibly due to the same class of infective agent; but with each recurring pandemic the notion that it is a new disease revives, so that we find justification for the epigram of von Bergmann of Marburg, that the present epidemic would not be typical if the typical mistakes were not committed again this year. The severity of the present pandemic, the suddenness of onset in some cases, and the number of deaths from pulmonary complications—bronchitis, bronchiolitis, bronchopneumonia, and pneumonia—which it is producing, have again led to the suggestion that the disease cannot be influenza, but some other and more lethal infection.

This is only because we have forgotten how severe a disease influenza may be. Peacock,<sup>1</sup> writing of the epidemic of 1847, said that cases complicated by what he called acute capillary bronchitis were always very severe in character, and in debilitated persons proved fatal in a large proportion of cases. Again, the suddenness of onset in this epidemic—persons being taken ill in the street—has been supposed to be something new, but Symes Thompson, writing of the epidemic of 1889-90,<sup>2</sup> said: "In a number of recorded instances a violent attack of pain has been the first intimation, so severe sometimes as to cause the person to fall down under the impression that he has been struck. In others, wild transient delirium has ushered in the symptoms; in children delirium was almost the rule."

Another reason assigned for looking upon the epidemic as something other than influenza was that acute nasal catarrh was rarely observed during the summer. Naso-laryngeal catarrh is now common, and Sofrè, writing on the summer epidemic in Italy, refers to the constancy of respiratory complications, such as catarrh of the larynx, trachea, and bronchi in ordinary cases and diffuse moist bronchitis in severe cases. The very name "Spanish disease" is not new, for the term was used as far back as the sixteenth century.

The suggestion that the war and the privations caused by it are in some way responsible for the severity of the pandemic will not hold water. The disease has been little, if at all, more severe in Germany and in Austria than in this country, where the restriction of food has been much less, or in South Africa, where it has been inappreciable. Such influence as the war has had is to be seen in the armies, and is to be traced to the congregation of large numbers of men in huts and billets, and in crowded transports. It is fresh evidence, if that were needed, that the infection is disseminated by personal contact under conditions in which good ventilation is difficult or impossible. As is well said in an admirable review contained in the *Medical Supplement*<sup>3</sup> (compiled by the Medical Research Committee), epidemiologically the extreme contagiousness of the disease has been proved to be due to its aerial convection—namely, by means of the "drop-infection" from person to person and not by transportation of the virus through the air at large. The same review shows also that there is at present no certainty as to the real nature of the virus. The *Bacillus influenzae* isolated by Pfeiffer in 1892—that is, when the pandemic of 1889-90 had nearly disappeared—has been accepted as the true virus, in spite of the fact that practically it is not pathogenic to animals, that it was not found in widespread localized outbreaks, and that other organisms were found in many of them. The majority of the experts present at the conference summoned by the Director-General of the Army Medical Service expressed, as was noted in the *JOURNAL* last week (p. 470), considerable doubt as to the primary etiological significance of Pfeiffer's bacillus, and considered that the existence of some as yet undiscovered virus must be regarded as possible. The conference recognized that this bacillus is very frequently present in this pandemic and plays an important part in the production of the symptoms and complications of the disease, but went

<sup>1</sup>Quain's Dictionary of Medicine. First edition, 1884.

<sup>2</sup>Influenza: A Revised Edition of "Annals of Influenza" by Theophilus Thompson, M.D., F.R.S. By L. Symes Thompson. London, 1890.

<sup>3</sup>To the October issue of this periodical, and to advance proofs of the November issue which we owe to the courtesy of the Secretary of the Medical Research Committee, we are indebted for many of the references in this article. (H.M. Stationery Office. To be purchased through any bookseller. 1s. net each number.)



on to point out that the organisms most frequently associated with it and chiefly responsible for the gravity of the secondary pulmonary complications are pneumococci and streptococci. The author of the review from which we have already quoted sums up the matter by stating that *post-mortem* observations leave no doubt that the bacillus of Pfeiffer when present does not play any more important part than the ubiquitous diplo-streptococci. Though secondary in point of time these streptococci, some forms of which, at least, are haemolytic, are apparently primary in deciding the fatal issue, and seem to be transmissible from man to man equally with the main virus.

The idea that the severity of an epidemic of influenza is due to something in the nature of symbiosis is borne out by the observations made in the cases of New Zealand soldiers by Lieut.-Colonel Macdonald and his colleagues, whose paper we print this week. Apparently a considerable proportion of these cases were complicated by influenza since Pfeiffer's bacillus was found in 29 of 40 cases in which the sputum was carefully examined. It may be well to mention for the benefit of less experienced observers that a rash like measles, or more rarely like that of scarlet fever, has been seen recently in cases of influenza in this country and on ship board. Thompson notes that a rash was observed in a certain small proportion of cases in the epidemic of 1889-90. He speaks of it as "resembling that of measles or scarlatina, erythematous or papular in character, and generally described as 'rose-coloured,' disappearing on pressure, and lasting from one to four days, and usually followed by some desquamation." It appeared usually on the second or third day, and affected the face and neck, but sometimes extended to the trunk and limbs.

Of the suggestion that the true virus is a filter-passer it has been said that it is only a cloak to our real ignorance as to its nature, but the results of some recent experiments by Nicolle and Lebailly communicated to the Académie des Sciences, Paris, the other day by Professor Roux, Director of the Pasteur Institute, afford good evidence that a filter-passing virus does exist. The material used, consisting of the bronchial expectoration, very rich in a great variety of bacteria, of a patient who had been suffering from influenza for three days, was introduced into the conjunctival sac and nose of two monkeys—a Chinese bonnet monkey and a *Macacus cynomolgus*. In the case of the bonnet monkey on the sixth day, and of the macaque on the fifth day, the temperature rose to 40° C.; the fever persisted for three days. The bonnet monkey wasted, and showed marked depression; the macaque was less affected. The virulence of the secretions was proved by these experiments. The main experiments were made, on volunteers, with the filtered secretions. Filtration was performed as follows: the bronchial secretion, diluted with ten times the quantity of physiological salt solution, was thoroughly shaken (with beads) for five minutes, and then centrifugalized for a minute and a half. After decantation the clear upper layer of fluid was filtered through a Chamberland bougie under a pressure of 30 to 40 centimetres of mercury. In the first experiment one of the volunteers was injected subcutaneously with the filtrate; he suffered a typical attack of influenza, with headache and backache, the morning temperature being 39° C. (102° F.), 38° C. (100° F.), and 38.5° C. (101° F.) on successive days. Convalescence was not complete until after twelve days. In the second experiment, conducted in the same way, the volunteer on the sixth day began to

suffer from a slight attack. Intravenous injections of the filtrate in other volunteers produced no result, nor did the subcutaneous injection of 3 c.cm. of the blood of the bonnet monkey on the first day. The intravenous injection of 3 c.cm. of the blood of a patient in the second day of a characteristic attack of influenza was negative also. The authors conclude that the infective agent of influenza is a filter-passing organism, and that the virus does not occur in the blood either in man or monkeys; Pfeiffer's bacillus, it should be noted, has occasionally been found in the blood.

The unanimous opinion of the members of the War Office conference, that inoculation with a suitable vaccine might be expected to be of value in the control of the incidence and severity of the epidemic, will have been read with interest. Its value is not affected by difference of opinion as to the specific importance of the *B. influenzae*, for deaths are in nearly all instances due to respiratory complications, and the vaccine contains a large proportion of pneumococcus as well as of the lethal streptococcus. Large quantities of this mixed vaccine are being prepared for the army and navy at the Royal Army Medical College and the Royal Naval College, but we have yet to learn that the medical department of the Local Government Board is taking the same course. The matter is all the more important and urgent because there is some ground for thinking that this mixed vaccine might be of service in the treatment of subacute cases, although its value in severe cases of secondary bronchopneumonia is not established.

#### INFLUENZA AND THE SHORTAGE OF DOCTORS.

THE Central Medical War Committee is taking all steps in its power to meet the situation created by the epidemic of influenza, for the calls arising from it have greatly aggravated the shortage of civilian practitioners. The names of doctors recommended for commissions who practise in districts reported to be seriously affected by the epidemic have been temporarily withheld, and the Ministry of National Service has been asked to apply to the military authorities for assistance from R.A.M.C. officers stationed in such localities. Further, the Board of Education has been asked to encourage local educational authorities to release school medical officers from routine inspections during the epidemic, so that they may assist the general practitioners in areas in which depletion has been carried to such an extent that the practitioners are brought very near the breaking point. The men in those areas have carried on the work in the most gallant way, with hardly a word of complaint—a fact which is not perhaps fully appreciated, either by the public or the profession. We understand that in several districts assistant school medical officers have already been liberated for general work, with good effect. The Minister of National Service, in reply to questions in the House of Commons on October 29th, said that during the past year the arrangements for employing doctors under the Ministry, and all withdrawals of doctors from civil life for service in the Forces, had been made with full regard to the contingency of a widespread epidemic. Owing to the prevalence of influenza for some months past the calls on the civil medical profession had been heavy, and, simultaneously, severe fighting on a great scale on all the fronts had imposed additional strain on our medical resources. Concurrently with the increasing spread of influenza the number of doctors employed on medical boards had been reduced, and in order further to reinforce the doctors available for the civil population, medical examinations of recruits in advance had been suspended for the present, while the medical staffs of hospitals had been strengthened so far as resources permit. Sir



An Maud Gedges expressed his deep appreciation of the way in which the medical profession has co-operated with the Ministry in meeting unprecedented and often conflicting demands for medical personnel. He explained that, owing to the heavy casualties among R.A.M.C. officers, there is now a great demand for young fit doctors for the fighting line. The Ministry had therefore been compelled to call up certain young civilian practitioners, and by arrangement with the Admiralty a number of young naval surgeons had gone to France. He added that efforts were also being made to secure some of the older and less fit R.A.M.C. officers for civilian practice, but the pressure was very great.

#### FRENCH ADVICE ON THE PREVENTION OF INFLUENZA MORTALITY.

The committee appointed recently by the Académie de Médecine de Paris to consider the prophylaxis of influenza has presented its report. In dealing with individual prophylaxis it points out that as the disease is transmitted chiefly through the upper respiratory passages, the chief safeguard is minute attention to the disinfection of the mouth and nose. In an epidemic centre mouth-washes should be used twice a day, the simplest and best method being to wash the mouth and gargle the throat with a glass of warm water to which a little of a solution of chlorinated soda (about 20 drops of the B.P. preparation) has been added. For the toilet of the nose an ointment of resorcin 1 per cent. in vaseline was recommended. The face and mouth should be washed after each meal, and over-fatigue and exposure to cold avoided. An order was issued some time ago in the French army directing that influenza should be looked upon as any other infectious disease, and that all persons suffering from it should be isolated. The Minister of the Interior has now directed that the prefects should request all doctors voluntarily to notify influenza, and to advise isolation of the sick and disinfection of rooms and bedding. While it is recognized that such disinfection may be practically impossible in many cases, it is considered that it ought to be resorted to in severe cases and in those complicated by pneumonia or bronchopneumonia. Experience of local outbreaks proved that isolation could give very good results, and in a private house, if nothing better can be done, a room should be reserved for the sick person, and the nurse and members of the family attending on the patient should put on a blouse when going into the sick-room and take it off when coming out. The recommendations as to collective prophylaxis contain nothing very novel. They include the prevention of overcrowding and the avoidance of places of public entertainment. As to tramways and underground railways, the committee despair of preventing overcrowding, but advise that the carriages should be frequently washed and disinfected. The value of the closure of schools in towns is doubted, except for a few days to allow thorough cleansing and disinfection. With regard to country districts, however, the converse opinion is strongly expressed because the school is often the centre for the diffusion of the infection. It will be worth while to close country schools so soon as the first cases appear. Instructions are given as to the precautions which should be taken in hospitals. The number of beds in a ward should be decreased rather than increased, and cases of influenza should be placed in special wards and uncomplicated cases separated from those which are complicated. Cases presenting complications should be grouped according to the nature of the complication, but this is admitted to be a counsel of perfection; as a practical measure of some value it is advised to place curtains or tall screens between the beds. Men who have been gassed are particularly liable to contract the infection and very special care should be taken in their cases. Convalescent cases should not be at once discharged, but kept under observation in buildings adjacent to the hospital. Great importance is attached to the periodical disinfection of influenza wards

and to the destruction of sputa. Visitors should not be admitted unless the patient is in extreme danger. For their own protection and in order that they may not serve as transmitters of the disease or its complications, the staff of the influenza wards should wear blouses and attend to the antisepsis of the hands and the rhinopharynx. The face mask employed in the American hospitals in France are commended; they consist of about half a yard of gauze, folded like a triangular bandage, covering the nose, mouth, and chin, and tied at the back of the head. In out-patient departments all patients with cough should be kept separate and ambulance cars should be thoroughly disinfected.

#### STREPTOCOCCIC EMPYEMA.

In connexion with the grave pulmonary and pleuritic complications of the present pandemic of influenza Harlow Brooks and Cecil's<sup>1</sup> report of 300 cases of pneumonia with eighty empyemas at Camp Upton, New York, during the last winter (October 7th, 1917, to April 20th, 1918) is of great interest. It appears, indeed, that history is repeating itself. Out of 283 cases of pneumonia in which the sputum was carefully examined, 136 were streptococcic and 137 pneumococcic, the *Bacillus influenzae* of Pfeiffer not being mentioned in the paper. There were 49 streptococcic empyemas with a mortality of 30, or 61 per cent.; 15 pneumococcic empyemas, 15 sterile empyemas, and one empyema giving *Staphylococcus aureus*. In 9 cases a streptococcic empyema followed a pneumococcic pneumonia. In 36 cases the empyema was due to a haemolytic streptococcus, and in 4 to a non-haemolytic form, *Streptococcus viridans*. It is interesting here to refer briefly to Kinsella's<sup>2</sup> conclusions from his investigations with Swift on non-haemolytic and haemolytic streptococci; working with the complement fixation test it was shown that no two of 28 strains of non-haemolytic streptococci were exactly identical, whereas 28 strains of haemolytic streptococci were nearly identical. The heterogeneous non-haemolytic streptococcus, while common in the mouths of normal people, invades the tissues and causes disease only under exceptional conditions of pre-existing infection or lowered resistance, such as the growth of *Streptococcus viridans* on the injured cardiac valves in subacute bacterial endocarditis. The haemolytic streptococcus, on the other hand, is highly pathogenic; for example, it causes puerperal sepsis, milk-borne epidemics, and has recently played a part in the etiology of the bronchopneumonia and empyema following measles seen in some of the army camps in America. This, however, was not the sequence of events at Camp Upton, where influenza, tonsillitis, and other mild infections in a considerable number of cases preceded the onset of the lobar pneumonia (usually pneumococcic) or bronchopneumonia (usually streptococcic) and empyema. But it also appeared that a streptococcic empyema might follow a primary streptococcic bronchopneumonia, the interstitial form of bronchopneumonia recently described by Cole and MacCallum usually being associated with a streptococcic empyema. Clinically the streptococcic empyema occurs early, or even simultaneously with the lung infection, the diagnosis on an average being made on the fifth day after admission, and the signs and symptoms differ from those of ordinary empyema. For diagnostic purposes reliance was placed on exploration with a hypodermic syringe, skiagraphy being second, and dullness on percussion third in order of value. This recalls Gee's dictum that the bare suspicion of a pleuritic effusion, however small it may seem to be, is a sufficient reason for exploring the chest with a fine needle. Exhaustion and increased rate of respirations pointed to the formation of an empyema; but rigors, stabbing pleuritic pain, abdominal rigidity, and a septic temperature were generally absent, whereas

<sup>1</sup>Harlow Brooks and R. L. Cecil: *Arch. Int. Med.*, Chicago, 1918, xxii, 269-289.

<sup>2</sup>R. A. Kinsella: *Journ. Exper. Med.*, Baltimore, 1918, xxviii, 181-192.



stadeic resonance and good transmission of breath and voice sounds over the site of a considerable pleuritic effusion were frequently noted. Total and differential leucocyte counts were disappointing in the diagnosis of empyema, and examination of the urine did not give any assistance. Blood cultures were positive in 3 out of 20 cases of empyema, one showing *Streptococcus lactolyticus* and 2 pneumococcus; 2 of these 5 patients recovered. Pneumopericarditis was common and pericarditis (the inflammation spreading from the parietal to the visceral layer) was found in 9 out of 27 necropsies, the fluid resembling that in the pleura both in appearance and bacteriologically. In the early stages the pleuritic exudate was usually light yellow, often with a greenish tinge, and later on became purulent. Acute generalized peritonitis and acute suppurative meningitis were seen in two cases of streptococcal infection; but in spite of the virulence of the infection it was usually confined to the lungs and pleurae, with occasional implication of the pericardium, and therefore appeared not to be essentially a septicaemia. Early surgical treatment in pneumococcal empyema is advised, but in the case of the streptococcal empyemas experience showed that patients operated upon early died almost without exception, whereas those in whom the operation had been postponed until the pus had become thick and gelatinous, frequent aspirations having been made in the meantime, have recovered. The surgical treatment of the empyemas due to haemolytic streptococci not unreasonably gave much better results when the cases were placed exclusively under the care of a surgeon who made a special study of this complication.

#### THE QUATERCENTENARY OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THOUGH the public anxieties of the times, and the bereavements which hardly any family has escaped, made it inappropriate to celebrate by any festival the quatercentenary of the Royal College of Physicians of London, which fell on September 23rd, the President, at the next following meeting of the College—the delivery, on St. Luke's day (October 19th), of the Harveian Oration, given every year according to Harvey's direction—took occasion to recall the circumstances of the foundation of the College. At the same time he presented to its library a rare volume, the 1492 edition of the *Rosa Anglica* of John of Gaddesden, which had once been in the possession of Dr. John Chambre, one of the six Fellows who constituted the College when it was founded by the charter of Henry VIII in 1518. He also had the pleasure of receiving a Latin letter signed on the actual anniversary by Fellows of the College now serving with the armies in France. Dr. Norman Moore continues in his own person the traditions of learning and scholarship by which the College over which he now presides has been distinguished for four centuries, and those who are acquainted with his command of our flexible language will be ready to believe that his address was as agreeable to hear as they will find it delightful to read in the full version published at p. 491. The College has great traditions, which its President to-day is specially competent worthily to maintain, and we make no doubt that under his guidance it will take a great share in moulding the legislation now in contemplation, ever stimulating us all, to quote words from Harvey's deed of gift, to remember that "*Concordiæ res parvæ crescunt, discordiæ magnæ dilabuntur.*"

#### PUBLIC HEALTH IN ENGLAND AND WALES.

THE Supplement to the Forty-seventh Report of the Local Government Board, containing the report of the medical officer for 1917-18, has just been issued.<sup>1</sup> In his review of the public health of England and Wales during the twelve months ending March 31st last Sir Arthur Newsholme introduces an account of the improvements in health and life that have occurred since the Local

Government Board was formed in 1871. His reason for making this departure will be plain to all who have followed the course of recent events. Never before in the history of this country has the importance of national health been so well recognized. In his survey of forty-seven years' progress Sir Arthur Newsholme, however, avoids the more controversial aspects of possible administrative changes. While admitting the need for simplification of administrative machinery and for extension of public health and medical work, he believes that an important obstacle to further advance is lack of knowledge of present methods and of what has already been done by local authorities in securing better conditions of life for the people. The improvement, as shown, for instance, by the death-rate figures and the greatly reduced prevalence of enteric fever, has, of course, been very great; it can be traced to a number of interacting social and sanitary causes. More than a quarter of a million fewer persons die annually than would die if the experience of the decennium 1871-80 had continued. This implies an enormous annual saving in sickness and disability, and in poverty as well, for one of the chief causes of poverty is sickness. On the whole Sir Arthur Newsholme considers that the results achieved by local authorities justify the expenditure incurred, but the "combination of smaller authorities is needed to avoid in the future redundant small schemes and Lilliputian administrative arrangements." There remains, however, a vast amount of preventable mortality and sickness, and of disability resulting from preventable sickness. The needs of the future are grouped under three chief headings: (1) Research into the causation of disease on a much larger scale than has hitherto been attempted; (2) extension of communal action for the prevention and treatment of disease and more complete training of the medical profession for this work; (3) simplification and strengthening of administrative machinery. As to the first of these, the list of diseases awaiting intensive investigation is long. As to the second, Sir Arthur Newsholme advocates better training in preventive medicine for all medical students and a three months' course of training in some special branch of medical knowledge once in every third year for all medical practitioners. The teaching of medicine, he holds, should be much more physiological and hygienic than it is at present, in order to bring about the ideal condition in which every doctor would be a medical officer of health within the range of his own practice. The third heading leads directly to the question of a Ministry of Health, and upon this subject a number of irreproachable opinions are expressed. The remainder of the report and the appendices are largely given up to a review of the year's work in relation to maternity and child welfare and the prevention of acute infectious diseases.

#### THE COVENTRY CASE.

WE announced in our last issue that the Council of the Association has decided to appeal against the judgement delivered by Mr. Justice McCardie in the action of Pratt and others and the British Medical Association and others, which was fully reported in the SUPPLEMENT. The case, therefore, remains *sub judice* and comment is precluded. It is nevertheless permissible to state that the action lay in three branches—namely, conspiracy, libel, and slander—and that (in the words of the judge) the claim for conspiracy was of infinitely the greatest moment, as the points thereby raised touch every profession, trade and pursuit. It is especially in consequence of the finding of conspiracy, which overshadows all other matters, that an appeal was decided to be entered, it being felt impossible for the British Medical Association to allow a judgement to stand unchallenged which condemns them in damages for malicious conspiracy. On October 25th the case came up again for argument before Mr. Justice McCardie, upon points relating to the judgement to be entered and the

<sup>1</sup> Cd. 9169. London: H.M. Stationery Office. Price 1s. 3d. net.



terms of injunction. The proceedings had not concluded when the judge rose, and the matter, therefore, stands over for further discussion, as reported on p. 502.

A CONFERENCE is taking place this day (Friday) between the Minister of National Service and representatives of the central professional committees, with regard to medical demobilization. The Central Medical War Committee, feeling that special consideration ought to be shown to the personal claims of officers who were suddenly called up for service at the outbreak of war, has already forwarded a resolution to this effect to the Ministry of National Service, for transmission to the Inter-Departmental Committee on Demobilization.

MR. LOUIS ALBERT DUNN, surgeon to Guy's Hospital, left estate of the net value of £56,634. He bequeathed to Guy's Hospital the gold medal awarded by the London University when he took his degree as Master in Surgery, being the first of its kind ever won by a Guy's man. The residue of his property was left in trust for his two brothers for life, with ultimate remainder to Guy's Hospital for the Medical School.

## Medical Notes in Parliament.

**R.A.M.C.(T.) Promotions.**—Mr. Macpherson, in reply to Sir Francis Blake, on October 29th, said that in accordance with the recommendations of the Committee on Promotion of Officers in the Special Reserve, New Armies, and Territorial Forces, a seniority list had been prepared for all officers of the Royal Army Medical Corps Territorial Force other than the administrative and *à la suite* staffs of Territorial Force general hospitals and the Sanitary Service. This list was included in the *Army List*. The establishment authorized was: Colonels, 19; lieutenant-colonels, 107; and the existing numbers of officers of these ranks were—colonels, 8; lieutenant-colonels, 75. Promotion to the rank of major being governed by a time qualifying period, the establishment for this rank was not limited. The actual promotions consequent upon the determination of the establishments were under consideration, and would be published as soon as possible after the receipt of the information which it was essential to obtain from the theatres of war where the officers concerned were serving.

**Pay Allowances and Gratuities: R.A.M.C.(T.).**—In reply to a question asking whether the differences in pay, allowances and gratuities between contract officers of the R.A.M.C. and officers of the R.A.M.C.(T.) would be done away with, the Financial Secretary to the War Office said that he could add nothing to the reply made on February 21st. On that occasion Mr. Forster said the matter had been fully considered by the Cabinet Committee on Officers' Pay, which decided not to make any change. He added that Territorial officers got the same emoluments as regular officers, and, like them, would get the new children's allowances at full rates in the junior ranks, while officers serving under special contract would get half rates only.

**Honorary Commissions for Women Doctors.**—Sir Philip Magnus asked Mr. Macpherson, on October 22nd, whether having regard to the fact that women doctors serving in military hospitals discharged similar duties and received the same pay as men doctors, and were entitled to wear the R.A.M.C. badge, he would take steps to rectify the anomaly of their being refused even honorary commissions or the right to wear badges of rank which would be helpful to them in maintaining discipline. Sir Philip also asked whether it could be arranged that these ladies should obtain equivalent relief from income tax to that granted to men doctors under the service rate. Mr. Macpherson replied that the first question was under reconsideration, the second should have been addressed to the Treasury.

**R.A.M.C. Officers in India.**—In reply to Colonel Yate, on October 29th, who inquired as to the relief of time-expired R.A.M.C. officers in India, Mr. Macpherson said that twenty-four officers had been sent to India in relief of a similar number time-expired, and two were awaiting passage. Until the relieved officers returned home it was impossible to spare further officers for the purpose, as the system involved the loss of the services of the officers for a period of two or three months.

**Insurance.**—Sir Edwin Cornwall stated, on October 28th, that though since 1911 some 20,000 tuberculous persons had received dispensary and domiciliary treatment, this left a regrettable number of cases for which accommodation was lacking. The war had interfered with building operations. On October 24th he stated that there was no intention at present to introduce legislation to amend the provision as to the income limit. The circular issued in June pointing out that insured persons whose income exceeded £160 a year would lose medical benefit merely defined the legal position.

**Midwives Bill.**—The Midwives Bill has passed through the House of Commons, the clause preventing county councils from making any fresh delegation being retained. It was read a second time in the House of Lord on October 29th.

# THE WAR.

## CASUALTIES IN THE MEDICAL SERVICES.

### ROYAL NAVY.

#### *Died on Service.*

**SURGEON-SUBLIEUTENANT T. CARLYLE, R.N.V.R.**

Surgeon-Sublieutenant Thomas Carlyle, R.N.V.R., died of pneumonia in St. Bartholomew's Hospital on October 21st, aged 24. He was the only son of Lieut.-Colonel Carlyle.

### ARMY.

#### *Killed in Action.*

**CAPTAIN C. L. DOLD, R.A.M.C.**

Captain Cedric Lewis Dold, R.A.M.C., was reported as killed in action, in the casualty list published on October 22nd. He was educated at Edinburgh University, where he graduated M.B. and Ch.B. in 1914, took a temporary commission as lieutenant in the R.A.M.C. on August 12th, 1914, and was promoted to captain on completion of a year's service. He was attached to the South Wales Borderers (24th Foot) when killed.

**CAPTAIN J. JAMES, R.A.M.C.**

Captain John James, R.A.M.C., attached Highland Light Infantry, was reported as killed in action, in the casualty list published on October 22nd. He was educated at King's College, London, where he gained the Warneford medical entrance scholarship, and the Sambrooke medical exhibition and second year scholarship, and took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1903, also graduating M.B.Lond. in 1904, and B.S. in 1906. After acting as assistant house-surgeon and as senior house-surgeon at Westminster Hospital, as house-physician at the Seamen's Hospital, Greenwich, and as resident medical officer of Westminster Dispensary, he entered the R.A.M.C. as lieutenant on February 4th, 1908, took the De Chaumont prize in hygiene at the R.A.M. College, and became captain on August 4th, 1911.

**CAPTAIN E. L. JONES, R.A.M.C.**

Captain Evan Laurence Jones, R.A.M.C., was reported as killed in action, in the casualty list published on October 22nd. He was educated at Guy's Hospital, took the diploma of L.M.S.S.A. in 1913, and was in practice in Fulham till he took a temporary commission as lieutenant in the R.A.M.C. in 1916, being promoted to captain after a year's service. He was attached to the Highland Light Infantry when killed.

**CAPTAIN J. G. MACNEILL, M.C., C.A.M.C.**

Captain James Grant MacNeill, M.C., C.A.M.C., who was killed in action on October 12th, was born in St. Stephen, N.B., Canada, on October 17th, 1893. He graduated in medicine at Queen's University in 1916, and left Canada in May of that year. He went to France in August, 1916, and served with a field ambulance and as regimental medical officer. He was awarded the M.C. in July, 1918.

**CAPTAIN P. J. O'REILLY, M.C., R.A.M.C.**

Captain Patrick Joseph O'Reilly, M.C., R.A.M.C., attached East Yorkshire Regiment, was returned as killed in action, in the casualty list published on October 26th. He took the diplomas of L.R.C.P. and S.I. in 1914, joined the R.A.M.C. as temporary lieutenant on October 21st, 1914, and was promoted to captain a year later. He received the Military Cross on November 14th, 1916.

**CAPTAIN J. J. TOUGH, R.A.M.C.**

Captain John James Tough, R.A.M.C., was killed instantly on October 7th in an advanced dressing station in France whilst attending to the wounded. He was the last surviving son of Dr. W. R. Tough of Accrington, and was educated at the University of Edinburgh, where he graduated M.B., Ch.B. in 1910. He obtained a temporary commission in the R.A.M.C. in May, 1916, and after serving in India and Italy was transferred to France, where he had only been ten days when killed. He leaves a widow and a young daughter. His younger brother, Captain Arnold B. Tough, L.D.S., 11th East Lancs., was killed leading his men on July 1st, 1916.



*Died of Wounds.*

MAJOR S. S. B. HARRISON, M.C., R.A.M.C.

Major Stanley Sextus Barrymore Harrison, M.C., R.A.M.C., died of gas poisoning in France on October 10th. He was educated at Guy's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1914. He had long been a Territorial officer, and went to the front in the early months of the war. Later he passed into the R.A.M.C. His whole service was spent on the Western front, and he died from the effects of a high explosive and gas shell, which landed in the door of his dug-out. He was the youngest son of Mr. Henry Barrymore Harrison of Anerley, S.E., and brother of Lieut.-Colonel C. B. Harrison, I.M.S.ret. He won the Military Cross last year.

CAPTAIN A. A. PARKER, M.C., C.A.M.C.

Captain A. Allan Parker, M.C., C.A.M.C., who died of wounds on October 12th, was born on October 4th, 1892, at Mimico, Ontario. He graduated in medicine at the University of Toronto in 1914. He sailed from Canada in May, 1916, and after serving in England went to France in December, 1916. He was on the strength of a Canadian field ambulance, serving for short periods as M.O. with the 1st Canadian H.A. and a Canadian casualty clearing station. He was awarded the M.C. in October, 1917.

*Lost at Sea.*

MAJOR C. W. DUGGAN, R.A.M.C. (RET.).

Major Charles William Duggan, R.A.M.C. (ret.), Reserve of Officers, was lost at sea, through enemy action, on October 10th, aged 51. He was born on October 14th, 1866, and educated at Edinburgh University, where he graduated M.B. and C.M. in 1887, subsequently studying at Vienna, Prague, and Paris. After acting as assistant to the professor of physiology at Edinburgh he entered the R.A.M.C. as surgeon-captain on July 28th, 1891, becoming major on July 28th, 1903, and retiring on July 28th, 1909. He served in the West African campaign of 1893, and after his retirement was employed at Lincoln.

CAPTAIN D. BURNS, R.A.M.C.

Captain Digby Burns, R.A.M.C., was reported as drowned, in the casualty list published on October 22nd. He took the diplomas of L.R.C.P. and S.I. in 1912, after which he went into practice in Dublin, till he took a temporary commission as lieutenant in the R.A.M.C. in January, 1916, being promoted to captain after a year's service.

CAPTAIN R. E. LEE, R.A.M.C.

Captain Robert Ernest Lee, R.A.M.C., was reported as drowned, in the casualty list published on October 23rd. He was educated at Trinity College, Dublin, where he graduated M.B., B.Ch., and B.A.O. in 1910, and M.D. in 1911. After acting as senior house-surgeon of Bootle Borough Hospital, he went into practice at Blackrock, co. Dublin. He took a temporary commission as lieutenant in the R.A.M.C. on August 15th, 1914, and was promoted to captain after a year's service.

CAPTAIN M. MURPHY, R.A.M.C.

Captain M. Murphy, R.A.M.C., was reported as drowned, in the casualty list published on October 23rd. There are two temporary officers of this name and rank in the R.A.M.C.

LIEUTENANT R. J. BASSETT, R.A.M.C.

Lieutenant R. J. Bassett, R.A.M.C., was reported as drowned, in the casualty list published on October 23rd. He had only recently qualified, and took a temporary commission as lieutenant in the R.A.M.C. early this year.

*Died on Service.*

COLONEL G. H. VAN ZYL, S.A.M.C.

Colonel G. H. Van Zyl, South African Medical Corps, Commandant of Maitland Military Hospital, died of pneumonia, aged 41, on October 10th, at Wynberg, Cape Province.

MAJOR R. H. MCGILICUDDY, M.C., R.A.M.C.

Major Richard Hugh McGillicuddy, M.C., R.A.M.C., died of pneumonia at sea on October 20th. He was the younger son of the McGillicuddy of the Reeks, and was educated at University College Hospital, London, taking the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1911, after

which he took up the post of district medical officer of No. 7 Ward, Borough of St. Pancras. He joined the R.A.M.C. as a temporary lieutenant on July 4th, 1915, was promoted to captain after a year's service, and to an acting majority in the beginning of this year. He received the Military Cross on January 14th, 1916.

MAJOR J. H. McNICOL, M.C., R.A.M.C.

Major John Hart McNicol, M.C., R.A.M.C., is reported as having died recently. He was the son of Mr. John McNicol of Dennistoun, Glasgow, and was educated at Glasgow High School and University, where he graduated M.B. and Ch.B. in 1909, subsequently filling the posts of house-surgeon of Glasgow Royal Infirmary and of assistant to the professors of pathology and of materia medica in that institution. He took a temporary commission as lieutenant in the R.A.M.C. on October 10th, 1914, was promoted to captain after a year's service, and subsequently to an acting majority. He had twice been mentioned in dispatches, received the Military Cross on July 3rd, 1915, and was recently attached to the Suffolk Regiment.

MAJOR C. W. C. MYLES, M.C., R.A.M.C. (T.F.).

Major Charles William Chester Myles, R.A.M.C. (T.F.), died of pneumonia on active service in Palestine on October 19th. He was born on November 5th, 1885, the younger son of the late Dr. James P. Myles of Birr, Ireland, and was educated at Trinity College, Dublin, where he graduated as B.A. in 1908, and as M.B., B.Ch., and B.A.O. in 1912, after which he went into practice at Merthyr Vale, Glamorgan. Always keen on military work, he had been a member of the Dublin University O.T.C. since its inception, and shortly after removing to South Wales he was gazetted lieutenant in the 2nd Welsh Field Ambulance (T.F.). He joined his unit in August, 1914, and after training in England embarked for the Dardanelles in July, 1915, having previously been promoted captain. He served in the peninsula until the evacuation, and since that time had been continuously in Egypt and Palestine. For his work at the first battle of Gaza he was mentioned in dispatches, and awarded the Military Cross (January, 1918). He was a most zealous and hard-working officer, and his promotion to the rank of major in July last was well deserved. Overwork had twice within the past twelve months caused a serious breakdown in health, and he only returned to duty for the last time about the middle of September. He succumbed to pneumonia on October 19th, when a most promising career was brought to a close.

MAJOR T. C. RUTHERFOORD, I.M.S.

Major Thomas Carrie Rutherford, Indian Medical Service, died of malaria on active service abroad on October 18th, aged 39. He was born on November 13th, 1878, the eldest son of the late T. B. Rutherford, and educated at St. Thomas's Hospital and Durham University, where he graduated M.B. and B.S. in 1902, also taking the diplomas of M.R.C.S. and L.R.C.P.Lond. in the same year. He entered the I.M.S. as lieutenant on January 31st, 1903, became captain on January 31st, 1906, and major on July 31st, 1911, and at the time of his death was acting as lieutenant-colonel in command of a field ambulance. Before the war he was serving in civil employment in the Central Provinces as civil surgeon of Bilaspur.

CAPTAIN F. O. SPENSLEY, R.A.M.C.

Captain Frank Oswald Spensley, R.A.M.C., died of pneumonia at Burden Military Hospital, Weymouth, on October 23rd. He was the youngest son of the Rev. James Spensley, was educated at St. Thomas's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1907. After acting as house-surgeon of Lowestoft Hospital he took the post of senior assistant medical officer of the Darenth industrial colony at Dartford, Kent. He took a temporary commission as lieutenant in the R.A.M.C. in November, 1916, and was promoted to captain after a year's service. He had served at Salonica up till November, 1917, when he was invalided home, and had latterly been attached to the R.A.F. at Blandford.

*Wounded.*

Lieut.-Colonel W. W. Boyce, R.A.M.C.

Major H. C. Adams, R.A.M.C. (T.F.).

Major J. F. Burgess, Canadian A.M.C.

Major W. W. Wells, R.A.M.C. (temporary).



Captain W. A. Coats, R.A.M.C. (temporary).  
 Captain W. E. R. Diment, R.A.M.C. (temporary).  
 Captain W. E. Elliot, R.A.M.C. (S.R.).  
 Captain J. M. Elliott, R.A.M.C.  
 Captain M. L. Farmer, R.A.M.C. (temporary).  
 Captain D. A. Gardiner, R.A.M.C. (temporary).  
 Captain H. L. Garson, R.A.M.C. (S.R.).  
 Captain E. W. D. Hardy, M.C., R.A.M.C. (temporary).  
 Captain R. M. C. Hill, D.S.O., R.A.M.C. (temporary).  
 Captain S. Hodgson, M.C., R.A.M.C. (temporary).  
 Captain G. Moore, R.A.M.C. (T.F.).  
 Captain J. D. Stewart, Canadian A.M.C.  
 Lieutenant F. L. Richard, R.A.M.C. (S.R.).

#### DEATHS OF SONS OF MEDICAL MEN.

Campbell, Donald Rhodes, Lieutenant Royal Navy, youngest son of Dr. D. Campbell of Brixton Hill, drowned recently on service, aged 22.

Cotes, Digby Charles Bathe, Captain Prince of Wales North Staffordshire Regiment, only son of Dr. D. F. B. Cotes of Burton-on-Trent, died of wounds October 15th. He was educated at Ellesmere College, Shropshire, and matriculated at Trinity College, Dublin. He got his commission on September 1st, 1914, was promoted to lieutenant on May 1st, 1915, served in Gallipoli, where he was severely wounded on August 8th, 1915, served in another battalion in France, came home on sick leave in March, 1918, and had only recently returned to the front.

Gardner, Norman, Second Lieutenant Duke of Wellington's West Riding Regiment, youngest and last surviving son of the late Dr. John Gardner of Helensburgh, killed October 2nd.

Johnston, Landal, Lance-Corporal Argyll and Sutherland Highlanders, youngest son of Dr. Johnston of Methven, Perthshire, died of wounds, October 15th, aged 19.

Lane, J. D. A., Midshipman Royal Naval Reserve, only son of Captain H. Angell Lane, R.A.M.C., of Chelsea, lost at sea, on duty, on October 15th, aged 19.

Lundie, R. C., D.S.O., Major Royal Engineers, only son of Dr. R. A. Lundie of Edinburgh, killed in action on October 14th 1915. He was educated at Edinburgh Academy and at Christ's College, Cambridge, was a civil engineer by profession, and was in Canada when war was declared. He joined the R.E. Special Reserve as lieutenant on January 27th, 1914, joined for duty on August 19th, 1914, went to the front in July, 1915, was promoted successively to captain and major, had twice been mentioned in dispatches, and received the D.S.O. in June, 1917.

McCreery, Mona J. N., Captain Royal Dublin Fusiliers, son of the late Colonel N. McCreery, R.A.M.C., died suddenly of pneumonia at the Military Hospital, Grimsby, on October 21st. He got his first commission on August 15th, 1914.

Quayle, Rupert Charles, Second Lieutenant Leicestershire Regiment, aged 25, youngest son of Colonel W. A. Quayle, I.M.S., ret., of Strangford, co. Down, whose death in action we announced last week, was educated at Charterhouse, where he held a scholarship for four years. In May, 1918, while at school, he gained a scholarship at Christ Church, and in December of the same year he gained an open scholarship at Queen's College, Oxford. He obtained his commission in November, 1917, and went out to France early in January, 1918.

Scotland, D. Lothian, Lieutenant Machine Gun Corps, aged 23, died of gas shell wound, the eldest surviving son of Lieutenant-Colonel D. W. Scotland, I.M.S. (ret.), of Colinton, Midlothian. He received his commission in the Royal Scots in October, 1914, from the O.T.C. of Edinburgh University, where he was an engineering student. He served in France with the Royal Scots during the winter of 1915-16, and was transferred to the Machine Gun Corps on its institution. He was severely wounded in the battle of the Somme in 1916. He returned to the front in April of this year, and had been engaged in heavy fighting. His younger brother, who is a lieutenant in the Indian army, was wounded in Mesopotamia last year and is now serving in Palestine.

Walters, Herbert Aidan, Second Lieutenant Royal Air Force, second son of Rev. F. W. Walters, M.A., M.R.C.S., L.R.C.P., District Surgeon Midwande, Zululand, killed accidentally in Flanders, April 7th, 1918, while flying. He was born at Avenley on October 17th, 1892, received his education at Michaelhouse, Natal, and entered the Union Civil Service in the Department of Justice. He was a nephew of the late Deputy Surgeon-General Mansfield, R.N., M.V.O., and of Dr. J. B. Walters of London, and had served in German South-West Africa as sergeant in the Natal Carabineers.

Young, James Christian Lawrence, General Staff Officer 3rd Canadian Division, son of Lieutenant-Colonel James Young, R.A.M.C. (T.F.R.), of Alexandra Square, London, S.W., killed October 13th, aged 22.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]

#### HONOURS.

##### Bar to D.S.C.

Surgeon Alfred Robinson MacMullin, D.S.C., R.N., has been awarded a bar to the Distinguished Service Cross.

For services with the 63rd (Royal Naval) Division in France. He worked incessantly day and night for three days to succour the wounded. Three without number, when the enemy shelling and machine-gun fire was at its worst, he walked about in the most exposed places, and to the wounded, being actually shot at to his face. The result was that the lives of many were saved who might otherwise have been blown to pieces. They say that at the close of the operations his untiring bravery won the admiration of all who saw him.

Temporary honorary Major Varaztad H. Kazanjian, Harvard Unit, attached No. 20 General Hospital, has been appointed a Companion of the Order of St. Michael and St. George in recognition of services rendered in connexion with military operations in France.

## Scotland.

#### STATUS OF LECTURERS AND ASSISTANTS IN THE UNIVERSITY OF EDINBURGH.

At the meeting of Edinburgh University General Council on October 25th the recommendations of the conference of representatives of the general councils of the four Scottish universities, regarding the status of lecturers and assistants, were considered and referred to the University Court. The recommendations included the following as to the method of grading and salaries:

Grade III.—Assistants, who should be appointed annually, but not reappointed after a period of five years. Grade II.—Lecturers, whose appointments should be permanent after a service of not less than five years, including a probationary period of three years as lecturer. Service in other British universities may be taken into account in determining seniority and length of probationary period. Grade I.—Associate professors, who, on account of recognized eminence in teaching or research, should be appointed originally to this grade or promoted to it from Grade II. No appointment to this grade should be made solely on the ground of length of service. The recommendation in regard to salaries and pensions provided that, under Grade III, while the exact sum should be left to the University Court, the minimum salary should be £200, and there should be a definite understanding regarding time allowed for research. Under Grade II the salary should be £350, rising after a period of five years, by annual increments of £50 to £600, and under Grade I the salary should be £500, rising by annual increments of £50 to £750. Lecturers in Grades I and II should be placed on the same footing as regards pensions as professors, such time as must be spent as assistant or as probationary lecturer to be taken into account. Any rule that might at any future time be made regarding a retiring age for professors should apply also to permanent lecturers.

#### THE NEW REGISTER AND PARLIAMENTARY VOTING.

Under the Representation of the People Act, 1918, the Council Register of the University of Edinburgh by an Order in Council of March 4th, 1918, was revised up to April 15th last, and was published and came into force on October 1st. It contains 13,095 names, including those of 869 women who are entitled to vote in a parliamentary election, and 854 women, who, being under the age of thirty years, are ineligible to vote. The university voting is taken by means of voting papers, which, in terms of the Act, will be sent only to those electors who appear from the register to be resident within the United Kingdom or the Channel Islands. These have to be duly signed, attested, and posted to the registrar. Any elector who appears not to be so resident may request the registrar to send a voting paper to him to an address within the United Kingdom or the Channel Islands. Voters serving with the forces in areas on land abroad, other than France and Belgium, are entitled, instead of voting by post, to vote by proxy, and may apply to the registrar for a form of appointment of proxy.

## Ireland.

#### COUNTY WEXFORD LOCAL MEDICAL COMMITTEE.

At a meeting of the County Wexford Local Medical Committee, held recently at Enniscorthy, with Dr. T. J. Kelly in the chair, Dr. W. W. Murphy, honorary secretary, stated that all the doctors in the county had signed the



pledge, approved at the delegates' meeting held last May in Dublin, undertaking not to sign, or accept, the position of any doctor who had resigned or had ceased work for the purpose of its improvement. The following resolution was unanimously passed:

That the medical officers of Enniscorthy, Wexford, and New Ross Unions make suitable applications to their respective boards of guardians to fix, in each case, a reduced scale of salaries in accordance with the scale approved by the meeting of delegates held in Dublin on May 29th, 1917.

The meeting expressed its sympathy with Dr. T. J. Kelly on his arbitrary suspension by his board of guardians, and congratulated his colleagues in Enniscorthy on refusing the invitation of the guardians to discharge his duties, which action had led to his speedy reinstatement.

The scheme for the treatment of discharged disabled soldiers was considered, and though the capitation fee of 15s., to include the supply of drugs, etc., was considered inadequate for the proper treatment of such cases, it was resolved to give it a fair trial.

The valuable services rendered to the profession by the Committee were acknowledged, and the following members subscribed 10s. each towards its funds: Drs. M. Delany, M. K. O'Brien, F. Nolans, J. B. Ryan, W. G. Shorten, T. J. Kelly, G. A. Hickey, W. C. Lawler, P. Kinsella, S. V. O'Connor, J. O'Regan, B. Connolly, J. A. Pierce, P. D. Murphy, M. W. Kelly, C. R. Boyce, M. Walshe, W. W. Murphy. Dr. W. C. Lawler was unanimously appointed deputy representative for County Wexford on the Committee.

## Correspondence.

### THE FUNCTION OF THE CARDIAC VAGUS.

SIR,—If the question of the cardiac vagus were one of pure physiology I should no more venture to differ from Professor Bayliss than to argue with the Regius Professor of Greek about a passage in Euripides. But as it is also a matter of words, logic, mechanics, and energetics, H. O. Thomas, to say nothing of anyone else, may perhaps be acquitted of prejudice or ignorance if he found no convincing proof of inhibitory nerves. It was his very freedom from prejudice and his strong objective mind which led him to doubt the evidence. To assume that there is some quality or "influence" which weakens a mechanico-physical process such as the heart-beat must have seemed to him almost mystical. That cases are observed where "lessened action" takes place is undeniable, but that it occurs *directly* without any intelligible link, or some substituted antagonistic action, appears contradictory to the whole doctrine of energetics. Such direct weakening is without analogy save in "shock." I cannot agree with Professor Bayliss that to explain experimental cardiac inhibition by shock is to explain the simpler by the more complex. Shock may be roughly defined as a state of functional failure resulting from excessive and disintegrating excitation. Logically no definition can be given of inhibition which suggests the actual factors producing the effect.

When we consider the probable delicacy of such stimuli as result in normal vagal action, experimental excitation may well approximate in its results to shock. Physiologically the cardiac vagus may be stimulated by slight changes in blood pressure, and even by alterations in posture or breathing. Sir James Mackenzie states that the vagus is sensitive to very slight stimulation. In one case mere swallowing stimulated the vagus and produced heart-block. He attributes youthful vagal irregularity to acts of breathing. It is, therefore, easy to understand how such a sensitive mechanism may produce great, even grave, results under artificial stimulation. If physiology is to make secure that final passage to physics which Professor Bayliss, more than any one, has taught me to look for, some method should be found to reconcile the contradictions in cardiac and intestinal vagal action, and thereby enable us to classify inhibition under recognized mechanical law, or to do without the conception altogether. It may, perhaps, be discovered that some of the dissatisfaction with current theory can be obviated by means of a different terminology in which the "lessened action"

of reciprocal innervation—that seen in the preliminary pause of intestinal action, and the peculiar phenomena observed in the heart—are not classed together under one word of very doubtful connotation.—I am, etc.,

LONDON, N.W., Oct. 1918.

MORLEY ROBERTS.

### WHOOPING-COUGH AND LYMPHAEMIA.

SIR,—In my short note I intended to convey that amitotic division of lymphoid cells in the blood was not uncommon in whooping-cough. For years I have been familiar with this, but to a less extent, in the blood of typhoid and malaria—in short, in monocytosis. Although his words are "undergoing mitosis," I inferred from the context that Dr. Gordon Ward referred to the same thing and appeared to think it useful in the diagnosis of lymphæmia. I have never seen mitotic figures in lymphæmic blood, and amitotic division, we are agreed, is too common to be of any value.

In reply to his suggestion (p. 450), I may state that in my cases of whooping-cough (now quite well) there was no evidence of enlarged spleen or swollen glands. There was little bronchial catarrh or pyrexia, and the general health was little disturbed, so that enlarged tracheo-bronchial glands was an improbable cause of the lymphocytosis.

The comparatively frequent nuclear division suggested the action of a toxin auxetic to lymphoid tissue, in children particularly in the bone marrow. The number of immature lymphocytes, naked forms, perhaps corroborated this. The plasma cells are generally accepted as evidence of such tissue irritation or stimulation. It is remarkable that plasma cells are not oftener mentioned. As Leishman's stain shows them well enough, they must be overlooked every day in the examination of malarial blood. In the prevalent influenza-like epidemic there are often 1 to 2 per cent. about the fourth day or later—usually as big, deep blue cells with large, round, purplish nucleus. They accompany a monocytosis oftener than myelocytes accompany a leucocytosis.—I am, etc.,

LONDON, W., Oct. 1918.

ROBERT CRAIK.

### THE FUTURE OF THE MEDICAL PROFESSION.

SIR,—Judging from the correspondence in the *BRITISH MEDICAL JOURNAL* concerning a State medical service, it does not seem to occur to the writers that the medical men now serving in the navy and army have any right to be consulted. Many of these men left their practices at the beginning of the war. These practices have been absorbed by those remaining at home, who naturally desire that this state of affairs should continue. They know that they would not obtain so much under a State service. But what about the men who have lost all owing to their patriotism and have nothing to return to? Some of us will have been away for five or six years.

I have served in several theatres of war and have met no officers who are not in favour of a State medical service. There is considerable bitterness felt by these for the members of the profession at home who are acting as mouthpieces for us and misleading men like Mr. Sidney Webb.—I am, etc.,

September 24th.

LIEUT.-COLONEL R.A.M.C.(T.F.).

The Municipal Waterworks Association has arranged to admit all municipal and local government authorities possessing water undertakings, and all water companies, to membership, and has changed its name to the British Waterworks Association. The chief objects of the association are to bring together representatives of water authorities for the consideration and discussion of questions affecting their general interests and to facilitate the acquisition of knowledge and information. It is proposed to create a joint industrial council for the waterworks undertakings industry, in accordance with the recommendations of the Whitley report. In consultation with the Provincial Water Companies' Association it has framed, at conferences convened by the Ministry of Labour, a constitution for the council. In accordance with the Whitley report it contemplates the establishment of three bodies representative both of the management and the workers—namely, a national council, districts councils for areas, and a consultative council for each separate undertaking.



## Medico-Legal.

### THE COVENTRY CASE.

*Pratt v. Association of the British Medical Association and Others.*

This case was mentioned to Mr. Justice McCardie on October 25th, on an application to enter formal judgment. A report of the learned judge's judgment appeared in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL for last week. The damages awarded to the various plaintiffs amounted in all to the sum of £3,210.

On an application that judgment be entered,

Mr. Schwabe, Q.C., appeared with Sir Hugh Fraser, for the plaintiffs, asked that judgment might be entered for the amounts awarded. They were not quite agreed as to the figures, but his learned friend (Mr. Hollis Walker) and the Association had worked them out at £3,210. As to his Lordship's ruling that the defendants were to have the costs of issues on which they succeeded, this he understood to refer to certain of the alleged libels and slanders upon which the plaintiffs had failed. As to these, he desired to point out that since all the libels and slanders were relied on as part of the conspiracy, there ought to be no separate costs.

Mr. Justice McCardie: Do you say there was only one cause of action?

Mr. Schwabe: No. I allege a series of independent torts. I do not desire to abandon any cause of action.

Mr. Justice McCardie: In so far as any charge of libel or slander has failed the defendants are entitled to the costs of it. As I have already intimated, they are entitled to the costs of certain issues.

Mr. Schwabe then applied for the costs of the shorthand notes.

Mr. Justice McCardie: Was it agreed that they should be costs in the cause?

Mr. McCall: No, my lord. The plaintiffs were asked to agree, but refused to do so. The note was prepared and transcribed at our expense.

Mr. Schwabe said that he only asked for the costs of the shorthand note of the interlocutory proceedings and of so much of the transcript of the evidence as they had found it necessary to take up. They were bound to get a copy of some of the evidence, because it was referred to by counsel for the defendants.

Mr. Justice McCardie: You have lost nothing by the courtesy of your opponents in supplying you with a copy of the shorthand note. There is no precedent for this application. Although the case was long and complicated the evidence was not intricate.

Mr. Schwabe was then about to refer to the proposed injunction.

Mr. McCall: I admit that the plaintiffs are entitled to have their undertaking which was given before the Lord Chief Justice extended for any reasonable time after the declaration of peace, or until an appeal has been heard, whichever shall last happen.

Mr. Schwabe: The plaintiffs would prefer an injunction.

Mr. Justice McCardie: This case has given me great pain. I should prefer that the plaintiffs gain their object by an undertaking rather than by the stern formality of an injunction. If there is an appeal and the plaintiffs succeed and the Court of Appeal see fit, it may grant an injunction. I am very reluctant to submit these members of a great profession to an injunction. The whole future of the medical profession depends on the loyalty with which its members now serve the national interests.

At this point his Lordship intimated that as he had urgent business elsewhere the further hearing of the application would have to be adjourned.

## The Services.

### AUXILIARY ROYAL ARMY MEDICAL CORPS FUNDS.

The annual general meeting was held on October 25th. Sir Alfred H. Keogh, G.C.B., G.C.V.O., was re-elected president; Lieut.-General T. H. J. C. Goodwin, C.B., D.G.A.M.S., was elected as the new vice-president; and Major W. F. Brook, Colonel Sir Thomas Crisp English, A.M.S., Colonel J. B. Gemmell, and Lieut.-Colonel S. F. Irvine were elected to the vacancies on the committee.

The report of the recommendation of the Committee for Grants up to September 31st, 1912, was adopted. Grants amounting to £3,210 had been made in the Benevolent Branch to the orphans of eleven officers, and in the Relief Branch amounting to £1,108 to the widows and orphans of one corporal and five privates.

At a committee meeting held previously grants were made to orphans of seven officers amounting to £240, and to the widow and orphans of six members of the rank and file amounting to £234. These funds are for the education of the children of officers of the Auxiliary Royal Army Medical Corps who have lost their lives during the present war, and have been severely

disabled by it; also for the widows and children of similar members of the rank and file.

Requests for help as well as subscriptions should be addressed to the Honorary Secretary, 11, Chandos Street, Cavendish Square, London, W.1.

## Universities and Colleges.

### UNIVERSITY OF CAMBRIDGE.

At a congregation held on October 25th the degree of Bachelor of Surgery was conferred by proxy on C. H. Cresswell.

## Obituary.

### R. BRUDENELL CARTER, F.R.C.S.

Consulting Ophthalmic Surgeon to St. George's Hospital.

MR. BRUDENELL CARTER died at his residence at Clapham Common on October 2nd, a few weeks after completing his 90th year. He was an ophthalmic surgeon of distinction, but the influential position he held in London for many years was due to his long association with the *Times*. By his connexion with that paper he was in a position to place the views of the medical profession on subjects of the day before the general public, and the lucidity of his style always enabled him to do so with effect.

He was the son of Major Carter of the Royal Marines, and was born at Little Wittenham, in Berkshire, of which his grandfather was vicar. He received his medical education at the London Hospital, became M.R.C.S. in 1851, and L.S.A. in the following year. After practising in the neighbourhood of London for a couple of years he went out to the Crimea as staff surgeon in Turkey, and received the English and Turkish medals. There he made the acquaintance of Sir W. H. Russell, the famous correspondent of the *Times*, through whom he contributed a series of letters to that paper. After the war he again practised in the neighbourhood of London, and afterwards in Nottingham, where in 1859 he took part in the foundation of the Nottingham and Midland Eye Infirmary. In 1862 he went into partnership in Stroud, where he had a large share in the establishment of the Gloucestershire Eye Institution. He took the F.R.C.S. in 1864, and when his partnership terminated in 1868 settled in London as ophthalmic surgeon, renewed his connexion with the *Times*, and became a regular contributor to the *Lancet*. In the following year he became surgeon to the Royal Eye Hospital, Southwark, a post he retained until 1877. He was elected ophthalmic surgeon to St. George's Hospital in 1870, and on his retirement in 1893 was appointed consulting ophthalmic surgeon. He represented the Apothecaries' Society on the General Medical Council from 1887 to 1900. During this period he was mainly instrumental in introducing a change in the methods of the General Medical Council, which made it possible to deal in a suitable manner with comparatively trivial offences, by the expedient of postponing decision until the next session, making the interval a period of probation. The point cannot be better stated than in the following passage, which we are allowed to quote from a letter Carter addressed to the Editor of the *Lancet* in 1915: "When I joined the Council there were many cases in which there was no choice but to inflict the penalty of erasure from the Register for quite trivial offences, or else to condone them altogether, even if they came within definitions of 'infamous conduct' which the Council had already laid down. Cases of 'covering an unqualified practitioner,' for example, differed immensely as to degree of turpitude; and I more than once saw a boy, who had but just entered the profession, expelled from it for what was little more than foolish good-nature, and which only needed an admonition. . . . I may add that, since I succeeded in introducing the change, there has scarcely been a session in which it has not been brought into useful operation." Another piece of work of which Carter was justly proud was the part he played in the establishment of Hospital Sunday in London. When he joined the *Lancet* staff in 1863 Dr. James Wakley, the Editor, was anxious to start such a movement, and Carter wrote many articles on the subject which, by his influence, were quoted in the *Times*. Eventually the fund was established at



a meeting at the Mansion House, and Carter became a member of the first council. All this time he was busy with his pen, not only as a contributor to the *Times* and *Lancet*, but as an author of books and lectures on ophthalmology. He published a medical treatise on diseases of the eye in 1875, and in 1887 produced a manual on ophthalmic surgery, written jointly with his colleague, Dr. Adams Foster. In 1886 was published as a Parliamentary Paper his report on vision of children at London elementary schools—an important piece of pioneering work. His book, *Eyesight Good and Bad*, a treatise on the exercise and preservation of vision, was published in 1880. He pleaded that a large portion of the time of every ophthalmic consultant was occupied day after day in repeating to successive patients precepts and injunctions which ought to be universally known and understood. In his treatise he sought to state these precepts and injunctions and the reasons for them, and to make them plainly intelligible to those who are most concerned in their observance. Fluent in debate, Brudenell Carter loved to attend society meetings, and he was especially distinguished among the Fellows of the Medical Society of London not only for the active part which he took in the discussions, but also as orator (1874) and Lettsomian lecturer (1884); in the year 1886 he became its president.

Brudenell Carter was a Knight of Justice and Honorary Commander of the Order of St. John of Jerusalem. He was twice married and had four sons.

GEORGE SELBY BROCK, M.B., CH.B. EDIN.,  
CAPTAIN I.M.S.

News has been received of the sudden death from influenza on October 12th at Rawal Pindi of Captain G. Selby Brock of the Indian Medical Service. The only son of Dr. George Brock of Rome, he was born in the Orange Free State thirty-two years ago, and educated at Uppingham School and at the Universities of St. Andrews and Edinburgh, from which last he graduated in 1910. He joined the Indian Medical Service one year later, and at the outbreak of the war he came to France with the first Indian contingent and served in Flanders, thus earning the 1914 star. In the following year he returned to India to regimental duty at various stations—for the last two years at Kohat on the North-Western Frontier. Thence he was transferred in June last to Rawal Pindi on his appointment as adjutant of the newly instituted School of Instruction for Temporary I.M.S. Officers which he had helped to organize there.

Captain Brock was a fine athlete, having at Uppingham captained the school fifteen, and while at Edinburgh won the inter-university hurdles championship. He was also a good linguist, speaking French, German, and Italian, and shortly before his death he was engaged on, and had nearly completed, the compilation of a manual on the Pushtu language and Afridi dialect. His personal qualities made him a general favourite, and his loss will be much felt in the service, especially at the new School of Instruction, to the success of which his attractive personality, his good influence with the young Indian officers, and his enthusiastic and excellent work were greatly contributing. He leaves a widow and two children.

The death is announced of Dr. F. F. WESBROOK, President of the University of British Columbia, formerly professor of pathology in the University of Manitoba, and professor of public health and bacteriology in the University of Minnesota.

*Le Rummo Medico* has just published a special number dedicated to the memory of its founder, Professor Gaetano Rummo, who died on May 11th, 1917. The first number of the periodical was published on January 1st, 1885; at first it appeared daily, but very soon it became a weekly periodical. Rummo was a man of abounding energy and held in succession the chair of medicine in Siena, Pisa, Palermo, and Naples. He took a special interest in neurology, but the long list of his scientific contributions shows that he was a general physician of wide scope. It may be interesting to add at this time that Rummo served for two periods as deputy in the Italian Parliament, where he represented his native town of Benevento.

## Medical Notes.

THE arrangements for the autumn lectures before the Royal College of Physicians of London are as follows: Dr. F. H. Teale, honorary medical officer in charge of the vaccine department of University College Hospital, London, gives the Horace Dobell lecture on bacterial toxins on Tuesday, November 5th. The Bradshaw lecture by Colonel W. Aldren Turner, C.B., M.D., on neuroses and psychoses of war, will be given on November 7th. On November 12th and 14th Dr. Arnold Chaplin will give his FitzPatrick lectures on medicine in England during the reign of George III. The first course, which he gave last year, was reported in our columns at the time. The lectures will be given each day at 5 o'clock.

A REPORT on the administration of oxygen in irritant gas poisoning has been prepared by the Chemical Warfare Medical Committee. It contains a discussion of the indications for oxygen and a description of the best method of administering it, which will be of general and permanent interest. We regret that pressure on our space compels us to postpone a notice of this important report.

SIR ALFRED KEOGH, G.C.B., has been elected an honorary Fellow of the Royal Society of Medicine, and the diploma will be presented to him at a special general meeting to be held on Wednesday, November 13th, at 4.30.

IN Poplar, on the recommendation of Dr. F. W. Alexander, M.O.H., the council's electrolytic disinfecting fluid is supplied free for use as a mouth-wash and gargle as a preventive of influenza. It is also to be sniffed up the nose. It is used in the strength of two or three teaspoonfuls to a tumbler of cold water.

AT a meeting of the Medico-Legal Society on November 14th the president, Dr. F. J. Smith, will deliver an address on pensions and their allotment, to be followed by a discussion. The meeting will be held at the rooms of the Medical Society of London at 8.30 p.m.

THE National Association for the Prevention of Infant Mortality has been informed by the Controller of Coal Mines that a claim could certainly be submitted for an additional allowance under the Household Fuel and Lighting Order, on the ground of illness in the case of childbirth, and would be allowed for a reasonable period thereafter. The quantity of fuel granted must depend on the circumstances of each case.

AT a meeting of the Medical Society of London on October 28th papers on rheumatoid arthritis were read by Dr. T. S. P. Strangeways, who dealt with the morbid anatomy and histology, and by Dr. A. P. Beddard, who discussed the treatment of this condition. A discussion followed. We hope to print Dr. Strangeways's paper and to report the discussion in an early issue of the JOURNAL.

THE College of Nursing is enabled, through the Nation's Fund for Nurses, to offer to its members three studentships, tenable at King's College for Women, London, to qualify trained nurses, after a year's course of study, for the posts of sister-tutor, or instructress of nursing methods in the training schools.

AT the meeting of the London Insurance Committee on October 24th it was agreed by 33 votes to 4, after a prolonged debate, to protest emphatically against the intention of the Government to incorporate into the Ministry of Health the functions of the Local Government Board relating to the administration of the non-medical side of the Poor Law. The General Purposes Subcommittee reported that in its judgement the new Ministry of Health would be condemned from the outset in the eyes of practically all that part of the population which was most concerned if all the great new health activities which it should inaugurate were associated with Poor Law odium.

THE council of the Royal Sanitary Institute recently adopted a resolution in which, after stating the great satisfaction with which it noted the progress made and the valuable work done during the past fifty years for the public health, it expressed the opinion that, for the effective continuance and development of the work, all matters relating to public health should, as far as possible, be co-ordinated in one department as a Ministry of Health. It concluded by urging that the matter was one of pressing public importance which should receive the early attention of the Government.



## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *BRITISH MEDICAL JOURNAL* alone unless the contrary is stated.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the *BRITISH MEDICAL JOURNAL* are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN ORDER to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the *BRITISH MEDICAL ASSOCIATION* and *BRITISH MEDICAL JOURNAL* is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the *BRITISH MEDICAL JOURNAL*, *Aitology*, Westrand, London; telephone, 2631, Gerrard.
  2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2630, Gerrard.
  3. MEDICAL SECRETARY, *Medisecra*, Westrand, London; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.
- The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### LETTERS, NOTES, ETC.

INQUIRIES have been received for copies of the pamphlet, *The Voluntary Hospital and the Proposed Ministry of Health Bill*, prepared for the British Hospitals Association by Mr. J. Courtney Buchanan (London: The Scientific Press. Price 6d.). We understand that the second edition is almost exhausted, and that the pamphlet will not be reprinted unless orders are received early.

#### THE COVENTRY CASE.

DR. A. HEWSTON HOLMES (Meriden, nr. Coventry) writes: Having received several communications, I beg to state that I had no connexion of any kind whatever with the late Coventry Dispensary action. Evidently my name has been mistaken for that of one of the plaintiffs in that lawsuit.

#### THE MEDICAL SERVICE R.N.

THE opinion expressed by a medical officer R.N. in this column last week does not seem to be generally entertained by his brother officers. We understand that the good effect of a similar change made some years ago in the case of engineer officers has been very obvious. In commenting upon the change we said that further problems remain for solution, and, in fact, many matters will have to be remedied before the medical branch R.N. proves a really attractive service. At one time many men of good ability were attracted to the service by the opportunities it afforded to see the world, and perhaps to study some branch of natural history. The German menace has for years made it necessary to keep a large part of the fleet in home waters, and life in the service under these conditions does not offer a young medical man the attractions of past times. There is another matter which calls for the attention of the Admiralty: it is the present position of the sick berth staff, corresponding to N.C.O.'s and men of the R.A.M.C. These men, who are specially trained, whose services are indispensable, and who run the same risks as any others on board, should be put on a better footing as regards pay and promotion; the conditions should be made similar to those of the lower rank ratings of the engineer branch.

#### V.A.D. MEDICAL OFFICERS.

S. writes: As a V.A.D. medical officer of over four years' duration I can corroborate "V.A.D. Medical Officer's" letter in the *JOURNAL* of October 12th. One should receive some badge or acknowledgement as a slight return for so much voluntary work as is entailed by giving one's services freely and gratis over such a long period. The War Office would not even grant me a pass when I went for a much needed holiday. I am also M.O. of a Volunteer regiment, which has entailed much further work and out-of-pocket expenses. Personally I am "fed up" with our unjust voluntary system, which is so unequally borne by members of the medical profession.

#### PROPHYLACTIC INFLUENZA VACCINE.

DR. B. HENRY SHAW (Stafford) writes with reference to the omission of *Micrococcus catarrhalis* from the vaccine recommended by the War Office conference (p. 475) to state that in the cases he has examined in Stafford he found heavy infection with that organism as well as *B. catarrhalis*. He suggests that the streptococcal infection is possibly secondary, and that it is quite likely that *M. catarrhalis* initiates it.

#### SCARLATINIFORM RASH IN INFLUENZA.

DR. ROBERT KIRKLAND (Cheltenham) writes: Dr. Reginald Pollard (October 26th, p. 465) says he was much puzzled by six cases in the summer epidemic that developed a general

rash at first typical of scarlet fever. He assumed the rash to be these cases to salicin or some impurity contained therein. Now in the present epidemic I have had four cases with a rash not dissimilar at first from scarlet fever. But the march of events was not the same. There was no initial vomiting; the temperature, though high, was not accompanied by a toxic pulse—for example, a temperature of 103.1, but a pulse of 92—and the tongue, though coated, never had the early strawberry appearance nor the later raspberry look. In none of these cases was salicin or any salicylate given. In another case, however, when I saw in consultation with a friend, there was the same rash, but here salicin had been administered, and my friend was inclined to attribute the rash to this drug, as Dr. Pollard did in his cases. I feel sure these scarlatiniform rashes must be due to some streptococcal toxin in the mixed infection.

#### THE TREATMENT OF PNEUMONIA.

DR. HOPE GRANT (Sheerness), writing to express the opinion that Dr. E. W. Martland has done wisely in again directing the attention of the profession to the "iodine" treatment of pneumonia (October 26th, p. 464), continues: I have had gratifying results with it lately, and find, as he does, that cough and expectoration soon disappear, and the duration of the attack is shortened. I have not tried it in lobar pneumonia, but do not know of any sufficient reason for not doing so. I am doubtful, however, whether it has any effect in the very acute post-influenzal pneumonias of the present epidemic. I find it best to give smaller doses of the iodine and creosote (2½ grains and 1 minim respectively) to begin with, as patients complain of the nauseous taste of the mixture.

DR. P. J. SADLER (Barnsley) writes: My experience of the past ten years entirely confirms that of Dr. E. W. Martland, but I have long substituted guaiacol 1½ mins. for the creosote 2½ mins., and now use colloidal iodine 10 to 15 mins. instead of the potassium iodide 5 grains. If the causative organism can be determined correctly, sensitized vaccine sometimes works miracles.

#### THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

The following letter enclosing a draft for £20 has been received by the honorary treasurer to the Fund:

2, Beach Street, Clovelly, Sydney, Australia.

26th October 1918.

Honorary Treasurer, Belgian Doctors' Relief Fund.

Dear Sir,—I am enclosing a cheque for £20 or rather draft as a small subscription to the above Fund.

I have returned after three years of war, and know something of what these brave Belgian people must be living through.

Yours sincerely,

Roy Winn, M.B., Ch.M.

#### Subscriptions to the Second Appeal.

The following subscriptions have been received up to Monday last, October 28th:

£ s. d.	£ s. d.
Dr. Alfred Cox (monthly) 1 1 0	Atkins and Anderson 1 1 0
Sir A. Pearce (monthly) 5 0 0	Dr. R. F. Fryer 3 3 0
Dr. Cameron Kidd (for Mrs. Stuart Todd) 1 0 0	Dr. W. Mussellwhite 2 0 0
Dr. P. M. Neill 5 0 0	Prof. David Drummond 10 0 0
North of England Branch B.M.A., per Dr. J. Don, Don Street, 5 5 0	Dr. H. Kershaw 2 2 0
Dr. H. A. ... 1 1 0	Dr. W. W. Stanthorpe 2 2 0
Dr. S. V. Tinsley 1 1 0	Dr. W. Pether 1 0 0
Dr. J. W. ... 2 2 0	Dr. C. G. MacLagan 3 3 0
Dr. A. S. ... 2 2 0	Dr. J. H. ... 3 3 0
Dr. C. J. ... 1 1 0	Dr. H. A. Fielden 5 0 0
Dr. M. ... 0 10 0	Dr. N. F. Rowstrom 1 1 0
Dr. L. ... 1 1 0	American Red Cross Commission for Belgium (monthly) 100 0 0
Dr. G. A. Atkinson 5 0 0	Dr. J. C. M. Given 1 1 0
Dr. H. A. Aitchison 5 0 0	Hon. Medical Staff of Bolton Infirmary per Dr. Matthews 25 0 0
Dr. M. A. Wardle 1 1 0	Dr. Charlotte E. Warner 1 0 0
Dr. E. F. Pratt 5 5 0	Dr. Roy W. ... 20 0 0
Dr. R. A. Morris 1 1 0	Dr. T. M. Tibbatts 1 1 0
Dr. H. R. Kendal 1 1 0	Dr. C. H. Broadwood 5 0 0
Dr. J. G. D. Coit 1 0 0	(China) ...

Subscriptions to the Fund should be sent to the Treasurer, Dr. H. A. Des Vaux, at 14, Buckingham Gate, London, S.W.1, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited.

#### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Seven lines and under	0 6 0
Each additional line	0 0 9
Whole single column	4 0 0
Whole page	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restantes* letters addressed either in initials or numbers.



# A Report ON THE INFLUENZA EPIDEMIC IN THE BRITISH ARMIES IN FRANCE, 1918.

BY  
THE INFLUENZA COMMITTEE OF THE ADVISORY  
BOARD TO THE D.G.M.S., FRANCE.

## EPIDEMIOLOGY.

The epidemic of influenza began by a few local outbreaks in the First and Second Armies in April and May. It appeared both at Rouen and Wincereux in April. At the end of May it reappeared with great violence in the Second Army. It spread apparently a little later in the First Army, and began to appear in the Third Army at about the same time, and in the Fourth Army towards the middle of the month.

The numbers affected were very great. For instance, the Second Army admitted to its casualty clearing stations during the seven days ending June 12th 1,921 cases, and in the following seven days 3,851. The admissions continued at this high rate throughout the greater part of June, the highest for one day being on June 25th, when 683 were admitted to clearing stations. These figures take no account of the many thousands of mild cases treated in their own lines or in field ambulances. From June 25th onwards the rate fell rapidly and steadily, and by the middle of July was averaging 150 daily. By the end of the month it was still further reduced, to about 70, and had fallen to about 50 daily by the middle of August.

In the First Army the total admissions to the casualty clearing stations for influenza (diagnosed P.U.O.—three-day fever) between May 18th and July 2nd was 36,473.

This is not the first time that *B. influenzae* has appeared in the armies. On the contrary, it has been frequently found in cases of bronchopneumonia, especially during the winter of 1916-17. The question naturally arises why it should not have become epidemic before. That question, however, arises in all epidemics. There seems no reason whatever to suppose that the power of resistance in the troops is lowered; on the contrary, the general health of the army is probably as good now as ever it was.

The bacillus itself may have become more virulent, or there may have arisen some conditions favouring its growth and producing a very large increase in its numbers. If so, these conditions seem to be almost world-wide, as the disease has spread itself in Europe from Spain to France, Italy, Germany, and England, and there was an epidemic in the United States a year ago.

The disease was extremely contagious. In infected formations large numbers were affected at or about the same time. This was in strong contrast to the behaviour of trench fever.

The consulting physician to the Fourth Army reports that on visiting an artillery school 320 strong 90 men, and in a labour company 520 strong 140 men, were found affected.

In the Second Army a brigade of artillery had one-third of its whole strength taken ill within forty-eight hours, and in the brigade ammunition column only 15 men were available for duty one day out of a strength of 145.

At one of the army schools the infection spread by huts. On May 5th 2 cases occurred in a hut, on May 6th 2 more, and on May 7th 24. On May 8th 20 cases occurred in another hut.

A Chinese labour company was also extensively attacked. Commencing on May 9th with 7 cases, the daily admissions were successively 21, 23, 65, 40, 11, 5, and 2—a total of 174 cases in eight days, or over half the strength.

## INCUBATION PERIOD.

The period of incubation was from two to four days. Thus, Major Clarke (No. 19 Casualty Clearing Station) reports:

Twenty-six men forming part of the personnel occupied a double hospital marquee. On the morning of June 18th one of them was admitted to hospital with influenza; 18 others were taken ill between 7 a.m. on June 21st (72 hours) and 12 midnight on June 22nd (114 hours). The other 7 men escaped.

The following instance is reported in one of the wards of No. 55 General Hospital.

The attached diagram represents a portion of a surgical ward into which medical cases were sent owing to pressure on the medical side. The two medical cases occupied the beds 62 and 10.

The case in bed No. 62 was admitted on June 7th with the diagnosis of "bronchitis." This patient coughed a good deal and was dirty in his habits, spitting all about him. He had a cough with copious expectoration and crepitations at both bases. These crepitations, coupled with the length and character of the pyrexia at the casualty clearing station and the rapid recovery, point to this being one of influenza rather than ordinary bronchitis.

On June 9th the case in bed No. 63, suffering from a septic knee, had a sudden rise of temperature without obvious physical signs in the lungs. In view of the possibility of septicaemia infection of knee—*S. aureus*, blood was taken for culture. From this small Gram-negative rods were recovered, which from the aspect of their colonies on blood agar, their staining reactions and morphological characters conformed to *B. influenzae*.

The diagram shows how the cases spread, in the following days, so as to infect the occupants of beds on either side of bed

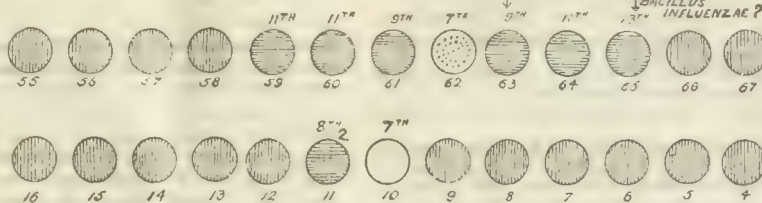


Diagram representing a portion of a surgical ward to which medical cases were admitted. The two medical cases occupied the beds 62 and 10. Discs with vertical lines = ordinary surgical cases; those with horizontal lines = infected surgical cases; the dotted disc = a medical case with "influenza." The dates above discs are for June, 1918.

No. 62. The larger gaps between the beds owing to splint apparatus, etc., may explain why only one case arose on the side of the ward containing beds Nos. 4 to 16.

This outbreak is being described elsewhere in the form of a separate paper by the medical officer who had charge of the cases.

The mild character of the epidemic may be gathered

from the figures of the garrison in the Calais area. Between June 24th and July 11th about 5,000 cases of influenza reported sick. The majority of these, 90 per cent., were so mild that they were treated in detention wards in the camps and barracks of the various units in the Calais area. The case mortality was 0.2 per cent. of the total number.

## SYMPTOMS AND CLINICAL COURSE OF THE DISEASE.

The onset was sudden in most cases. In a small minority it began gradually and reached its height in from one to six hours. Rigors occurred in many of the cases.

The initial symptoms were headache, pains in the back and limbs, and a feeling of weakness. The pains in the back and limbs were vaguely referred to the muscles. True shin pains, such as are common in trench fever, were hardly ever observed, and indeed the pains were seldom felt below the knees.

Major. Scarisbrick (No. 49 Field Ambulance), observing 440 cases found the following to be the frequency of the different sites of pain:

1. Pains in the head ... ..	73 per cent.
2. Pains in the back ... ..	45. "
3. Pains in the eyes ... ..	43. "
4. Pains in the muscles of limbs ... ..	41. "
5. Pains in the joints, knees ... ..	32. "
6. Pains in the hips ... ..	22. "
Ankles and shoulders rarely.	

1 and 3, and 2 and 4, were associated respectively.

The pains were of a severe aching character. Pain in the head was referred to the frontal sinuses, that in the eyes to the back of the globe. Some medical officers, however, report that the pain was referred to a higher level.

These initial symptoms lasted as a rule two or three days. The temperature usually reached its acme on the first but occasionally on the second day. The highest point was commonly between 102° and 103° F., but 105°



has been noted, and some cases never rose above 100° F. It usually fell by lysis, but in a small minority a fall of 3 or 4 degrees was completed in twenty-four hours. In many cases the temperature was normal on the fourth day; in some the lysis was not complete until the eighth. Captain J. Ramsey (No. 64 Casualty Clearing Station) by a composite chart formed on 104 cases found the temperature to reach the normal on the sixth day. A considerable number of the very mild cases completed the whole pyrexial phase within forty-eight hours, and made a rapid convalescence.

The pulse was rapid during the first two days, though it seldom reached 120, but by the fourth day was usually between 70 and 80. In a few cases tachycardia developed during convalescence. Endocarditis is reported in two cases of autopsy. Dilatation of the right heart occurred frequently as a result of pulmonary disease and in a few cases pericarditis was noted.

In the earlier cases catarrhal symptoms were extremely uncommon, but in the later stages of the epidemic pharyngitis and tracheitis were present in a considerable proportion of the cases. The latter frequently caused soreness behind the sternum. The serious complications which developed later are discussed below. Several symptoms of less importance were noticed.

1. In some cases a rash was observed, usually of a mixed urticarial and erythematous character, principally seen on the neck, the shoulders, the wrists, and the dorsum of the feet (Lieut. Colonel Warrack, Major Alexander, Captain J. Grant, and Captain R. W. Fergusson). About the middle of May some twenty men of the personnel of No. 6 General Hospital went down with influenza of mild type, lasting about forty-eight hours. Major Torrens informs us that in nearly half these cases there was a papular itching rash on the forearms and shins lasting a day or two. It had not the characters of a true urticaria, and there were no wheals.

2. Labial herpes was sometimes seen, and became more common as pulmonary complications increased.

3. Conjunctivitis and coryza were reported by several medical officers.

4. Major McNee and Major Clarke observed a similar nystagmus to that described by Major Drummond in trench fever. Too much stress must not, however, be laid upon this symptom.

5. Enlargement of the spleen was found by Major McNee, Major Clarke, and Colonel Hume and Captain Todd, and has been reported *post mortem* by Captain Boome, but was certainly not common.

6. The tongue was usually covered with a slight fur except for a clear marginal zone. This was grey or white, according to its degree, but the yellow or brown fur common in trench fever seems to have been rare.

7. Anorexia was common. Loss of taste and loss of smell were observed by Major J. E. Wilkinson.

8. Vomiting was common in the first day or two, diarrhoea less frequent. At the commencement of the epidemic, in May, several localized outbreaks were ushered in by vomiting and tenesmus in a majority of the cases.

Colonel W. E. Hume and Captain Todd at No. 42 Casualty Clearing Station found the following figures:

1. Headache and general muscular pain...	76 per cent.
2. Shivering or definite rigors ...	41 "
3. Suffused eyes ...	73 "
4. Pharyngitis ...	100 "
5. Furred tongue ...	100 "
6. Constipation ...	52 "
7. Spleen palpable ...	14 "

#### Progress.

In the earlier stages of the epidemic progress was remarkably rapid, and convalescence was established without any sequelae. Three days' incubation, three days' fever, and three days' convalescence was about the rule. It was noteworthy that the mental depression so often associated with a post-influenzal state was practically never seen. Later on, however, as both the intensity and the virulence of the epidemic increased, convalescence became more protracted as the febrile period lengthened, and the bronchitis infection became more pronounced.

#### Relapses.

A short relapse of fever and symptoms, without any other complications, was occasionally seen about the end of the first week. This has become more frequent in the later stages of the epidemic.

#### Complications.

At a later stage of the epidemic complications, which at first had been very rare, increased both in number and in severity. They chiefly affected the lungs, and consisted

of bronchitis, bronchopneumonia, and lobar pneumonia. The distinction between the first two is not easy either in theory or in practice. The inflammation in most cases probably spreads downwards from the upper air passages to the bronchi, and from them to the bronchioles and the pulmonary alveoli. In others it may have begun in the smaller tubes, and Major McNee and others have reported cases of true lobar pneumonia.

The cases of bronchitis and bronchopneumonia were severe and prolonged, with a high and very irregular temperature, a rapid pulse, dyspnoea, and cyanosis. The sputum was sometimes a frothy or muco-purulent fluid, but often of the green nummular variety which Major-General Bradford has described. Many of these cases proved fatal.

The cases of true lobar pneumonia showed on the whole a more regular fever, but they frequently terminated by lysis. Pleurisy and pleural effusion occasionally occurred. This was especially so amongst the Chinese, and in them was associated with tubercle. In one or two cases an interlobular empyema was found in which the *B. influenzae* was the only infection.

In 1,700 cases admitted June 15th to June 29th into No. 1 Canadian Casualty Clearing Station, 42 patients had bronchopneumonia (2.6 per cent.) and 3 patients had lobar pneumonia. Of the 45 patients 4 died.

In the First Army the estimate was that 1 per cent. of all cases admitted to casualty clearing stations developed bronchopneumonia or lobar pneumonia, of which 10 to 15 per cent. died. Major Searisbrick in 440 cases at a field ambulance found a slight bronchitis in 22 per cent.; in 9.7 per cent. there was a moderate bronchiolitis of the lower lobes with fever (99°-102°) for about ten days, and a convalescence needing another fortnight; in another 9 per cent. the patients had to be evacuated for severe bronchitis, catarrhal or lobar pneumonia, and pleurisy. There have been a few cases of pericarditis, and suppurative otitis has been occasionally seen. But the chief complications after the pulmonary were albuminuria and nephritis. In the first few weeks of the epidemic cases were generally reported to be free from albuminuria, but about the same time as pulmonary infection appeared albuminuria also began to be noticed.

The Medical Investigation Committee have already (Reports of the Committee on War Nephritis No. 3, p. 11) drawn attention to this connexion. "In the winter of 1916-17 a considerable number of cases of nephritis occurred as a complication of the very severe bronchitis and bronchopneumonia prevalent at the time." The *B. influenzae* was then also found in a large proportion of the cases. At one casualty clearing station in the Second Army, during the recent epidemic, 22 such cases were observed by Captain Symonds, of whom 10 died. In some of these, sections of the kidney showed changes which were considered to be indicative of a renal lesion prior to the influenzal attack. A profoundly toxic condition, associated with a dry, black tongue, pronounced mental symptoms, and a grey lividity of the face, characterized these cases, and though diminution of the quantity of urine was not common, the percentage of albumin passed was very high.

Another but much rarer complication has been meningitis involving both brain and spinal cord. The *B. influenzae* was found in the meninges, and, in one case that recovered, in the cerebro-spinal fluid. Two others presented the same train of symptoms, but though the cerebro-spinal fluid was under high pressure the *B. influenzae* could not be recovered from it. In a third similar case, which recovered, optic neuritis existed.

At a casualty clearing station in the Second Army four such cases occurred, of whom three died and one recovered. In three of them the fluid was "gin clear" and in one slightly milky. Both before and after death bacteriological cultures and smears were negative.

#### Diagnosis.

It is obvious that the diagnosis of the present epidemic disease from trench fever could not be made from the clinical symptoms until sufficient time had been given to show that there were no such true relapses as occur in the latter. So similar were the symptoms that one medical officer attacked with influenza believed it was a return of the trench fever from which he had previously suffered.

There is a form of trench fever in which one bout alone



occurs. The difficulty of distinguishing this from influenza was mentioned in the second report of the Trench Fever Committee. The point of chief importance is the epidemic character. Where considerable numbers of a unit are affected simultaneously it may be assumed at once that the disease is not trench fever. Where, as in the present instance, Pfeiffer's bacillus is recovered from a high proportion of the cases, the epidemic may be assumed to be influenza.

The pulmonary and renal complications form a further distinction. In trench fever the sequelae are almost entirely confined to the heart.

#### Treatment.

The treatment adopted throughout has been symptomatic.

#### BACTERIOLOGY.

From the resemblance to influenza, both as regards the infective nature of the disease and the general character of the symptoms, the efforts of bacteriologists were, for the most part, directed to the discovery of *B. influenzae* Pfeiffer in the secretions from the respiratory tract, nasopharynx and circulating blood, and from the lesions of those cases which came to the autopsy table.

#### Methods Employed for the Isolation of *B. Influenzae*.

Although cultures of this organism were obtained from material obtained on swabs from the throat and nasopharynx, the method which appears to have been most successful was to wash away englobing pharyngeal secretion from the fresh tracheal sputum and to stroke a loopful upon a plate of nutrient agar containing blood. The particular manner in which the addition of blood was made seems to have been immaterial. Pfeiffer's original technique (sowing on an agar slope upon which a few drops of blood had been smeared) gave good results in some hands, but most observers seem to have preferred blood-agar made by mixing about half a cubic centimetre of citrated human or rabbit's blood with 5 c.cm. of nutrient agar made with the tryptic digest of meat or casein.

It was found better to heat the blood for a few minutes to 55° C. before making the slopes. Excellent growths of *B. influenzae* were also obtained on blood-agar heated rapidly to 80° C. (Fleming). By this treatment the haemoglobin is destroyed and the medium rendered opaque, which presents some disadvantages. Most observers have recommended that the plates be incubated for forty-eight hours.

In searching for *B. influenzae* in the circulating blood 5 to 10 c.cm. were withdrawn from a vein into citrated broth and incubated for three days.

#### Results.

At the beginning of the epidemic the attempts of competent bacteriologists to isolate *B. influenzae* from the sputa, nasopharynxes, and blood of cases were so seldom successful that doubt arose as to whether this organism was the etiological factor in the disease. Although Pfeiffer's bacillus was not often isolated, the sputum contained numerous *pneumococci*, *streptococci*, and *Micrococcus catarrhalis*, the relative preponderance of these organisms being in the order above named.

The nature of the pneumococci isolated was examined in detail (Sladden) and found to belong to Type IV of the Rockefeller classification, this group being made up of varieties which will not conform to Types I, II, and III. The pneumococci studied by Sladden were found to be of low virulence for mice and possibly represent strains which are inhabiting the respiratory passages normally, and had found the catarrhal conditions set up favourable to their greater multiplication.

As the epidemic proceeded, however, bacteriologists discovered that it was much easier to recover *B. influenzae* from those cases in which definite catarrh of some portion of the respiratory tract had ensued with the production of mucopurulent discharge—that is, subsequent to the first few days of the disease. Those bacteriologists who selected such cases for their investigation (Fleming, Fraser, Perry) succeeded in recovering *B. influenzae* in 80 to 100 per cent. of their cases.

When tracheitis, bronchitis, or bronchopneumonia existed *B. influenzae* was generally recovered with ease (McNee, Fraser, Martin), few other organisms being seen on

examination of a stained film of the fresh expectoration; they often occurred in great numbers, and cultivation of sputum from these cases afforded nearly pure cultures of *B. influenzae*. *B. influenzae* was recovered from the blood in two cases (Peters, Cookson) during the height of the initial fever, and from the cerebro-spinal fluid in three cases in which meningitis developed (Moodie, Ferguson).

Table showing the Proportion of Successful Recoveries of *B. influenzae* from Various Materials, Compiled from Reports sent in by Bacteriologists.

Material Examined.	No. of Attempts.	No. of times <i>B. influenzae</i> Recovered.
Sputa... ..	222	91
Nasopharyngeal mucus ... ..	164	60
Blood... ..	68	2

These figures probably give an exaggerated idea of the ease with which the organism is recoverable from cases of influenza. Only those reports in which the number of observations made and the results arrived at were stated could be utilized for analysis. Some laboratories reported in general terms, such as "numerous observations uniformly unsuccessful," or "several attempts with but two successes." A further discount must be made for the tendency to record hits and not misses.

#### Morphology and Cultural Characters of the Bacillus Isolated.

The small Gram-negative bacillus so commonly found associated with the cases corresponded in every way with Pfeiffer's *Bacillus influenzae*. In direct smears of the sputum or lung it often occurred in patches. It was pleomorphic. Most individuals were small bacilli, varying in length from 0.7 to 1.2  $\mu$ , and in breadth from 0.3 to 0.4  $\mu$ , with slightly rounded ends. Diplococcal forms, 0.37 by 0.3  $\mu$ , were very common amidst the bacillary forms (Martin). It stained well with dilute carbol fuchsin.

As has been previously recorded of *B. influenzae*, these bacilli, although generally requiring the presence of blood for their propagation, sometimes grew upon ordinary nutrient agar when this was planted from sputum or nasopharyngeal mucus. On subculture they failed to grow on ordinary agar.

On the primary culture on blood agar from the sputum the colonies, after twenty-four hours' incubation, were from 0.1 to 0.2 mm. in diameter, hemispherical in shape, and quite clear. Those colonies which had developed in the neighbourhood of colonies of staphylococci or pneumococci were larger than the average. On subculture upon blood agar they grew well, the colonies increasing in size with each successive subculture until in the case of some strains they attained a diameter of 0.5 to 1 mm. after twenty-four hours' incubation. They failed to grow upon nutrient agar, or serum agar, or inspissated egg yolk media. The bacilli were larger in cultures than they were on the original sputum, varying in shape and dimension from 1.5 by 0.5  $\mu$  to 0.6 by 0.4  $\mu$ . Colonies in the primary cultures usually exhibited involution forms 5.6  $\mu$  in length. Some observers encountered long filaments 30  $\mu$  long, and coarse clubbed forms, as well as filaments showing irregular staining. On subculture all gave rise to colonies the individuals of which possessed quite ordinary morphology. Certain strains showed a tendency to revert to pleomorphism. Similar aberrant forms were described by Pfeiffer in 1893 (*Zeit. f. Hyg.*, 13) as pseudo-influenza bacilli. Grassberger (*Zeit. f. Hyg.*, 24), however, found typical strains of *B. influenzae* to possess this tendency to pleomorphism.

The cultures isolated in France were found to die out very soon, even when kept from drying and at a low temperature. Subculture at least weekly was found necessary to maintain them.

#### Virulence.

A few observations were made upon their pathogenicity for animals. Rabbits supported a whole agar slope intravenously. Fraser injected "a large amount" of a culture into the circulation of a rat. The rat died three days later with a haemothorax and the bacilli were recovered from



the heart blood. Of two other rats injected intraperitoneally with sputum containing "enormous numbers" of these small Gram-negative bacilli one died overnight and the bacillus was recovered from the peritoneal fluid, and the other suffered no ill effects.

These few experiments indicate that the organism possessed little virulence for these small animals, a result which is in conformity with previous observations on *B. influenzae*, to which the only animal so far known to be susceptible is the monkey.

### Morbid Anatomy and Bacteriology of Cases Dying from "Influenza."

The following summary of thirty autopsies by Captain Shore, R.A.M.C., illustrates the gross pathological changes met with and the frequency with which they occurred.

#### REPORT ON THE MORBID ANATOMY OF DEATHS FROM INFLUENZA.

**Material.**—Autopsies were made during June and July, 1918, upon 30 cases in which the clinical diagnosis was "influenza." The patients were not all previously healthy, for in 7 cases (23.3 per cent.) obsolete tuberculosis, pulmonary or glandular, was found. (In a previous series of 1,500 consecutive autopsies the total incidence of tuberculosis was 9.6 per cent.) Two patients had chronic nephritis and one hydronephrosis (unilateral). Old pleuritic adhesions were present in 12 cases. With these exceptions, the patients were apparently previously healthy. None were suffering from wounds. The most striking lesions were those in the lungs and heart.

**Lungs.**—In one form or another pneumonia was present in every case. The majority had bronchopneumonia, which had a distinct tendency to become confluent, and to show a condition closely resembling the early grey stage of lobar pneumonia. Undoubted lobar pneumonia was only once found. A few cases (5) were found in which the pneumonic areas were small, and shotty when felt between the fingers, and closely resembling military tuberculosis. Microscopic section shows the small patches to consist of consolidated lung (generally with fibrinous exudate) surrounding inflamed bronchioles. The name "bronchiolitis" is applied to the condition, but "miliary pneumonia" seems more descriptive. No bacteriological investigations were made of these cases, so it is not possible to say if they differ from the more usual form of bronchopneumonia in that respect. In two cases the process passed on from confluent bronchopneumonia to abscess formation. Marked emphysema occurred in two cases, involving chiefly the anterior border of the lungs. In five there was an excessive amount of collapse, chiefly along the vertebral border of the lung. Two of these cases showed a small amount of pleural fluid, but in the other three the pleura was dry. Subpleural and interstitial haemorrhages were seen in 18 cases, but only as small localized areas. Purulent bronchitis was present in 14 cases.

**Pleura.**—Twenty-four cases showed recent pleurisy; 14 of these were dry, but in 10 a varying amount of purulent or sero-purulent fluid was found—never more than a pint and generally only a few ounces. In 15 cases the bronchial or tracheal glands were markedly enlarged and inflamed. In a few cases more distant glands, as retroperitoneal and even inguinal, were affected.

**Heart.**—One of the most striking features of the morbid anatomy of these cases is the constant occurrence of dilatation of the heart, accompanied by nearly as constant myocardial changes. Twenty-nine out of 30 cases showed marked dilatation of the heart—chiefly of the right side, but very commonly of the left side as well, and 21 cases showed myocarditis demonstrable to the naked eye. The latter took the form of a general pallor and softness of the myocardium, with mottling and frequently subpericardial and subendocardial haemorrhages, similar to those seen beneath the pleura. These were not infrequently noticed on the interventricular septum, and on the papillary muscles. Endocarditis was found of the mitral valve in two cases. The vegetations were small and numerous, and obviously recent; in one case there was a fair amount of recent thrombus adherent to the vegetations. In practically all cases the right side of the heart was distended with the yellow "agonal" or "chicken-fat" clot found so constantly in pneumonia. Pericarditis was not found.

**Spleen.**—In most cases the spleen was a little enlarged. The largest weighed 15 oz., the smallest 4 oz., and the average weight of the series was 7½ oz. The spleen was generally pale and soft, and showed a marked enlargement of the Malpighian corpuscles. In a few cases it was congested. No infarcts were found.

**Liver.**—The livers of these cases did not present any striking features. Most were pale and inclined to show early fatty changes. Some few showed chronic or relatively chronic congestion, presenting a "nutmeg" appearance. In three cases a mild degree of jaundice was present, but there were no signs of biliary obstruction.

**Kidney.**—Apart from the two cases already mentioned as having chronic nephritis ten cases showed a marked degree of "toxic nephritis." Sections were made of only two of these, but they showed no glomerular change, only cloudy swelling and a little fatty change in the tubules. In these ten cases the kidneys were flabby, pale, and a little swollen. The capsule

was easily removable without tearing the surface. Stellate scars were prominent on the surface. There appeared no divergence from the normal proportions of cortex, medulla, and intrapelvic fat. Their average weight was 12½ oz. the pair, the average for the series being 12 oz. In one case the kidney had a "flea bitten" appearance, and on section showed, as well as the condition described, hyaline thrombosis of the afferent glomerular vessels. The glomeruli appeared to be practically all affected, which would account for the sudden and complete suppression of urine, without previous haematuria, which led to the patient's death. This was one of the cases which showed abscess formation in the lung.

**Brain.**—Cerebral abscess was found in one case, in which purulent bronchitis, but no particular bronchiectasis, was present. Meningitis was not found.

#### Summary of 30 Cases.

Obsolete pulmonary or glandular tubercle was present in 7=23 per cent. (in previous series of 1,500—9.6 per cent.); chronic nephritis in 2; pleuritic adhesions in 12—bilateral 4, unilateral 8.

<b>Lung.</b> —Pneumonia was absent in none.	
Bronchopneumonia was present in	25
Confluent pneumonia	11
Lobar pneumonia	1
Bronchiolitis or "miliary pneumonia"	5
Pulmonary abscess	2
Pulmonary collapse (2 with small effusions)	5
Marked emphysema	2
Purulent bronchitis	14
<b>Pleura.</b>	
Recent pleurisy	24
Bilateral	15
Unilateral	9
Effusion	10
Subpleural or interstitial haemorrhages	18
Enlarged and inflamed bronchial glands	15
<b>Heart.</b>	
Dilatation	29
Myocarditis	21
Endocarditis	2
Pericarditis	0

**Spleen.**—Average weight, 7½ oz.; mostly soft and pale.

**Liver.**—Inclined to fatty change; slight toxic jaundice in three cases.

**Kidney.**—"Toxic nephritis" occurred in 10. Average weight, 12½ oz. the pair. One showed hyaline thrombosis of glomerular vessels.

**Brain.**—Abscess was present in one case showing purulent bronchitis. Meningitis was not found.

Reports of 46 additional autopsies have been contributed from various other pathologists. The predominating lesion was:

Purulent bronchitis in	12
Bronchopneumonia in	29
Lobar pneumonia in	5

In all but two cases the respiratory passages contained purulent exudate. In the two exceptions consolidation was of lobar type, and confined to one lobe (McNee). In the cases with purulent bronchitis there appears to have been little or no consolidation. The commonest condition described is one of purulent bronchitis with bronchopneumonia often associated with fibrinous exudate upon the pleural surface (Miller, McNee, Fraser).

The lungs are described as greatly congested and as exuding blood-stained watery fluid from the cut surface.

The extent of the bronchopneumonic areas varied from numerous areas a few millimetres in diameter, surrounded by regions in which haemorrhage had occurred, to confluent bronchopneumonia involving the greater portion of a lobe.

Sections of the lungs showed the same irregular patches of consolidation with alveoli filled with leucocytic exudate or blood and often interspersed with emphysematous portions. The surrounding vessels were greatly distended, and the mucous membrane of the bronchioles swollen and disintegrating.

Pneumococci were seen in the alveoli amidst the leucocytes, and sometimes in immense numbers, but in only a few instances were bacilli resembling Pfeiffer's bacillus recorded.

Cultures were made from the bronchopneumonic areas in fifty-three instances. Pneumococci were invariably recovered, and in forty cases bacilli resembling *B. influenzae* also. Similar bacilli have been isolated from the meninges in cases dying with meningitis (Fraser), and along with pneumococci from the fibrino-purulent pleural effusion (McNee).

The only lesions in other organs recorded were congestion of the kidneys with small haemorrhages in the pelvis of the kidney (McNee). In one instance small haemorrhages in the white matter of the brain were observed (McNee).

#### The Number and Distribution of the Leucocytes in the Blood.

Several pathologists made a few observations upon this, but finding no significant variation in uncomplicated cases did not pursue this line of inquiry.



Thirteen instances are recorded. In these the total number of leucocytes varied between 6,000 and 11,000 per cubic millimetre, and the distribution was within normal limits.

*Evidence of the Production of Antibodies to the Haemophilic Bacilli Isolated.*

It is common experience that an attack of influenza leaves little or no immunity. Indeed, it is the opinion of many physicians that one attack may predispose to another. Since, however, cases recover, some useful reaction on the part of the patient's tissues obviously occurs, and the pessimistic view of predisposition to a second attack is explained to some extent by the continued presence of the bacilli in some of the crannies of the upper respiratory tract, where they lead a saprophytic existence, and are ready to reinfect should opportunity arise.

Animals injected with dead cultures of influenza bacilli do not develop antitoxic or bactericidal properties in the serum but agglutinins may be aroused to a small extent.

The serum of convalescents was examined for the presence of agglutinins in a few instances.

The serum of five patients, taken two to three weeks after the onset, failed to show a significant excess of agglutinins over and above that of normal persons (Martin).

Six other cases whose serum was examined four to ten days after the onset agglutinated a culture isolated from one of them in dilutions of 1 in 80 to 1 in 320 in different cases; whereas six normal serums failed to agglutinate the same emulsion in dilutions higher than 1 in 20 (Cruikshank). In both series of observations the macroscopic method was employed, and the tubes were kept at 50° C. for four hours.

The serums of five convalescents were examined for specific antibodies by the method of Bordet and Gengou. Indication of a certain amount of complement fixation was given by some, but not sufficiently greater than the normal serums used as controls to be regarded as significant (McGowan). Perhaps too long a time (two to three weeks) had elapsed since the onset of infection before the observations were made.

Some observations (Martin) on the phagocytic activity of the leucocytes in sputum indicate that increased phagocytosis of the haemophilic bacilli occurs as a response to infection. The sputum of three cases in an epidemic who suffered from bronchitis for some days was examined daily in an absolutely fresh condition. These particular sputa contained each day innumerable numbers of small Gram-negative haemophilic bacilli, and when stroked upon blood agar afforded nearly pure cultures. For twelve, fourteen, and seventeen days respectively from the onset of illness, although the sputum contained abundant pus cells, the bacilli were all extracellular. Then with striking suddenness the picture changed and the majority of the leucocytes contained the small bacilli often to the number of forty to fifty per cell. After the periods mentioned, active phagocytosis was observed so long as the sputum contained the bacilli. In many cells they were obviously undergoing digestion, being enclosed in minute vacuoles and having lost their power of taking up the carbol-fuchsin used to stain the specimens. In each case coincident with the observation of phagocytosis improvement occurred in the condition of the patient and the sputum became more purulent but rapidly diminished in quantity. Whether this occurrence of phagocytic activity was conditioned by the formation and outpouring of opsonins was not determined, but it appears likely that this interpretation is just.

*Consideration of the Evidence Pointing to B. influenzae as the Cause of the Epidemic.*

Sanction for regarding Pfeiffer's bacillus as the etiological factor in influenza rests upon:

1. The frequent discovery of this organism in the respiratory tract of persons suffering from this epidemic disease, whereas it is uncommon to find it in persons who have not recently become convalescent from influenza.

2. *B. influenzae* has been recovered from the blood of a few of the severe cases during an epidemic.

3. It commonly occurs in the lesions of those cases which succumb to complications, such as pneumonia and meningitis.

Indirect evidence from the presence of immune bodies in the serum of convalescents, such as occurs in whooping-cough, has not, we believe, been forthcoming hitherto.

The experience of the recent epidemic amongst British troops in France has been that cases in which catarrh was present and suitable material forthcoming for examination have also been associated with the presence of small haemophilic bacilli in the respiratory tract.

The frequent failure of bacteriologists to recover *B. influenzae* from cases during the first few days of their illness when uncomplicated by catarrh, and their absence from or presence in small numbers in the sputum, even when such is forthcoming at this stage, is no new experience, and has led several bacteriologists to question the essential etiological significance of this microbe and to regard its later presence in the sputum as an epiphenomenon.

The difficulty in discovering *B. influenzae* in early cases may, however, be attributed to the bacilli multiplying in the mucous membrane of the trachea and bronchi without at first producing an excess of reactive secretion.

As regards the presence of Pfeiffer's bacillus in the blood, the recent experience coincides with previous experience. It was recovered from the blood in two out of sixty-eight attempts, both in serious cases of the disease. It was found twice in the cerebro-spinal fluid of cases in which meningitis supervened, and the association with post-influenzal pneumonia was striking, it being recovered in forty out of fifty-three instances at the autopsy.

Some immunological observations made during the recent epidemic also lend support to the view that *B. influenzae* was the cause of the epidemic.

The amount of agglutination observed by Cruikshank in the serum of his cases four to ten days after the onset of the fever is certainly significant of infection by the bacilli isolated by him, and perhaps the failure of other bacteriologists to observe this may have been due to their waiting too long before undertaking the tests. Further, the sudden development of phagocytic activity by the leucocytes on or in the mucous membrane and its coincidence with improvement of the patient's condition and disappearance of catarrh is highly suggestive of a definite reaction on the part of the host to infection by these particular microbes.

## "SPACING OUT" IN THE PREVENTION OF MILITARY EPIDEMICS OF CEREBRO-SPINAL FEVER.

BY

CAPTAIN J. A. GLOVER, M.D., D.P.H., R.A.M.C.

We were crowded enough to cause a pestilence among us.

Defoe.

The main etiological factors producing military outbreaks of cerebro-spinal fever appear to be six—namely:

1. Season—the first quarter of the year.
2. Severe weather of all kinds and particularly sudden variations, east winds, and intense cold.
3. Antecedent epidemics of influenza.
4. Causes temporarily lowering resistance, such as antityphoid inoculation, fatigue, strenuous training, nostalgia, railway journeys, and the strangeness of barrack life to the new recruit.
5. Overcrowding.
6. A high carrier rate of epidemic strains of the meningococcus in the population at risk.

The first two factors are altogether beyond our control, the third and fourth are very largely so, but are susceptible of many ameliorations by forethought. The fifth and sixth factors are almost entirely in our hands, and at home at any rate, after four years of war, no plea of military necessity for overcrowding can be accepted. As the Commissioners of 1861 said, "In any case overcrowding should utterly be put an end to." These two factors are in fact indices of the efficiency of our sanitary stewardship.

Asked to define overcrowding, we may say that overcrowding is the slightest excess over the "mobilization standard." This standard is the utmost concession that can be safely made to military emergency. It gives the least possible space that will just suffice to fulfil the lowest permissible standards of the most indulgent hygiene. Anybody who doubts should smell the early morning air of a



hut in which have slept its full mobilization number of men. Energetic orderly medical officers who care to make 4 a.m. rounds of the barrack-rooms and huts of the units under their care will find the nose an excellent guide.

Mobilization standard means as a rule an increase of 50 per cent. of the number allowed by peace standard. The "peace standard" laid down by the Royal Commission of 1861 enjoins 60 sq. ft. floor space and 600 cubic ft. air space per man, and a distance of 3 ft. between beds.

As the ordinary barrack-room accommodated 24 men in peace time, mobilization standard means usually 36 men, and owing to fireplaces, cupboards, etc., with 36 men the beds are only 1 ft. 4 in. apart, instead of the 3 ft. of "peace standard." This number of men, 36, is still frequently exceeded, and I have known 48 and even 57 men sleep in barrack-rooms of 24 peace standard in most distinguished regiments.

Most of the huts erected since the war are of two main types, the first 60 ft. by 20 ft., the second 60 ft. by 15 ft. With the first type (60 ft. by 20 ft.) "mobilization" standard means thirty men, and (after allowing for the stove in winter) about 1 ft. 4 in. between beds; whereas, with the second type (60 ft. by 15 ft.), "mobilization" standard (often transgressed with this type) means twenty-two men and at least 2 ft. 6 in. between beds.

Assuming equal supervision of ventilation and rigid adherence to mobilization standard in this respect, the smaller pattern scores heavily. But it is this fatal beauty of space between the beds that affords great temptation to hard-pressed and hygienically unprincipled authorities to put in more beds, and so to overcrowd; and the 60 ft. by 15 ft. huts are therefore more often in excess of mobilization than their larger compeers.

Overcrowding influences the incidence of cerebro-spinal fever partly by its depressing effect, partly by shortening the distance between man and man, and so facilitating the transmission of infections of the upper respiratory organs, since the virus is sprayed into the surrounding air in droplets of secretion during coughing, sneezing, and loud speaking.

Thus overcrowding favours the occurrence not only of cerebro-spinal fever but also of its forerunners, the catarrhal diseases such as influenza, which so often precedes it, and it also promotes our sixth etiological factor—a high carrier rate of epidemic strains of the meningococcus.

#### *The Close Relation between Overcrowding and Carrier Rate.*

Were it not for differences in the efficiency of ventilation and for differences due to catarrhal diseases which increase the spraying range of the individual, the relation between the space separating the beds and the carrier rate of a unit would be almost a simple inverse ratio. In the last seventeen months I have examined 12,000 non-contacts largely in connexion with the question of overcrowding, and whilst I do not propose to weary the reader with endless tables, I shall try to summarize the results in as useful a form as possible. Some of the results are shown in detail in a special report to the Medical Research Committee, March 6th, 1918. The chief thing to remember is that efficient ventilation and space between the beds are the vital points; mere floor space and mere cubic space are not at all of the same importance.

Taking barrack-rooms and huts together, it was found that strict adherence to a mobilization standard usually gave a carrier rate of just under 10 per cent.—that is, those agglutinating with one or other of the standard type serums of Gordon. Epidemic meningococci only are counted.

This (with ordinary barrack ventilation always understood) means that a distance of about 1 ft. 4 in. between beds corresponds with a carrier rate of about 10 per cent. A very slight excess above "mobilization" very rapidly sent up the carrier rate to between 10 and 20 per cent. If the beds were closer than 1 ft., 20 per cent. was almost invariably found, and if the distance were under 9 in., 28 to 30 per cent. was usual. A "peace" standard of accommodation, unless there were some gross defect of ventilation, rarely yielded a carrier rate over 5 per cent.

It was noted also that if overcrowding occurred in a unit which had not previously been overcrowded, two things happened: First, a marked rise in the carrier rate occurred, usually within a fortnight, reaching its maximum about three weeks after the overcrowding began; this is

termed the "warning rise," and when the other factors which have been enumerated were present, and the carrier rate reached 20 per cent., cases of the disease usually began to occur.

Secondly, the proportion of carriers of epidemic or agglutinable strains of the meningococcus to carriers of inagglutinable strains very markedly increased.

In every case the carrier rate of non-contacts of the same unit was approximately equal to the carrier rate of the actual contacts of the case.

#### *Rise in Non-contact Carrier Rate a Storm Signal.*

A sharp rise in the non-contact carrier rate to over 20 per cent. is as sure a storm signal of imminent trouble as it is a sign of overcrowding or dangerously deficient ventilation.

Whilst overcrowding produced a rise in the carrier rate very quickly, a return to mobilization standard was not sufficient to reduce the carrier rate markedly, but the carrier rate was reduced with remarkable success by spacing out the beds to 2½ ft. distance between each, although not at so fast a rate as overcrowding will raise it. To raise the carrier rate by overcrowding was both easier and quicker than to diminish it by spacing out.

Thus, a camp which had been purged by six months of spacing out, and which had a carrier rate for the month of March (1918) of 0.5 per cent., was severely overcrowded in April (beginning on April 20th). By May 2nd the carrier rate was over 30 per cent.

This camp forms so excellent an example of the effect of two periods of overcrowding alternated with a period of spacing out that I propose to outline its recent meningococcal history.

The sequence of events down to the end of November, 1917, has been described in a paper on the epidemic of cerebro-spinal fever of 1917 at X Dépôt,<sup>1</sup> but for convenience I shall briefly recapitulate the story from the beginning of the war.

The first outbreak was in January and February, 1915, and followed severe overcrowding. There were 19 cases, with 11 deaths. No information is obtainable as to carrier rates or as to the type of meningococcus infecting the patients.

The second outbreak began in February, 1916. Seven cases occurred, all due to meningococcus Type II. Only contacts were examined, but this was done on a very wide scale by Captain M. Flack, and in most cases the "contact" carrier rate was over 20 per cent. I have no information as to the overcrowding, but as the "mobilization" standard of each hut was taken as 32 instead of 30, it follows that each man had only 37.5 square feet of floor space, whilst, allowing for the stove, there would be almost exactly one foot between the beds. It is therefore certain that there was some overcrowding in 1916, though I am informed it was not nearly so severe as in the preceding or following years.

In August, 1916, Captain Flack commenced a series of observations on the carrier rate of non-contacts at the dépôt, which I have continued, so that for more than two years the carrier rate of the dépôt has been under continuous observation. Almost every week 100 men have been examined.

In August, 1916, the carrier rate was 10 per cent., that of October 6 per cent., November 4.6 per cent. Now began slight overcrowding, but not until December 1st, 1916, was the overcrowding severe. The carrier rate commenced to rise at once. On December 9th it was 17 per cent., on December 23rd 19 per cent., and on December 28th two cases of the disease occurred. At the end of January, 1917, a sharp outbreak of cases occurred. On January 27th the average carrier rate of the contacts was 60 per cent.; on February 5th both contacts and non-contacts showed carrier rates of over 70 per cent. The dépôt was now reduced to about nominal mobilization standard, but men were still thirty-two in each hut, and cases continued to occur until the end of March.

The great majority (70 per cent. at least) of both patients and carriers in 1917 were infected by meningococcus Type II. Twenty-one cases in all occurred in 1917.

#### *Scheme of Prophylaxis.*

In September, 1917, a scheme of prophylaxis was submitted to the D.D.M.S. after consultation with the commandant and the senior medical officer of the dépôt. Its



chief provision was the spacing out of all beds to  $2\frac{1}{2}$  ft. distance. This meant reducing the number of men in each hut from 32 to 23, thereby incidentally increasing each man's floor space from  $37\frac{1}{2}$  sq. ft. to 52; similarly it meant reducing the number of men in barrack-rooms from 36 to 26. This involved a reduction of 1,256 beds below the mobilization standard, the beds being returned to store. (It should be noted again that the mobilization standard had been erroneously calculated on a 32 bed per hut basis.)

The other provisions included simple devices for fixed (hopper) window ventilation, the postponement of anti-typhoid inoculation until the recruit's second month, provision of larger medical inspection premises, prevention of overcrowding in Y.M.C.A. and similar premises, and the provision of a large spray hut capable of treating two platoons simultaneously if necessary, and weekly samples of 100 men as a guide to the current carrier rate.

I have no doubt that the spacing out was by far the most important, ventilation coming second, and probably the postponement of the inoculation (until the recruit is to some extent acclimatized) third. Spray treatment was used for entrant recruits only until May.

The scheme was to come into force if a warning rise occurred in the carrier rate, or at the beginning of the "danger period," that is, the winter months. The carrier rate, which had been low in August, 1917, showed a considerable rise in September, and on September 27th a sample of 100 trained soldiers (who are distributed two in each hut) gave a carrier rate of 17 per cent. Permission was then obtained to put the scheme into force, and "spacing out" was practically accomplished by October 4th, 1917.

The success of the scheme exceeded all expectations, the carrier rate fell steadily throughout the winter. The average for December, 1917, was 3 per cent., compared with 16 per cent. average for 1916. For January, 1918, it was 4 per cent., compared with 60 per cent. for January, 1917. For February, 1918, the average was 4 per cent., compared with the 72 maximum and 40 per cent. or over average for the February of 1916. For March, 1918, the average was 0.5 per cent., compared with 20 per cent. for March, 1917. This is only a quarter of what is usually regarded as the irreducible minimum of the civil population, 2 per cent.

For the first time in four years of war the winter months had passed not only without an outbreak, but without a single case of cerebro-spinal fever. Not only had the scheme done what was intended in the prevention of cases of cerebro-spinal fever and the elimination of carriers, but the dépôt had also been almost free from other infectious diseases, and had been extraordinarily healthy. That this was not entirely due to a favourable winter is shown not only by subsequent events, but also by the fact that another dépôt situated ten miles away, which was severely overcrowded, had a sharp outbreak of cerebro-spinal fever during January and February.

But perhaps the most striking proof of the efficacy of spacing out is furnished by the fact that when overcrowding again began, and cases and high carrier rates followed in its wake, the infection was due to a type of meningococcus other than Type II, to which had been due all the cases in 1916 as well as six-sevenths of the cases in 1917, and 70 per cent. of the carriers, as well as nearly all the cases in several subsidiary outbreaks in the reserve battalions fed by recruits from the dépôt. The house was indeed swept and garnished of its Type II infection, and when the overcrowding came again the devils, worse than the first, that entered in and abode there were Types I and III.

### Recurrence of Overcrowding and of Carriers.

Spacing out came to an end on April 19th, 1918, after a reign of 193 days. Then came the great call up of previously exempted men, mostly miners. The dépôt authorities, particularly the senior medical officer, were fully alive to the dangers of overcrowding, and from the first made strenuous efforts to prevent it, but so fast did recruits pour in that extra accommodation in the shape of tents boiled painfully in the rear of the rapidly increasing strength of the garrison instead of anticipating it. Hundreds were continually arriving without notice, and had to be put in already overcrowded accommodation.

Overcrowding began on April 20th, and by April 25th it was extremely severe, worse than at any previous time, remaining very severe for three weeks. The carrier rate had been 1 per cent. on April 10th. On April 17th and 26th new arrivals only were examined, those on April 26th not having slept more than one night in the dépôt, showed 3 per cent.

A sample of 100 men on May 2nd, who had been some time in the dépôt, showed 31 per cent. carriers. The danger signal had indeed come, but the season was May, and it was hoped that this might avert an outbreak. On May 7th, however, the first case of the disease was diagnosed. One barrack-room on May 9th showed the high carrier rate of 41 per cent. On May 19th and the

three following days four cases occurred, all, like the first, due to Type I meningococcus. On and after May 20th all men (about 4,000) who had been three weeks or more in garrison received a six days' course of spray treatment with a solution of zinc sulphate 1.2 per cent. in the spray hut, each man having ten minutes' treatment each day. A large sample of 375 of these men examined immediately after the conclusion of the six days' treatment showed an average carrier rate of 16 per cent., those from barrack-rooms being still well above 20 per cent. By May 25th, however, the accommodation allowed of a

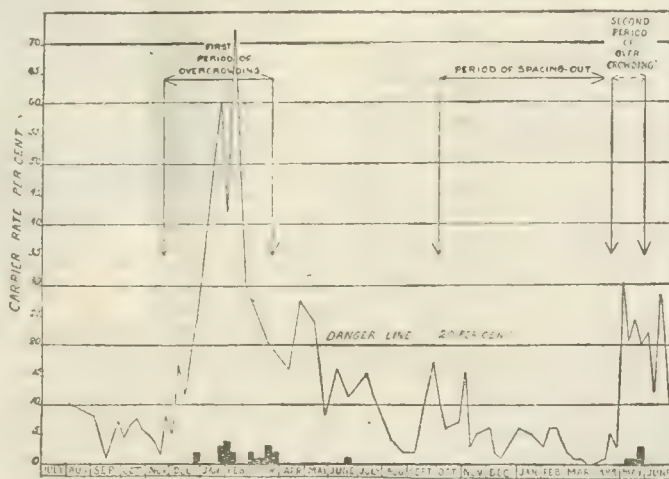


Chart showing effect of alternate overcrowding and spacing out upon case incidence and non-contact carrier rate of cerebro-spinal fever at X Dépôt. Line = weekly carrier rate. Columns = weekly incidence of cases.

"mobilization" standard, and by June 8th tentage had been obtained sufficient to allow of the following modified spacing out: 7 men to each tent, 27 to each hut, and 30 to each barrack-room.

The carrier rates in the barrack-rooms remained high for some time, the overcrowding having been worst in them, but there were no further cases until after a severe epidemic of "Spanish" influenza in July, when two more cases occurred.

The events at this dépôt may be summarized in a few words, as follows:

1. "Spacing out" almost completely purged the dépôt of the previous Type II infection. (Spacing out, that is, to  $2\frac{1}{2}$  ft. between beds—that is, twenty-six beds in each barrack-room, twenty-three in each hut.)
2. Subsequent severe overcrowding raised the carrier rate to 30 per cent. in a fortnight, and in about three weeks was followed by a series of cases of the disease, although the usual danger season was well past.
3. This new infection was due to Type I in all cases, and the majority of carriers carried Type I or III instead of II as in the previous outbreaks.
4. The recruits entered with a low carrier rate, which multiplied rapidly in the overcrowded state of the garrison.
5. An extremely well marked rise in the carrier rate ("the warning rise") took place before the actual cases occurred.
6. The average "contact" carrier rate was substantially the same as the average "non-contact" carrier rate of the same period for the same class of accommodation.
7. A marked rise in the proportion of carriers of epidemic strains (that is, those agglutinating with the four standard serums of the Central Cerebro-spinal Fever Laboratory) to carriers of organisms culturally resembling the meningococcus, but not agglutinating, was found in the non-contact samples after the commencement of the overcrowding.



This increased proportion of agglutinable strains, which was also found in the 1917 epidemic period, constitutes a second danger signal. (See article previously cited.)

7. Cases ceased to occur as soon as the *dépôt* was spaced out to some extent (barrack-rooms 30, huts 21, tents 7 men in each) and carrier rates declined, those of the barrack-rooms remaining high for two months.

#### Effects of Spacing Out in Other Units.

The results of "spacing out" beds to 2½ ft. in other units were equally remarkable. The table gives the results in four instances with men sleeping in barrack-rooms all severely overcrowded when the men were first examined.

Effects of "Spacing Out" on "Severely Overcrowded" Barrack-rooms.

Unit.	Date of First Swabbing.	Percentage Carrier Rate before Spacing Out.	Period Spaced Out Approximately.	Date of Second Swabbing.	Percentage Carrier Rate after Spacing Out.
No. 1 ...	Sept. 29	22.0	8 weeks	Dec. 6	2.0
No. 2 ...	Oct. 2	28.0	6 weeks	Nov. 23	7.0
One room of No. 2 ...	Oct. 2	38.5	6 weeks	Nov. 23	4.5
No. 4 ...	Oct. 26	28.0	5 weeks	Nov. 30	4.5

At the same time great attention was paid to the ventilation, which, particularly in the first instance, had been greatly interfered with by lighting restriction regulations. Other classes of accommodation, such as huts, Aylwin huts, and loose-boxes, yielded equally satisfactory results with spacing out, but details need not be given here.

The importance of reducing the carrier rate of a unit is not limited merely to the prevention of cerebro-spinal fever in the unit itself. A home unit with a high carrier rate involves the sending of highly infected drafts to transports and front line conditions where overcrowding is really inevitable. It also involves a certain, though small, number of cases occurring in civilians, usually the soldier's children, from infection by carriers returning on leave.

There are several practical points in the prevention of cerebro-spinal fever that I have not touched upon.

First, the well known fact that it is recruits in the first months of service who chiefly suffer from the incidence of the disease, would seem to indicate that this class of soldier should be protected by special "spacing out" (preferably to the full "peace standard") during the winter months, at any rate for his first three months of service.

Secondly, corners of rooms and huts are usually found to have carriers sleeping in them; this is no doubt due to

"dead-end" ventilation. Partitions in huts (such as occur in a well known naval pattern) and barrack-rooms are therefore injurious, as they double the number of corners beside interfering with ventilation generally.

Thirdly, small subdivisions of a unit's sleeping accommodation, such as occur with tents or Aylwin huts or loose-boxes, limit infection, but at the same time focus it. A sample of 100 men in crowded Aylwin huts, for example, gave an average carrier rate of 15 per cent., whilst one hut in the sample had a 50 per cent. rate.

#### GENERAL CONCLUSIONS.

1. A high carrier rate usually denotes overcrowding and dangerously unhygienic conditions, even though no cases of the disease may have recently occurred.

2. Whilst sporadic cases may occur in a military as in any other community with any carrier rate, anything approaching an epidemic of cerebro-spinal fever is heralded by a warning rise of considerable height in the carrier rate.

3. Severe overcrowding will probably be accompanied by a carrier rate (serological) of at least 20 per cent. This percentage is indicated as the danger line in the War Office Memorandum on cerebro-spinal fever (March, 1917). A carrier rate of this height will usually imply that the mobilization standard of 40 sq. ft. per man has been infringed, and that beds in the unit examined are less than 1 ft. apart. It should be regarded as a signal for prompt and effective action to diminish overcrowding, and to improve ventilation.

4. The distance between beds is of paramount importance.

5. Carrier rates between 10 and 20 per cent. are unsatisfactory, and imply a certain amount of overcrowding; they must be watched with suspicion.

6. Carrier rates from 2 to 5 per cent. may be considered usual under the best conditions obtainable in barracks and hutments.

7. Under the same conditions of overcrowding ("non-contacts") carrier rates agree substantially with "contact" carrier rates.

8. Quite a moderate degree of "spacing out" of beds, combined with simple methods for improving ventilation, are highly efficient agents in reducing high carrier rates.

9. When a unit shows a high carrier rate, a distance of at least 2½ ft. between the beds should be enforced. The "peace" standard would, of course, be even more effective.

10. Recruits should be specially spaced out during their first three months of service.

#### REFERENCES.

1. R.A.M.C. Journal, January, 1918; Journal of Hygiene, July, 1918.
2. For details see the article previously quoted, R.A.M.C. Journal, January, 1918.

## A CASE OF SUBACUTE INFECTIVE ENDOCARDITIS.

BY

BERNARD HUDSON, M.D.CANTAB., M.R.O.P.,

MAJOR R.A.M.C.(T.C.).

HAVING read with great interest the paper by Lieutenant H. J. Starling, R.A.M.C., on five cases of subacute bacterial endocarditis, reported in the issue of the BRITISH MEDICAL JOURNAL for August 17th, I am tempted to give an account of a case of endocarditis of great interest which has recently been under my observation in No. 2 Red Cross Hospital, France.

The patient, a man aged 40, died eight weeks after admission to hospital. He was sent with a diagnosis of "endocarditis." On admission he was pale, somewhat wasted, and in a typical "typhoid" condition, drowsy, and of slow mentality.

There was no history of previous rheumatic fever or any other disease. He stated that he was perfectly well till about five weeks previously, when he commenced to get severe headaches, malaise, and was very easily fatigued. There is no previous record of his temperature or cardiac condition.

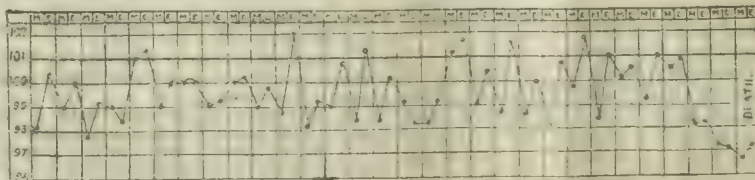
On examination the apex beat was not displaced, nor was there any obvious enlargement of the heart. On auscultation a loud diastolic murmur was heard, conducted up the sternum to the aortic valve. There was also an apical systolic murmur. The pulse was 80, and of distinct water-hammer type. There was nothing abnormal in the chest or the abdomen. The spleen could not be felt. The patient was covered with an eruption of small petechial spots, which kept coming out in crops throughout the course of the disease.

A copy of the temperature chart is attached.

The urine contained a slight cloud of albumin, but otherwise presented nothing of special importance. Cultures made from the blood on several occasions were always sterile. A blood count was done many times, but there was never any leucocytosis, the number of white cells being between 7,000 and 8,000.

For treatment, courses of anti-streptococcal serum and also vaccines were tried, but with no effect whatever. The course of the

case was extremely slow, and the patient almost imperceptibly went downhill. The cardiac murmurs kept changing in quality throughout the disease, but the heart never became enlarged, and the apex beat all through remained in its normal position: the pulse was slow and regular throughout, and preserved its aortic quality.





The patient gradually became more and more toxicæmic and finally died eight weeks after admission.

Post-mortem Examination.

The heart was not enlarged, nor was there any degree of myocardial degeneration. A large cauliflower-like vegetation was found on one cusp of the aortic valve, almost completely closing the orifice of the valve. There was a similar vegetation on the adjoining cusp; the third cusp was free. The summit of the large vegetation was soft and friable, but the base was cartilaginous. The mitral valve had two or three similar but smaller vegetations on it. The right side of the heart was normal.

The spleen was dark, about twice its usual size, and showed two recent infarcts. There were also small infarcts in each kidney, but the rest of the examination showed nothing abnormal.

In a smear made from the aortic vegetation were seen enormous numbers of organisms resembling streptococci, rather large in size, and growing in chains of three to five.



Drawing of interior of left side of heart.

The remarkable features about this case were the insidious and slow progress, the absence of any definite cardiac symptoms, and the fact that the heart never became enlarged, in spite of the severity of the aortic lesion and the long duration of the case. This may be attributed to the fact that the large vegetation prevented any real leaking of this valve.

The patient was never really "cardiac"; there was no dyspnoea or oedema, and the pulse maintained a steady, regular, slow beat till the end. He was in a "typhoid" state throughout the disease, and died eventually of a slow toxicæmia.

A CASE OF INTESTINAL OBSTRUCTION.

BY

J. M. WOODBURN MORISON, M.B., C.M.,

RADIOGRAPHER,

AND

L. WHITE, M.R.C.S., L.R.C.P.,

CLINICAL PATHOLOGIST,

THE DISTRICT INFIRMARY, ASHTON-UNDER-LYNE.

The case here reported was evidently an instance of intestinal obstruction due to the healing process of old tuberculous ulcers of the bowel, possibly secondary to a lung infection.

John S., aged 68 years, was admitted to the Ashton-under-Lyne Infirmary on April 16th, 1918, having been sent in by Dr. Macintyre on account of abdominal pain and distension accompanied by vomiting. At 16 years of age he had "slow fever," and at 25 years had "inflammation of the bowels." He stated that with the exception of these illnesses he had always been a healthy man, and up to three months ago had never had any digestive troubles. The bowels had always acted regularly without aperients.

Three months before admission he began to be troubled with "pain in the stomach," the pain being chiefly located in the epigastrium. Usually it came on suddenly within half an hour after taking food, and ceased suddenly. He vomited occasionally and this relieved the pain; the vomit was "very acid." His appetite had fallen off, and he had lost flesh considerably. The family history was unimportant.

The abdomen was greatly distended and the percussion note tympanitic all over. The liver dullness was normal. On palpation strong peristaltic waves could be set up, causing the intestines to stand out in well marked relief in transverse bands running obliquely downwards from left to right in the umbilical and hypogastric regions, the so-called "ladder phenomenon." There was also marked gurgling on palpation of the descending colon. No tumour was palpable. Though tenderness was general, it was most marked over the epigastrium. The heart and lungs were normal; temperature 98°, pulse 93, respirations 24.

Blood Count.		
Erythrocytes ...	...	4,664,000
Hæmoglobin value ...	...	64.0
Colour index ...	...	0.7
Leucocytes ...	...	12,000
Eosinophils ...	...	0 per cent.
Polymorphs ...	...	74 "
Lymphocytes ...	...	18 "
Large non-nucleus ...	...	2 "
Transitionals ...	...	6 "
Small cells ...	...	0 "
Total non-protein nitrogen, 55 mg. per 100 c.cm.		

The urine contained a trace of albumin and a few granular casts; indican was present in marked excess.

X-ray Report.

The x-ray examination showed the stomach to be of a partial hour-glass form. The bismuth meal passed freely into and through the duodenum and jejunum, but was obstructed in the ileum, from which it passed slowly into the caecum. The radiogram shows the small intestines filled with the bismuth meal, portions of the intestines being ballooned out with gas. The x-ray diagnosis was "obstruction in the lower part of the ileum."

The bowels acted naturally once or twice daily. The vomiting persisted and the pain increased, so that it became necessary to administer morphine. On the evening of April 15th, his general condition being satisfactory enough to warrant it, it was decided to open the abdomen in order to relieve the obstruction. The diagnosis before operation was obstruction in the ileum or at the caecum, probably due to a malignant growth.

Operation.

The abdomen was opened by a right paracostal incision through the rectus. Numerous loops of distended small intestine immediately protruded through the wound. A rapid examination only was permissible on account of the general condition. No definite tumour or band or other cause of obstruction was found. A Paul's tube was inserted high up in the ileum, drainage being free through the tube.

The day following the operation the patient's general condition improved and the vomiting ceased, but from then onwards he became gradually weaker and died on the third day.

Post-mortem Examination.

This was performed twenty-four hours later. Emaciation was not marked. There were very few adhesions at the site of the wound and little shutting off of the abdominal cavity. There was no definite tumour palpable, but at intervals along the small intestines at the attachment of the mesentery could be felt small hard masses. The largest mass, however, was situated in the descending colon just above the sigmoid, and this would probably have been palpable during life but for the general distension. On removal of the small intestine it was found that at a point 77 in. above the caecum there was extreme stenosis, the lumen of the bowel being contracted to a size sufficient only to admit a wooden match. The stenosis was due evidently to scar tissue formation consequent on a previous ulceration of the bowel, the scarring spreading pincer-wise, with much thickening at the attachment of the mesentery. The bowel above the obstruction was ballooned and its wall markedly hypertrophied. There were no stercoral ulcers—"distension ulcers of Kocher"—present. The peritoneal surface of the intestine in the neighbourhood of the stenotic areas showed numerous yellowish plaques. Between this main obstruction and the caecum there were three similar lesions of varying degrees of stenosis, and in one instance evidence of an old ulcer was distinctly visible on the interior of the bowel by an oval depressed scar with its main axis transverse. A similar condition also existed at a point in the descending colon, just above the sigmoid flexure, but here the thickening and scar formation was much more pronounced. The peritoneal surface of the bowel showed patches of pigmentation. It was not possible to remove the stomach in the usual way as its posterior wall was firmly adherent to the subjacent structures, and after removal by dissection it was found that there was an old healed ulcer which had given rise to much thickening and contraction of the posterior wall and a mild grade of hour-glass stomach. The mesenteric glands were enlarged and one or two showed calcification changes. The



lungs showed at both apices old healed scars. The left base had firm, tough adhesions. The other organs showed nothing abnormal. Histologically the appearance of the lung sections were those of old healed tuberculosis. Sections of the bowel made at the site of stenosis showed thickening of the muscular layers and particularly of the submucosa, with proliferation of fibroblasts. The mucous membrane was in an atrophic condition. Sections from different points stained for tubercle bacilli were all negative.

The points of interest in this case are the length of time elapsing between the primary attack, forty years previously, and the shortness of the period—three months—during which the patient showed symptoms and was extremely ill. This is assuming that the history of "inflammation of the bowels" at the age of 25 was the primary attack of intestinal tuberculosis, and the details he gave of the illness give weight to this assumption, which is further supported by his claim to have enjoyed good health without a break up to the time when his final illness began. Excluding strictures of the rectum, obstruction of the bowel due to cicatricial contraction is a rare condition. A series of 70 cases has been collected (Bernay), and over a period of thirteen years the percentage of cases of cicatricial stenosis causing obstruction was 1.8 out of 669 cases at the London Hospital. According to Nothnagel, the only common causes are tuberculous and stercoral ulcers, but typhoid, dysenteric, duodenal and syphilitic ulceration may be followed by cicatricial stenosis. Tuberculous ulcers usually give rise to multiple stenoses, and in one case described by Nothnagel there were seven stenotic cicatrices.

### PYLORIC STENOSIS WITH ACCOMPANYING SPASMODIC DYSPHAGIA.

BY

CAPTAIN E. B. BARTON, M.B., Ch.B., R.A.M.C.,

AND

LIEUT.-COLONEL H. H. C. DENT, M.B., F.R.C.S.,  
L.R.C.P., R.A.M.C.(T.F.).

THE following case of pyloric stenosis presented considerable interest on account of an accompanying difficulty and pain in deglutition.

J. W. S., aged 36, previously in excellent health, developed gastric symptoms in August, 1916. He was treated in a military hospital from September 11th to November 10th, 1916, for dilatation of the stomach. At that time he had increasing dysphagia. In December, 1916, on two occasions attempts were made to pass oesophageal bougies. Finally he was informed that he had an oesophageal stricture.

Up to July, 1918, he was in a low category. He had lived on bovril, milk, and slops only, as he was unable to swallow anything solid. He was then admitted to the Clifton Military Hospital in a very debilitated condition. He complained of marked dysphagia, gastric distension and vomiting. The dysphagia had been constantly present since 1916, but was apparently not progressive. There was no regurgitation of food from the oesophagus. Regularly every two or three days he vomited a large quantity of fluid and mucus, sometimes streaked with blood.

A bismuth meal was given and the passage of the bismuth observed with the screen and the x rays. There was a distinct check in the forward peristaltic contraction of the preno-cardiac portion of the oesophagus. The examination was repeated and the check appeared at a different level. There was very marked gastric delay. Bismuth still remained in the stomach after thirty-six hours. The opinion was formed that the condition was one of duodenal ulcer with pyloric stenosis and a reflex spasmodic stricture of the oesophagus.

On September 4th laparotomy was performed by a para-central incision. The stomach was found very much dilated. The cardiac end was normal. The pylorus was obstructed by a thick fibrous ring which was almost impermeable. Over this ring was a puckered scar suggesting an old duodenal ulcer. Posterior gastro-jejunostomy was performed, an opening being made 2½ in. in length in the stomach and in the jejunum.

He stood the operation well and had hardly any post-operative sickness. He was soon on solid food, and, although the first mouthful causes slight difficulty in

swallowing, yet he can eat a full meal with ease. He was up in three weeks. His weight was 8 st. 3 lb. before operation; now (October 10th) it is 8 st. 13 lb. He looks and feels an entirely different man. X-ray examination shows normal swallowing.

### INEQUALITY OF THE PUPILS.

BY

T. STEWART BARRIE, M.B., F.R.F.P.S.G.,  
GLASGOW.

THE question of the meaning of inequality of the pupils is always being raised for diagnostic purposes, especially in affections of the thorax. According to many authorities, "inequality of the pupils is always pathological";<sup>1</sup> but many observers are not so dogmatic, and admit that the condition occurs in from 1 to 10 per cent. of all cases.<sup>2</sup>

In order to gain some idea of the frequency of this condition I examined, for this peculiarity, in the course of my work as an ophthalmic surgeon in the Glasgow recruiting area, the eyes of 326 men who had been sent for special examination. Inequality of the pupils was found in 35 cases, a proportion of 10.73 per cent. In none of these cases was there any sign of ocular disease nor manifestation of disease of the central nervous system. The pupils reacted readily to light, and the consensual and convergence reflexes were normal; in each case the inequality persisted in the contracted state.

The inequality in every case was indisputable, the difference between the diameters of the two pupils being from one to two millimetres. This difference is not large, but as pupils are compared by areas it was easier to note differences than to measure them. For example, pupils having diameters of 3 and 2 mm. respectively have areas in the proportion of 9 and 4.

An analysis of these 35 cases gave the following results:

1. The left pupil was the larger in 21 cases, the right in 14.
2. The visual acuity without glasses was the same in 10 cases; the right eye had the higher visual acuity in 8 cases, the right pupil being the larger in 4; the left eye had the higher visual acuity in 17 cases, the left pupil being the larger in 13.
3. The refractive condition of the 35 cases was as follows:

Emmetropia	...	...	...	...	2
Hypermetropia	...	...	...	...	2
Hypermetropic astigmatism	...	...	...	...	2
Myopia	...	...	...	...	11
Compound myopic astigmatism	...	...	...	...	1
Mixed astigmatism	...	...	...	...	3
Anisometropia	...	...	...	...	9
Not recorded	...	...	...	...	5

The conclusions which may be drawn from this investigation are as follows:

1. Inequality of the pupils is frequent.
2. It is associated with all refractive conditions, with a tendency to be more frequent in myopic conditions.
3. The visual acuity is not affected adversely by the fact that one pupil is slightly larger than the other.
4. The left pupil is more frequently larger than the right.
5. Inequality of the pupils occurs as a physiological condition.

#### REFERENCES.

<sup>1</sup> Fuchs, *Textbook of Ophthalmology*, fourth edition. <sup>2</sup> Hawthorne, *Clinical Medicine*.

THE Italian Minister of Finance has set up a committee consisting of the deputies Sanarelli, Maggiorino Ferraris, Rava, Landucci, and Belotti, Professors Flora, Vinaj, and others, with the Under Secretary of State as chairman, to investigate and report on the watering places and thermal springs of Italy, and the means of developing their usefulness and increasing their value.

WITH the object of preventing the evils due to the excessively high prices of medicines in Italy, powers have been given to prefects, on the representation of the provincial health council, to fix a maximum price for drugs in most common use. Contravention of this ordinance is punishable by fine up to £40; for a repetition of the offence the penalty is imprisonment up to the term of one year. The shop of the offending pharmacist may be closed temporarily, or in case of repetition permanently, by decree of the prefect.



## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### ANTISTREPTOCOCCUS SERUM IN INFLUENZA.

DURING the month of October, 1918, 26 cases of pneumonia were admitted to my wards at the Bristol Royal Infirmary. Of these, 13 died and 13 recovered.

During the same period of time 53 + 15 cases of influenza, without any pulmonary lesion, were also admitted. Of the first 53 cases 40 recovered after a simple fever, 3 died without any pulmonary lesion, and 10 developed pneumonia, of whom 6 died and 4 recovered; 23 of these were treated by a vaccine (in doses of from 5 to 30 million) prepared from a *Micrococcus epidemicus* isolated by my colleague Professor Walker Hall, but with no diminution either of the average length of fever or of the liability to pneumonia.

To the last 15 cases antistreptococcic serum was given by hypodermic injection. All recovered, and no pneumonia occurred in any. In many cases a fall of temperature to normal, or but little above, occurred after one dose, in some after two daily doses, whilst in one case three doses were necessary.

The numbers are too few for definite conclusions, but, taken in association with the statement in your editorial article on the etiology of influenza that the organisms "chiefly responsible for the gravity of the secondary pulmonary complications are pneumococci and streptococci," they suggest the advisability of giving antistreptococcic serum in 10 c.cm. doses to all cases of influenza where a high temperature persists into the second day, and of repeating it if necessary in the hope of preventing the occurrence of pneumonia.

I should add that I have not had any good results from the serum in four cases where pneumonia had already developed.

Clifton.

F. H. EDGEWORTH.

#### HAEMORRHAGE IN INFLUENZA.

IN the pandemic which is at present raging the great frequency of haemorrhage from mucous surfaces has been observed by me. Epistaxis is very common in children and adolescents.

Haematemesis is frequent in those cases in which vomiting occurs. Haemoptysis is present in the pneumonic stage, but I have found it in four individuals in whom there was no pneumonia, and all of whom were up and out in a week.

More interesting still is the fact that young girls menstruate before their time, and girls who have never menstruated commence that function during an attack. Women miscarry in many cases, and I have notes of one woman who had a premature infant.

Lastly, I may mention the instance of a married lady who was operated on for uterine carcinoma two years ago. There has been no haemorrhage since until this week, when, in the course of an attack of influenza, violent and alarming bleeding occurred.

JOHN A. MCCONNOCHIE, M.B., Ch.B.Glasg.

Glasgow.

#### DEFLUVIUM CAPILLORUM AFTER INFLUENZA.

DR. ROBERT GIBSON (BRITISH MEDICAL JOURNAL, October 26th) puts the time of occurrence of defluvium as two to three months after the influenza. A patient of mine suffering with influenza at the present time gives a very definite history of a severe previous attack of the same complaint nine years ago, when he was 44 years old, in which his hair began to come out in large quantities whilst he was still in bed about ten days after he had been taken ill; the loss of hair continued during convalescence, and in spite of treatment at the time and subsequently, the hair has never grown again, and he is nearly bald at the present moment.

Cinderford, Glos.

JOHN N. BEADLES, M.B., B.S.Lond.

#### THE ADMINISTRATION OF ANAESTHETICS TO SOLDIERS.

Two communications have lately appeared in the JOURNAL under the above heading, each recommending some form of apparatus. I wish to express my conviction, founded

on experience since the beginning of the war, that (except when nitrous oxide is required, or when for nose and throat cases a Junker must be used) no apparatus whatever is necessary or desirable beyond a Schimmelbusch mask with two layers of domette. Three drop-bottles, preferably Hewitt's tap pattern, should be at hand, filled respectively with C.E. mixture, ether, and chloroform; and a tube of ethyl chloride may be added. The administration begins with C.E. given slowly at first, and, if rapid loss of consciousness is desired, a little ethyl chloride may be sprayed on the wet mask. Generally the C.E. is continued throughout, changing to ether if stimulation is needed, and to chloroform in opposite circumstances. Chloroform is generally best towards the end of a long operation.

Eastbourne.

H. S. GABBETT, M.D.

#### ROSACEA SUCCESSFULLY TREATED BY MIXED STAPHYLOCOCCUS VACCINE.

ROSACEA, according to Dr. Norman Walker, consists clinically of an inflammation of the skin—a dermatitis which culminates at certain points in the development of small pustules, although these are not invariably present, as in some cases the dermatitis does not go beyond the papular stage. It affects especially the forehead, nose, cheeks, and chin. The hyperaemia keeps the skin in a constant state of hypernutrition, leading to the development of increased fibrous tissues, evident in the milder cases as simple thickening and in the more severe as those hypertrophic pendulous masses which go by the name of rhinophyma or potato nose.

M. F., a man of temperate habits, came under my care in January, 1918, with what clinically answered this description of rosacea in a somewhat mild form, but nevertheless very intractable, as it had lasted over nine years. The nose, chin, and cheeks were affected. I examined the scalp carefully, but failed to detect any sign of seborrhoea or other irritation which might have brought on this condition. I prescribed an ointment and advised careful attention of the scalp, but the patient begged me to adopt a different line of treatment, as he had been given such remedies elsewhere for years without effect. I thought it worth while to try vaccine treatment, and gave an initial dose of 250 million mixed staphylococcus vaccine. This immediately brought on a reaction, with marked accentuation of the local lesion. The vaccine was pushed, and doses of 500 million organisms were given at weekly intervals for the next five weeks, and during this period the patient made marked progress. Six doses of 1,000 million organisms followed by two of 2,000 million were then administered; at the end (April) the last trace of the lesion had disappeared, and the patient has not at the time of writing (October) had any sign of recurrence. Without presuming to explain the action of the vaccine, I feel justified in attributing the favourable results to its administration.

Leicester.

P. W. LAM, M.D.Edin.

## Reviews.

#### THE TREATMENT OF HYSTERIA.

It is probable that no branch of medicine will be affected more greatly for good by the war than that concerned with the non-organic nervous disorders. A great work is being done in the elucidation of the nature of these conditions here and there throughout the country, and by no one more successfully than by Major A. F. Hurst and his co-workers, formerly at Netley and now at the Seale Hayne Military Hospital in Devonshire. Certain aspects of the diagnosis and treatment of non-organic nervous disorders are dealt with fully in a new periodical, *Seale Hayne Neurological Studies*,<sup>1</sup> the first number of which has lately been received. It contains a series of short, practical, and essentially readable papers on various manifestations of hysteria, on the rapid cure of hysterical symptoms and on varieties of war contractures.

The articles embody the results of a large series of investigations rather than the notes of individual cases,

<sup>1</sup> *Seale Hayne Neurological Studies*. Edited by Major A. F. Hurst, R.A.M.C., assisted by Captains J. L. M. Symms and Reynell and Lieutenant S. H. Wilkinson. Vol. I. No. 1. Published every 12 months by the Oxford University Press. (Pp. 52. Price 3s. 6d. net. Annual subscription 1 guinea.)



and in this way standards of normality, as well as of abnormality, are fixed anew. The war has proved that several points in neurological diagnosis hitherto accepted require revision. This appears to be true especially of the so called hysterical stigmata. It may be said that in no department of medicine is disease so ineffectively treated as is hysteria. Not every one is able to recognize the condition, and many of those who have an acquaintance with it are content to diagnose it without treating it. Of these the majority do not know how to treat it, either through lack of instruction as students, or, commonly, because at bottom they are unable to declare to themselves with sufficient conviction that no organic disease exists in the case. The surgical, orthopaedic, and electro-therapeutic departments of most hospitals continue to accept many patients who, owing to the misguided solicitude of their medical officers and their failure to effect a cure, are being taught to believe that their disabilities are incurable.

The successful treatment of a hysteric demands the power of making a correct diagnosis and an unconquerable will to cure. This last is bred from self-confidence. It is to be hoped that in the future more medical officers will seek the collaboration of the neurologist in the treatment of nervous cases which do not rapidly improve, and that they will seek this help early and thus save time all round. For instance, electrical reactions are tested daily in the case of muscles which are obviously normal, and unwieldy splints are still applied whose only function is to perpetuate his disability in the patient's mind.

In a patient recently under treatment, who was cured in thirty seconds, faradic massage to the outside of an aphonic larynx had been ordered by the doctor and had been applied daily by a masseuse for six months without the doctor having once witnessed the treatment. Such instances could be multiplied indefinitely, and it seems desirable to point the urgent need for improvement in the general knowledge of the diagnosis and treatment of hysterical disorders.

The new periodical edited by Major Hurst has only to be known to be assured of a wide circulation. The papers in the first number deal with neurological topics in a way which is attractive to members of every branch of the profession, whether specialist or non-specialist, and they will stimulate interest in hysterical disorders and arouse the will in many to know more about their diagnosis and treatment.—H. C.

### SUSPENSION IN THE TREATMENT OF FRACTURES.

The principle of suspension in the treatment of fractures, credit for which ought to be given to Hodgkin, has obtained wide practical development during the war. Major Sinclair's name has rightly come to be associated with these developments in our own army, but progress has been the outcome of many independent efforts.

The French have not been slow to adopt and adapt the method, which MM. P. DESFOSSES and CHARLES-ROBERT describe with admirable lucidity and invaluable minuteness in a recent addition to the *Collection Horizon*.<sup>2</sup> For the moment their book holds the field and should prove very useful to the many surgeons who will have to familiarize themselves with every detail in order to carry out the systematic employment of the method that is to become the routine in all military hospitals.

If there be one department of civil practice which will receive permanent benefit from the experience of war surgery it will be the treatment of fractures. This book ought, then, to be very widely read; not least because it is admirably illustrated.

### NOTES ON BOOKS.

A NEW edition of the handbook on *The Treatment of War Wounds*,<sup>3</sup> by Dr. W. W. KEEN, Emeritus Professor of Surgery in the Jefferson Medical College, Philadelphia, has appeared. As the first was published less than a year ago, the book has evidently been found useful by surgeons. The author observes in his preface that the rapid progress

made in the treatment of war wounds through clinical observation, and more especially by the active research work at the front, as well as at base hospitals and laboratories in England, France, and the United States, has been such that this new edition is almost a new book. The chapter on shock has been expanded, and there is a full discussion of the treatment of fractures and of wounds of the head and chest. A useful feature of the book is that Major Keen has appended to many of the chapters a short bibliography of recent literature. We are sure that this second edition will meet with the same success as the first.

To a series of small books published under the general title, *Harvard Health Talks*, Dr. A. COOLIDGE, Professor of Laryngology in Harvard University, has contributed an essay on *Adenoids and Tonsils*.<sup>4</sup> He begins with a short account of the anatomy, in which he describes the tonsillar ring of adenoid or gland-like tissue in the mucous membrane collected especially at the top of the back wall of the nasopharynx (the pharyngeal tonsil or adenoid), at the sides between the pillars of the palate (the faucial tonsils), and at the lower part of the front wall at the base of the tongue (the lingual tonsil). Then follows a description of the principal function of the tonsillar ring; summarizing the conclusions on this part of the matter, he says that the term "adenoids means a disturbance of the adenoid gland, generally an enlargement, but sometimes a disease of the tissue." Summing the matter up, he states that an adenoid in children and tonsils through life are normal parts of the body, but that sometimes they go wrong in one way or another, and then cause trouble, which may be slight or serious. His advice is that adenoids should be operated upon if they are causing a child persistently to breathe through the mouth, or any more serious symptoms, and that tonsils should not be removed for trivial reasons. "With both adenoids and tonsils we are dealing with structures which are normal parts of the body, and probably serve a useful purpose, and we should therefore spare them, unless we have reason to suspect that they are doing harm which outweighs their usefulness, and which warrants the slight dangers which must always be present in any operation."

The twenty-seventh edition of the *Annual Charities Register and Digest*<sup>5</sup> is much smaller than its immediate predecessors, owing, no doubt, to restrictions upon the supply of paper. The introduction by Sir C. S. Loch, on "How to help cases of distress," which has been a valuable feature for a number of years past, is omitted, together with the short preface articles on special branches of charitable work; and the survey of the past year has been cut down to a brief review of the finance of institutions. In other respects the volume shows little change in arrangement or scope. It will be found of the utmost value to all who need information as to the various agencies for the prevention and relief of distress and guidance in dealing with individual cases. The full table of contents and the elaborate index again add much to the usefulness of this indispensable reference book.

The most recent contribution of Dr. CABANÈS<sup>6</sup> to the byways of history is a collection of essays about the rheumatism for which Mme. de Sévigné went to Vichy and Bourbon l'Archambault; about the last illness of Pascal; about the eccentricities of Christina of Sweden; about the tragic fate of Struensee; and about the opinions of Rousseau and Diderot on the medical faculty, and so on. The essays are written with the author's customary ease, and contain many evidences of his curious erudition. As is his custom, he has illustrated the volume with reproductions of old prints and portraits.

Dr. JAMESON HURRY'S contributions to the subject of "vicious circles in disease" have been noticed on various occasions in these columns. He has now republished in pamphlet form a short article on *Veterinary Diseases and the "Vicious Circle,"*<sup>7</sup> which appeared last summer in the *Veterinary News*.

<sup>4</sup> *Adenoids and Tonsils*. By Dr. A. Coolidge. Harvard University Press. (Fcap 8vo, pp 46; 5 figures. 2s. 6d.)

<sup>5</sup> *The Annual Charities Register and Digest*. A classified register of charities in or available for the metropolis. Twenty-seventh edition. London: Longmans, Green, and Co., and Charity Organization Society. 1918. (Med. 8vo, pp 614. 5s. net.)

<sup>6</sup> *Légendes et curiosités de l'histoire*. Quatrième Série. Paris: Albin Michel. 8vo, pp 342. Fr. 3.50

<sup>7</sup> *Veterinary Diseases and the "Vicious Circle."* By Jameson B. Hurry, M.A., M.D. London: Baillière, Tindall, and Cox. 1918.

<sup>2</sup> *La Suspension dans le Traitement des Fractures*. By P. Desfosse et Charles-Robert. *Collection Horizon*. Paris: Masson et Cie. 1918. (Cr. 8vo, pp 172; illustrated. Fr. 4.)

<sup>3</sup> *The Treatment of War Wounds*. By W. W. Keen, M.D., LL.D. Second edition, reset. Philadelphia and London: W. B. Saunders Company. 1918. (Post 8vo, pp 276. 8s. 6d.)



## MEDICAL AND SURGICAL APPLIANCES.

## THE ADMINISTRATION OF OXYGEN.

Much uncertainty has been introduced into the estimate of the therapeutic value of oxygen by the use of improvised methods which were not only wasteful but ineffective. It has sometimes been given through a funnel placed over the mouth, or even by simply allowing the oxygen to blow off in front of the nose and mouth. With these methods most of the oxygen is certainly wasted. The report of the Chemical Warfare Medical Committee on the administration of oxygen in irritant gas poisoning, to which reference is made elsewhere (p. 520), contains a discussion of the principles which should be observed and a description of apparatus for carrying them out. It is necessary to have on the cylinder a pressure gauge to tell how much oxygen is present in the cylinder, and a reducing valve to reduce the pressure and to maintain it constant till the cylinder becomes almost empty. The Haldane apparatus (made by Siebe, Gorman and Co., London, E.), designed to meet the requirements, is now in common use in the British and American armies. Originally it was made for one patient, but on the suggestion of Lieut.-Colonel Douglas a new pattern has been designed which enables two or four patients to be treated at one time. The oxygen is supplied to a metal face-piece, fitted round the rim with a soft pneumatic cushion of rubber, and tied over the patient's mouth and nose. The patient can at all times breathe in and out freely through an indiarubber flow valve, which produces a slight, but subjectively inappreciable, resistance to the air flow. The oxygen enters the face-piece during inspiration by a wide opening through a broad and flexible concentric tubing connected with an indiarubber bag on the cylinder. Oxygen flows in a steady stream into this bag, which is emptied at each inspiration. Expired air is prevented from passing back into the bag by a valve. The supply of oxygen is regulated by a valve provided with a graduated milled head, allowing from one to ten litres a minute to be given. In another form (the Salvox) only the gauge and reducing valve are on the cylinder, and the oxygen is led to the patient's bed by ordinary narrow tubing. The regulating tap and a small valve metre on which the flow of oxygen can be directly read off at any moment are fixed to a small board above the bed. A light portable apparatus has been designed for use on a stretcher. Leakage should be searched for with a glowing match, or by painting soap solution over any suspected part, when bubbles will show the leak. It is unsafe to use oil or grease on any part exposed to high pressure oxygen. If the patient is at first intolerant of the mask he can be accustomed to it by holding it just free of the face for a short time, until he begins to appreciate the benefit of the oxygen. In cases of pneumonia from any cause oxygen properly administered has been found of great value, and there is a considerable amount of evidence that it relieves or prevents the occurrence of adverse cardiac signs. It is essential that during the critical period oxygen should be used constantly and in sufficient quantity to remove the cyanosis if possible.

## A PORTABLE SALVARSAN OUTFIT.

Brevet-Colonel L. W. HARRISON, R.A.M.C. (Rochester Row Hospital), writes: For the administration of "606" outside an institution where this work is routine the usual apparatus is rather inconvenient, being bulky and difficult to pack into a handbag. In addition to these disadvantages the setting up of the apparatus usually takes an amount of time which cannot well be spared, and for casual work of the kind mentioned the surgeon is apt to prefer "914," which can be given with a Record syringe, but, given intravenously, is not so permanent in its effects. In order to overcome these disadvantages I suggested to the Holborn Surgical Instrument Company that the apparatus could be made much more portable on the lines suggested in Fig. 1. They have perfected the idea, and added a compact case of articles necessary to the preparation of "606," so that the whole outfit is now contained in two boxes, which can easily be slipped into an ordinary surgical bag, and set up at the bedside in a few minutes. Fig. 1 shows a "606" and saline funnel, such as is used in military hospitals, suspended on a frame carried on a telescopic stand, which is screwed into the hinged end of the box. The funnels are set up at home, with the straining gauze in position at the top of each and the rubber tubing attached. The stand is collapsed and the whole turned into the box, which is closed and sterilized in a steamer.

At the bedside the box is opened, and its hinged end carrying the apparatus turned down and fixed in position by two sliding bars in the bottom of the box. The telescopic stand is then extended to its full length, and the apparatus is ready. The other box contains three Soxhlet bottles of 250 c.cm. capacity, fitted with Eyre's special rubber caps, which are designed to permit of sterilization without the necessity of opening and closing the bottle—one of the bottles is graduated and is used for mixing purposes, the other two are for saline; two spare funnels; a cylinder with foot, fitted with a graduated pipette, and containing caustic soda solution; an iodine pencil as devised by Major C. F. White for sterilization of the puncture site; and two needles in alcohol. In the remainder of the space are packed ampoules of "606," a small dressing, and

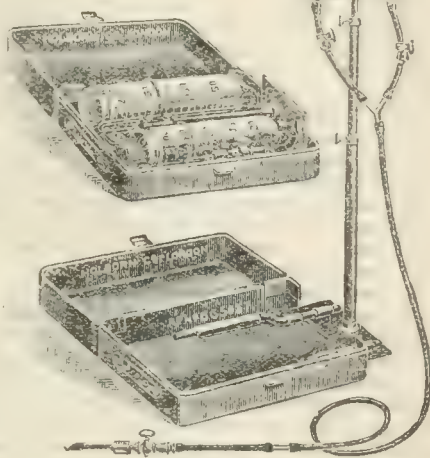


FIG. 1.

a tourniquet. The Soxhlet bottles, funnels, and cylinder are sterilized in a steamer, and, thanks to the special caps on the Soxhlet bottles, these can be carried quite safely in the box provided. The "606" is mixed in the graduated bottle, which should contain about 50 c.cm. sterile distilled water, the cap being removed, the powder poured into the water, and the cap replaced for shaking. The soda is then added, to alkalize, and the necessary amount of saline to bring to the required dilution, leaving enough saline for the saline funnel.

## PRECAUTIONS AGAINST ANTHRAX.

THE danger of anthrax in the wool trade has for some forty years given rise to anxiety among authorities, employers, and operatives alike, and it has formed the subject of numerous inquiries since 1879, when Dr. J. H. Bell of Bradford first identified the disease then known in that town as "wool-sorters' disease" with anthrax. Since that time much labour and thought have been spent on the subject. The results of the latest investigation have now been published in the report of the Departmental Committee on Anthrax appointed by the Home Secretary five years ago. The Chairman was at first Sir Thomas Whitaker, and later Sir William Middlebrook; the medical members were Professor F. W. Eurich, and Dr. T. M. Legge, His Majesty's Inspector of Factories. The Committee was appointed to inquire into the danger from infection by anthrax in the manipulation of wool, goat hair, and camel hair, with a view to amendment in the regulations for these processes made under Section 79 of the Factory and Workshop Act of 1901. The first volume of the report, previously issued, contained the report of the Disinfection Subcommittee on the experimental investigation of disinfection of wool and hair; the second volume contains the report itself, and the third gives a summary of evidence and several appendices.<sup>1</sup>

The inquiry was much hampered by difficulties directly due to the war. The main problem was to devise a method of disinfection of wool and hair; and, after the evolution of a successful process, to consider the most effective means by which it could be applied for the protection from anthrax of persons working among these materials. The danger of infection being more a question of the material used than of the manner of its use, and the Committee having found a method of disinfection applicable in all branches of the wool trade, further separate inquiry as to

<sup>1</sup> Pp. 9057, 9171, and 9172. London: His Majesty's Stationary Office.



the precautions necessary in different branches of the trade became unnecessary. This was explained to conferences of employers and operatives, who thereupon accepted the Committee's proposals for a general scheme of disinfection.

The report gives first of all the salient points in connexion with each branch of the trade. The method of disinfection is then described, and, finally, a plan is put forward for bringing this into operation. The manufacture of wool and hair into domestic articles follows three distinct divisions—the worsted trade, the woollen or heavy woollen trade, and the felt trade; and behind these industries there is a vast organization of trade in the production, collection, transport, and supply of wool and hair of sheep, goats, cattle, and camels. In some countries the production of wool and hair is highly organized, but in others it is unorganized; this distinction is fundamental because anthrax is primarily a disease of animals which can by proper organization be controlled. All wool and hair may be divided into two classes—that taken from the body of the live animal, and that removed from the body or skin of animals after death. Where the industry is highly organized the two kinds are looked upon as different articles of commerce and are rarely mixed, but this is not so in the more backward countries.

The number of persons employed in the wool industries in this country ten years ago was 260 000, but by reason of the great variety of the materials used it is impossible to say how many of these were exposed to danger of anthrax. The incidence of the disease may be gauged from the statistics, which show that between 1896 and 1917 594 cases were reported to have occurred in the manipulation of wool and hair. There is no indication of a tendency in any of the main branches of the trade towards a reduction in the incidence—rather the contrary. Fatal cases are much more frequent in the worsted branch of the industry, but more cases of anthrax occur in the woollen than in the worsted trade. External anthrax is at the present time much more often reported than the internal form. With regard to the infectivity of material, it appears that all materials must be regarded as being possibly infected, except those derived from countries in which notification and effective measures for the prevention of anthrax are in force. In particular, all materials from Central, Southern, and Western Asia and from Egypt should be held dangerous.

The Committee found that the existing regulations were unequal to coping with the disease, and concluded, further, that the danger was not one which could be dealt with advantageously by factory regulations at all. Thus the Committee reached the position of having either to recommend a code of regulations which would be irksome and ineffective, or to find a suitable method of disinfection of wool and hair. Accordingly a subcommittee was appointed to go into the whole question of disinfection, and succeeded in devising a practicable process. This consists essentially of two parts—the first removing the protection given to the spores by blood and other substances in wool; the second causing disinfection. It was proved beyond doubt that anthrax spores, if sufficiently exposed by the first process, are completely destroyed by the second in less than twenty minutes. If the preliminary treatment is drastic enough, complete exposure of all spores is certain, and this is the key to successful disinfection. Consequently the first recommendation of the Committee is that the policy of trying to control the danger by regulations under the Factory Act should be abandoned in favour of the principle of compulsory disinfection. But disinfection in factories is impracticable, and the Committee recommends that it should be permitted only in central disinfecting stations, the sole business of which is disinfection. Every dangerous variety of material should be disinfected at the earliest possible stage in its passage from the producing to the consuming areas. The infected varieties of wool should themselves bear the cost of disinfection, but the capital cost should be provided in the first instance by the British Government. A State-maintained disinfection authority should be constituted by the Government, with powers and facilities for bringing into operation and enforcing disinfection. When this authority has been established for the organization and control of disinfection, steps should be taken to obtain the co-operation of the Governments of all organized countries. Materials included in the dangerous lists should be allowed to be landed only at

fixed ports unless accompanied by a certificate of disinfection. In view of the need for immediate action a small experimental disinfecting centre should be established at once to settle the type of station to be used and the arrangements necessary for bringing the whole scheme into complete operation. Until disinfection becomes operative the question of dust prevention may be allowed to stand over.

Thus the prevention of anthrax must be treated as a world problem if any finality is to be reached in dealing with it. The logical steps by which this conclusion has been reached by the Committee are neatly set out in the final paragraphs of this valuable and extensive report. Put briefly, the anthrax spore must be killed near the source if the spread of infection is to be stopped. We may add that the Home Secretary has stated in the House of Commons that the far-reaching proposals of the Committee will be considered and the necessary action taken without delay.

## DIETARIES FOR TUBERCULOUS PERSONS IN SANATORIUMS AND HOSPITALS.

IN the JOURNAL of March 9th, 1918, we published the weekly diet scales for tuberculous persons in sanatoriums and hospitals, which had been approved by the Local Government Board in consultation with the Ministry of Food. A circular has now been issued by the Local Government Board substituting new dietaries for those previously laid down. The following are the maximum weekly amounts for each male over 10 years of age residing in a sanatorium or special ward set apart for the treatment of tuberculosis:

### Maximum Weekly Amount per Male over 10 Years of Age.

Meat (including suet)*	...	56 oz.
Fish and poultry	...	16 oz.
Eggs	...	3 oz.
Bread	...	64 oz.
Flour	...	5 oz.
Sugar	...	8 oz.
Butter and margarine	...	10 oz.
Lard and edible fats†	...	3 oz.
Potatoes	...	8 oz.
Vegetables (fresh)	...	28 oz.
Milk	...	14 pints
Jam, syrup, etc.	...	8 oz.
Cereals	...	12 oz.
Oatmeal	...	8 oz.
Peas, beans, and lentils	...	8 oz.
Tea	...	2 oz.
Cheese	...	4 oz.

\* The whole or any part of the meat raised in any of the countries mentioned.  
† Of which more than 2 oz. may be lard.

Since patients suffering from marked constitutional disturbance may be unable to take peas, beans, and lentils, or the full amounts of potatoes and bread specified, any adult male patient certified by the medical officer of the institution to be so suffering and to require additional milk shall be entitled to not more than seven pints of milk weekly (or the equivalent in dried milk prepared from whole (separated milk) in addition to the amount specified). Females over ten years of age, and children under ten will be entitled to four-fifths and three-fifths respectively of the amounts laid down for males over ten, except that in every case the patient will be entitled to 8 oz. of sugar and 3 oz. of edible fats weekly.

The Food Controller has laid down a diet scale for the resident medical and nursing staffs of such institutions, but the scale applicable to patients will apply also to an individual member of the resident professional staff who is suffering from tuberculosis. The amounts of rationed foods in the scales are not obligatory, but are included for guidance.

THE American National Tuberculosis Association has issued a statement setting forth the pressing need for more tuberculosis hospitals. Accommodation is needed for more than a million tuberculous persons.

At the annual meeting of the Spanish National Academy of Medicine recently held in Madrid seven prizes of the aggregate value of £1,640 were distributed. The subject of the successful essays were vaccine therapy, medical geography, and epidemics.



## THE MEDICAL PRACTITIONER AS AN ASSET TO PREVENTIVE MEDICINE.

BY

MAJOR A. H. HOGARTH, R.A.M.C.(T.F.),

COUNTY MEDICAL OFFICER OF HEALTH, BUCKINGHAMSHIRE.

"MEDICINE," wrote Plato more than two thousand years ago, "is the science of health." To-day it is popularly regarded as the science of disease; otherwise we should be in the habit of paying for medical attendance only while we were actually maintained in good health, and yet, as matters now are, we are taught to live when our life is wellnigh spent.

A revolution in act as well as in thought is necessary if it is hoped to create a national, or indeed an individual, health conscience during the present generation. The establishment of an individual health conscience is, I believe, the ideal we all have in view.

Two tentative schemes to this end are now under discussion:

1. The creation of a central Ministry of Health.
2. The inauguration of a State medical service.

Neither scheme makes one iota of difference to the individual health conscience. The first is purely a paper scheme without any guarantee or suggestion of real progress towards the object in view. As Mr. Percy Alden, M.P., has remarked: "Ideally it is a solution of the problem; practically, for the time being at all events, it is no solution." The second is also an idealistic scheme and at the present time quite visionary, and, however good in itself, is open to all kinds of practical objections. Both schemes as now formulated are open to a further serious objection—that of officializing and stereotyping medicine both in its clinical and its preventive aspects. Medicine is not a subject which will lend itself to the cramping routine of officialism, and under neither of the proposed schemes or simplification, concentration, and unification of the medical services is there any attempt (except in the form of vague promises) to limit the powers and duties of the bureaucracy which it is intended to set up. Medical and sanitary officials, whether they be in the army, the navy, the public health, or other medical services, tend to become both bureaucratic and autocratic. What guarantee is there under either of the proposed schemes that there is to be any alteration in the existing régime or in the system? Precedent and tradition are far too strongly entrenched at the present time to allow themselves to be overcome by the creation of any central Ministry of Health or by any State medical service which is to be organized from above downwards.

Both these proposed schemes appear to be fundamentally wrong in putting the cart before the horse. Moreover, both schemes imply the superimposition from above of health regulations on the national conscience, whereas what is really wanted is to make some effort in the opposite direction with the object of building a health conscience from below upwards. This can be done in two ways—either

- (1) by education at school—a method that will need one or two generations to make a real impression; or
- (2) by enlisting forthwith in the cause of preventive medicine the goodwill, sympathy, and active co-operation of every medical practitioner.

*A fortiori* if the machinery for both (1) and (2) is established now and at the same time, the object in view will be the sooner attained.

There is no difficulty in drafting a theoretical or paper scheme for evolving an individual health conscience by means of education, or for making every medical practitioner interested in preventive medicine in all its branches. But now is not the time for theoretical or utopian schemes. What is wanted is some practical scheme to which no person (or rather no body of persons) would raise objection if the scheme were started to-morrow or next year.

Such a practical scheme can be devised to subsidize State service on the part of the general practitioner by paying him an annual grant, and in return requiring service in certain regards as to certificates (births, disease, deaths), sanitary conditions (housing, food, water, employment, &c.), attendance on urgent cases when summoned by

midwife, police, or coroner, and reports required by municipal or State medical officers. Many of these services at present are unpaid or inadequately paid, and therefore are often only perfunctorily accomplished. Probably an annual vote of £2,000,000 would cover all these services and result in every family doctor (say 20,000 in all) becoming the medical officer of health of the home and a servant of the State, thus forming a semi-officialized medical service.

In addition to these required duties, and apart from panel practice under the National Insurance Act, practitioners, if suitably qualified, should be encouraged to hold a minor public appointment, such as local doctor for (a) schools, (b) treatment clinics, (c) maternity centres, (d) factories, (e) police duties, medical referees, and other similar purposes. These appointments should be stereotyped financially and made interchangeable as involving certain definite proportions of time for service. Special posts, such as oculist, aurist, tuberculosis officer, officer to venereal disease clinics, pensions medical officer, legal medical assessor, might be reserved for specialists or consultants.

Criticism of a theoretical nature directed against part-time employment of medical men breaks down when subjected to actual experience and where actual responsibility is felt by the worker. It is with the inefficient bureaucrat who devises schedules and demands useless statistics, and not with the actual responsible worker, that failure chiefly arises. The bureaucrat nearly always fails to appreciate local conditions and local requirements, and insists on literal conformity with his own views rather than individual interest and ideas.

In this connexion it is interesting to call attention to the recent change in the declared attitude towards the medical practitioner of the two Government departments supervising the largest number of medical officials. In June of this year the Chief Medical Officer writes officially to the President of the Board of Education as follows:

The imposition of new duties and functions by the State does not involve the relegation of the general practitioner to the background. His place in the community is not less but more important.

Again:

"In the practice of preventive medicine the first line of defence rests with the medical practitioner, who should himself form an integral part of any scheme for the practice of preventive medicine in his area." And again: "Death under 50 or 60 years of age has got to be prevented or avoided, and the medical practitioner is the primary agent in the task."

Only a few weeks ago the professor of medicine at Cambridge, reviewing these official statements, wrote:<sup>1</sup>

In a chief place I would welcome the emphasis laid upon the general practitioner as the foundation of medicine in this country. . . . Almost unawares a contrary process, that of gradually eviscerating the general practitioner . . . has been, and is, at work; tuberculosis has been taken from him, the infectious fevers, venereal diseases, childbirth and child-care, and so on; so that general practice may become but a gleaming after the reapers. Sir George [Newman] tells us truly that this tendency is a grievous mistake.

The pity is that this mistake was not realized sooner.

Another Government department—the National Insurance Commission—on the other hand, ever since its inception in 1911 has been fully alive to the value of the general practitioner in the national health campaign, and definitely decided against setting up a whole-time State medical service. The general practitioner has proved himself to be "one of the essential elements" in working the Insurance Act, and thus he is daily playing his part in a great national scheme. If in many respects the full responsibilities entailed on the practitioners have not been realized, it is because no kind of ideal, no kind of guidance, no kind of direction has been offered to them by those in authority at the top.

<sup>1</sup> BRITISH MEDICAL JOURNAL, August 3rd, 1918, p. 113.

Drs. Caroline S. Finley, Anna I. von Sholly, and Mary Lee Edward of New York, who are attached to the American Women's Overseas Hospitals, have been decorated by the French Government, and given commissions as lieutenants in the medical corps of the French army, in recognition of their surgical work and their treatment of the wounded under heavy bombardment in a hospital at the French front.



## British Medical Journal.

SATURDAY, NOVEMBER 9TH, 1918.

### A NATIONAL LABORATORY FOR THE STUDY OF NUTRITION.

A RESOLUTION of the Inter-Allied Scientific Food Commission, which does not appear to have attracted as much notice as it deserves, dealt with the need of establishing national laboratories for the study of human nutrition. The Commission pointed out that, as at least one quarter of the whole income of a nation was devoted to the purchase of food by its individual citizens, it was a matter of the highest importance for the welfare and prosperity of a country that the methods of utilizing its food resources in the best way should be explored and definitely established on the basis of scientific data. The Commission therefore adopted a resolution urging the allied Governments to establish national laboratories to be devoted to the task. There is no doubt that the want of such a laboratory will be especially felt in the United Kingdom, where the husbanding of our food resources is likely to remain imperative longer than in countries which are normally nearly self-supporting.

The contrast between the extent to which the study of human metabolism has been fostered by the State or left to private enterprise in England and the United States is little to the credit of our rulers. Nor can it be pleaded in extenuation of the neglect that English men of science have shown no signs of being attracted by the problems of nutrition and metabolism. On the contrary, without any depreciation of the labours of such Americans as Atwater and Benedict, or such Germans as Rubner, we can justly claim that the present generation of English physiologists has made contributions to the science of nutrition equal in value to anything which has been achieved elsewhere. We need merely cite the brilliant researches into the chemical mechanisms of digestion which we owe to Starling and Bayliss, the work of Hopkins and his pupils on protein metabolism, and the succession of important contributions to the study of deficiency diseases which have come from the laboratories of the Lister Institute, culminating in the recent work of Dr. Chick and her collaborators.

Since the war the Royal Society, by the agency of its Food (War) Committee, has, with little official aid and, at times, in spite of official indifference or neglect, done much to bring the subject of national dietetics under proper scientific guidance, but we are of opinion that its work will not be extended and made of permanent value to the nation unless effect is given to the Inter-Allied Commission's proposal.

We shall endeavour to make the reason plain by considering one only of the topics within the scope of nutritional research. The Inter-Allied Commission mentioned the need of determining the amount of food required to maintain the health and strength of persons engaged in different occupations. As we had to point out some time since, when the policy of the Food Controller received less inspiration from scientific sources than has happily been the case during the past twelve months, the broad distinctions between class and class, the general laws of human energetics, have been long established. But details which are of great importance when any exact view

of the subject is desired, still escape us. To express the energy requirements of agricultural labourers in terms of food with the precision attainable by an actuary in estimating their average expectation of life is still an ideal of the remote future. This only in part due to the greater difficulty of measuring energy transformations as compared with the measurement of longevity. It is now quite possible by means of relatively simple apparatus to carry out such determinations on a large scale. But the task is not one that any private investigator can be expected to undertake. The mere compilation of statistics of family consumption, a less laborious affair, occupies much of the time of the United States food investigators for years. Here is a proper object for the work of which so much is heard in these times. It involves physiological skill both in making the measurements themselves and in paying due heed to the attendant circumstances, such as the cooling power of the air in the factory or workshop, a point scarcely heeded by many past students of industrial knowledge is needed to decide what factory processes are in production so that representative samples may be chosen for experiment; lastly, some experience in the handling of numerical data is required to decide the significance of departures from the average and the limits of precision of the averages themselves. Nor does it suffice to enrol a suitable team of investigators and send them out into the factories to collect data. The routine application of a physiological technique is a death of science. When a method is intelligently applied upon a large scale anomalous results may emerge, the analysis of which upon a laboratory scale and with the attendant simplification of the conditions may lead to the discovery of new and important truths. The investigating staff must be attached to a head quarters laboratory controlled by a physiologist competent to sift real anomalies from mere technical errors and to cause them to be sedulously investigated. We conceive that in this way alone a really adequate knowledge of the energy requirements of muscular work can be attained.

When it is remembered that this problem, important as it is, is only one of the problems of human nutrition which are still unsolved, we do not think it need be said in support of a national laboratory of nutrition. No doubt the time will come when the intelligent citizen will find it difficult to understand how any nation could neglect to make such a provision for its literally vital needs.

### THE THERAPEUTICS OF OXYGEN GAS.

THE report of the Chemical Warfare Medical Committee on the administration of oxygen in battle gas poisoning is of importance as a contribution to a knowledge of the nature and treatment of conditions due to interference with the oxygen supply to the tissues from whatever cause. When inhaled sufficient amount the ordinary types of lung-nutrient gas produce, usually after an interval of several hours, a condition of pulmonary oedema; the alveolar tissues become swollen and liquid exudes into the alveoli. The absorption of oxygen is interfered with, owing, apparently, to the greater distance which separates the air in the alveoli from the blood. Haemoglobin in the capillaries is less completely saturated with oxygen than usual, and there is an alteration in the colour of the lips and face. If the capillaries are distended with blood the colour is full blue, or plum colour, and no one hesitates to describe the condition as cyanosis. If the capillaries



with the haemolytic streptococci, the true virus being a filter passer. Some evidence for this was quoted in the article published last week.

#### FRANCE'S SHARE IN BIOLOGY AND MEDICAL SCIENCE.

A COURSE of three lectures on France's share in the progress of science has been delivered at University College, London, by M. Henri L. Joly, professeur de sciences physiques et naturelles au Lycée Français. In the concluding lecture, on November 5th, he dealt with biology and the medical sciences, but owing to the wide range of the subject, covering the achievements of at least three centuries, he professed that he could do little more than recite a list of names of greater or less distinction. After references to de Tournefort, Duhamel de Morceau, and Buffon, whom he regarded as a man of letters rather than an exact naturalist, he said that the founder of modern biology in France was Lamarck, who first sought in natural sciences for something beyond description and classification. Xavier Bichat was a pioneer in histology and did much valuable work on the cellular theory. Cuvier was declared to be the greatest of French comparative anatomists, and other naturalists mentioned were Gaudry, one of the early evolutionists; Van Tieghem, to whom every Frenchman studying botany acknowledged a debt; J. H. Fabre, who had done more than any man to popularize natural history in France; Armand Sabatier, the comparative anatomist, and Lecoq, who, the lecturer contended, had anticipated Mendel by twenty years. Turning to Frenchmen whose work had been more particularly in the sphere of medical sciences, after mentioning Mondeville and Guy de Chauliac, M. Joly passed on to the seventeenth century, noting the work of Pecquet on the thoracic duct, of Paris on ergotism, and of Denys, who performed transfusion of the blood in Paris in 1667. Descartes, who was chiefly known in other scientific connexions, did some useful work on visual accommodation, and Lavoisier made a contribution to the chemistry of respiration. He spoke next of Laënnec, of Magendie, who was probably the first experimental pharmacologist; of Le Gallois, who worked on the vagus nerve; of Flourens, who first used chloroform in experiments on animals; of Claude Bernard, who studied the action of the pancreas in diabetes and worked also on the nervous system, and of Paul Bert, his pupil, who organized the teaching of natural sciences in France; of Duchenne, the originator of electrotherapy; of Broca, Charcot, Achard, Dastre, Carrel, and others. The work of Pasteur was dealt with in a previous lecture. In concluding, the lecturer referred to the cordial exchange between British and French science which had been maintained for three centuries, save for the interruption of the Napoleonic wars, and said that whenever French scientists had been persecuted by religious bigots they had always found a refuge in England.

#### THE CAUSE OF WOUND SHOCK.

THE Société de Biologie, Paris, has arranged to hold a series of inter-allied meetings for the discussion of the biology of war. The first, on October 19th, was on shock. The subject was introduced by Professor Cannon, U.S.A., who said that the characteristics of shock were persistent low arterial pressure, rapid pulse, pallor, sweating, and rapid superficial breathing. Shock, he held, was not due to loss of tone of the vaso-constrictor, nor to fat embolus, nor to acapnia, but to the tissue traumatism—that is to say, its origin was toxic. The phenomena of shock, appearing several hours after the wound, even when the paths of nervous conduction were severed, did not develop if the circulation in the wounded part was arrested, but appeared after it was restored. He therefore advised that, in addition to warming the patient and raising arterial blood pressure, the injured part should be separated from

the circulation either by a tourniquet or the knife. Quénu, who followed, agreed that shock was a toxic condition, originating in the injured part; the signs of shock, appearing five or six hours after the wound, were due not to inhibition, but to absorption of toxic products. He mentioned the case of a soldier wounded in the foot, to which a tourniquet was applied. When it was removed nine hours later he was in good condition, but three hours afterwards was suffering from shock, and Professor Cannon mentioned five similar cases. P. Delbet stated that bruised muscle introduced into the peritoneum in animals produced the phenomena of shock. It was manifested first in the nervous system, but later the cells accumulated in the capillaries, leading to diminished oxidation; changes occurred also in the liver cells. Several other speakers referred to the condition of the liver in shock, which they considered to be of importance. The general moral of the discussion seemed to be that it is important to operate in shock as early as possible in order to remove the toxic material.

#### THE INSURANCE ACT AND TUBERCULOSIS.

WE have received another letter from Dr. B. G. M. Baskett (Rayleigh, Essex), regretting that the Council of the British Medical Association has not appointed a committee to inquire whether there is a causal relation between the Insurance Act and the recent rise in tuberculous mortality. The Council has notified him that such an inquiry is not for it, but for the State. He asks that others who take his view would communicate with him, in order that a second appeal may be made to the Council either itself to institute an inquiry or to urge the Government to do so. Dr. Baskett's appeal rests on the proposition that though the State has made an elaborate attack on tuberculosis, the sequel has been an alarming increase in tuberculosis. It may be well to ask whether the proposition that there has been an alarming increase in tuberculosis can be established. The matter is discussed by Dr. T. H. C. Stevenson, Superintendent of Statistics, General Register Office, in his review of the vital statistics of 1916, prefixed to the report of the Registrar-General for that year. He states that the mortality among the civil population—1,529 per million—was in excess of the total mortality recorded for any year since 1909. The mortality from tuberculosis was, he says, at its lowest in this country during the three years 1912–14, and the rise of the last two years is largely an accidental result of the enlistment of a large army, and to that extent without significance. The increase is accentuated on standardization because mortality from tubercle at military age is normally somewhat above the average at all ages, and particularly so at the present time when the non-tuberculous have been selected for military service. As standardization, he continues, though designed to reduce the effects of population anomalies under ordinary circumstances, has the opposite and undesirable result in the present existence of accentuating them, its use can only darken instead of illuminating comparisons of present with past male mortality from such causes of death as tubercle. He therefore restricts his comparison for 1916 to the female sex, but notes that the curves of mortality for the two sexes normally run so nearly parallel in their yearly fluctuations that the recorded history of female mortality forms the best guide by which to estimate, under the present abnormal circumstances, the extent of the tendency to death from this cause among males. It was found that the mortality, after a fairly steady decline which had continued for many years, reached its lowest level during the three years 1912–14. From the lowest level touched in these years, 1,154 per million females living in 1913, there was a rise of 7 per cent., to 1,235 in 1915, and 1,234 in 1916. Dr. Stevenson then goes on to point out that the circumstances of the female population have been profoundly changed by the war, many thousands being now for the first time subjected to the workshop conditions which have probably



entled so much to maintain the mortality of males at working ages in recent years. The increase of mortality of females does not extend to ages over 45, and in 1916 it particularly affected the most active working period of life—15 to 45. Young women of the most susceptible age have been subjected to risks of infection, as well as of pulmonary disease predisposing to tubercle, which they would have escaped in following their normal occupations; and both from this cause and from the effect of workshop conditions on women already infected, a number have probably died who would have survived under peace conditions. He considers it, therefore, quite possible that with the return of these conditions the fall in tuberculosis mortality may be resumed, though whether this will be so must largely depend upon the nature of the peace conditions to be established. He also notes that the general tendency to increase of mortality from tuberculosis over the rates of the four years 1911-14 is not shared by the rates for children under five years, the rapid decline of which has been a notable feature of the history of tuberculosis in England since the commencement of the century. At these ages the death-rate in 1916 was the lowest yet recorded. The rapid fall of mortality at these ages is a recent and hopeful feature of the returns. We understand that a special report on the subject of the present incidence of tuberculosis is in preparation for the Medical Research Committee. Preliminary examination of the facts available justifies the conclusion that an increase of mortality from tuberculosis among women was to be expected, probably owing mainly to two factors: first, overcrowding in lodgings and old factories ill adapted to the conditions of war-time industry; and, secondly, to the fact that women unaccustomed to town conditions have been attracted to industry by war wages. We believe that the Carnegie Commission for the Study of Tuberculosis in Europe has reached a similar conclusion. The recorded excess over the expected increase in England and Wales has been small. We venture therefore to express the opinion that before any further steps are taken or any wide conclusions are drawn, publication of the result of the statistical examination of the facts should be awaited.

#### THE AIR FORCE MEDICAL SERVICE.

SIR WATSON CHEYNE, in the House of Commons on October 31st, asked whether the principles laid down in the Air Force Medical Advisory Committee's report last year were now being carried into practice, and what progress had been made. In reply to this and other questions, Major Baird, Under Secretary of State for the Air Ministry, stated that a reorganization of the medical arrangements of the Royal Air Force was now being considered in connexion with the appointment of a successor to the Medical Administrator, whose resignation was due to a difference of opinion between himself and the Medical Administrative Committee with regard to their respective spheres of responsibility. Under the new arrangements the Committee would not be administrative but would carry out advisory functions. On November 4th Major Baird informed Major Terrell that the post of Medical Administrator had been offered to Colonel Fell, A.M.S., one of the conditions of the offer being that he would be guided by the principles laid down in the report of the Watson Cheyne Committee. If this means what it appears to mean the news is welcome; the language is plain, and seems to afford no loophole for misunderstanding. If necessary, Sir Watson Cheyne (who, we regret to learn, has been suffering from influenza) would be able to explain to the House the true meaning of his Committee's proposals, and he will no doubt follow up the question put by Major Terrell should any uncertainty remain with regard to the position. Organized aviation will not end with the war, and it is of national importance to provide that standards of fitness for flying are enforced and that the health of

aviators is safeguarded. Early this year we urged the necessity for setting up a separate and complete Air Medical Service organized on scientific principles. The conditions of service in the Royal Air Force Medical Service, which we published on September 28th, 1918, indicated that a considerable advance had been made in this direction, and gave promise of future development upon lines corresponding to the division of medical duties. The medical services of the armed forces, we are convinced, should be grouped for administrative purposes according to function and not according to area. Distribution of medical authority on the basis of areas is contrary to modern ideas of effective organization. The highly specialized conditions of the present time call for a corresponding specialization in the control of medical work. It was to avoid the reproduction in the new Air Force of the army system that the Watson Cheyne Committee first applied itself, recognizing that the maintenance of health, the treatment of disease, and the direction of research, while associated to a certain extent, should be controlled by officers who are experts in the branch of work that they direct—not merely adepts in the routine of administration. We believe that the Committee's proposals would secure decentralization with adequate central co-ordination and control. The special graded pay for the Royal Air Force Medical Service, and the system of promotion solely on grounds of merit, form a praiseworthy departure from precedent; but beyond this it is understood that the Watson Cheyne Committee recommended the formation of a strong advisory board. An explicit assurance on this point is desirable, for the Air Council has not yet professed full adherence to the principles laid down by that Committee. The official statement was that the new Medical Administrator will be guided by those principles.

#### A DISHONOURED PROFESSION.

It has been thought well to notice briefly from time to time the official evidence, compiled with legal exactness by Government committees, as to the cruelties inflicted on prisoners in German camps. Some of the facts recorded reflected seriously on the competence and humanity of German members of the medical profession. With regret we have to note that during the debate last week in the House of Commons Sir George Cave added a new count to the heavy indictment previously framed. After referring to cruelties perpetrated on prisoners in the camps, in the salt mines, and on those treacherously employed immediately behind the lines to dig trenches and to set up wire, he said: "There are others, even in the hospitals, where, surely, humanity ought to reign. No doubt there are many humane doctors in Germany, but there are others who make a cruel distinction between British prisoners and other prisoners of war; and even among nurses many are found who, far from helping suffering prisoners, have stooped to inflict insult and injury upon them. The hospitals, as is shown by the condition of our men who are arriving in Holland and Switzerland, are in a very bad state, and our wounded do not get proper treatment." The ill-conditioned behaviour of German Red Cross nurses is no new thing, and has often added deliberate cruelty to insult, but there are exceptions. Mrs. Vincent Smith, the daughter of Colonel Baddeley, British Consul at Bruges, in her account of their captivity in Germany, published in the *Times* on November 2nd, states that the serious condition of her father when they arrived at Aix-la-Chapelle so aroused "the pity of the Red Cross ladies that one brought him some soup, when a doctor nearly knocked the cup out of her hand and asked her what she meant by having pity on an Englishman, and ordered our sentries to take us away." This same doctor a little later came on to the station platform "and collected a crowd, cursed us in English, our sentry and the police officer; and said he would have all English shot if he had his way."



At Giessen one other German woman showed that she was shocked by the ill treatment of Colonel Baddeley, who was being dragged to the camp, and in the camp there was one doctor who "was a good sort, but we had another, a professor, a perfect brute. He told the Red Cross men they were never to speak to me, or do anything for me or give me medicine." It is an ugly picture of the mental and moral standard of one of the leaders of the German medical profession. It is known that all the prisoners' camps are not equally bad, and Sir George Cave accounted for it on the ground that the commandants are independent of the Government and even of the War Ministry, being responsible only to the Kaiser. Some camps are now, at all events, reasonably well organized, but "there are others," Sir George Cave said, "where the conditions are to me unspeakable; the cruelty, inhumanity, and brutality going on are almost past the belief of any human being." This is done on the Kaiser's responsibility, but punishment ought to be meted out to those members of the medical profession who have disgraced their calling by making themselves the willing instruments of his cruelty, inhumanity, and brutality. Sir George Cave stated, on November 5th, that the names of all army commanders or other persons who are known to have been guilty of, or to have encouraged cruelty to our prisoners of war, or to have acquiesced in acts of cruelty by persons under their authority, will be included in the list of persons whose trial and punishment will be demanded by the Allied Governments. On the same day he stated that the German Government had at length agreed to ratify the agreement as to the exchange and treatment of prisoners made at the conference at the Hague.<sup>1</sup> It is a relief to know that British prisoners are not to suffer through another winter, but no credit should be given to Germany for its tardy action in its hour of defeat.

#### THE ALLIED SURGICAL MISSION IN AMERICA.

The party of European surgeons who went to the United States to attend the congress of the American College of Surgeons which was to have begun in New York on October 21st, have, owing to its postponement, made a tour of the eastern and middle western cities, and are to return to New York this week. The party included Sir Thomas Myles, C.B., of Dublin; Colonel G. E. Gask, D.S.O., consulting surgeon of the Fourth British Army in France; Major George Grey Turner of Newcastle, who served with the British army in Mesopotamia. Lient.-Colonel Raffaele Bastianelli, professor of surgery at Rome, was the Italian representative; France was represented by Majors Pierre Duval and Andrien Poillet, and by Dr. Henri Bécélère of Paris. We learn by cable that the party visited the Mayo Clinic, Rochester, the Minnesota Government Hospital medical schools, and Camp Green Leaf, Chattanooga, Tennessee, and Philadelphia. The arrangements for their visit to New York included a visit to the department of surgery, Columbia University, where they were to be welcomed by President Nicholas Murray Butler, Dean Samuel W. Lambert, Dr. Adrian V. S. Lambert, Director of Surgery, and by the Faculty of Medicine. The addresses were to be given by Colonel Gask on gunshot wounds, by Major Duval on the general principles of the surgical treatment of war wounds, and by Major Poillet on the secondary suture of war wounds. The visitors were to be admitted honorary fellows of the American College of Surgeons by its president, Dr. William Mayo, at a dinner on November 6th, attended by Surgeon-General Merritt W. Ireland, U.S. Army, Surgeon-General William C. Braisted, U.S.N., and Dr. Franklin Martin, member of the Advisory Committee of the Council of National Defence. Visits were also to be paid to the Rockefeller Institute, the United States General Hospital, Bronx, and other military hospitals near New York, and a meeting of the New York Academy of Medicine was to be attended.

#### THE U.S. ARMY MEDICAL SERVICE.

The chief surgeon of the American armies in France has been, until recently, General M. W. Ireland, and with him were General J. R. Kean and Colonel Walter D. McCaw. General Ireland having been appointed Surgeon-General of the American Medical Service, in succession to General Gorgas who retired under the age rule, has now proceeded to America, accompanied by General J. R. Kean. Colonel McCaw has become the chief surgeon of the American armies in France, and General Francis Winter has succeeded General Kean. General Gorgas, who accompanied Mr. Baker, Secretary for War, on his recent visit to France, has returned to the United States, and will probably become associated with the work of the Rockefeller Foundation.

#### THE NEW PRESIDENT OF THE LOCAL GOVERNMENT BOARD.

The announcement that Sir Auckland Geddes has become President of the Local Government Board and that he will continue to discharge the duties of Minister of National Service will raise great expectations, not only in the medical profession, but among the public, of a real reform of the central health administration. The profession has always desired that the Minister responsible for health administration should be a medical man, and Sir Auckland Geddes fulfils this condition. He graduated in medicine at Edinburgh in 1903, and became successively demonstrator and assistant professor of anatomy in the University of Edinburgh, professor of anatomy at the Royal College of Surgeons in Ireland, and professor of the same subject in McGill University, Montreal. He occupied this chair when the war began. He became Director of Civil Recruiting in 1916, and Minister of National Service last year. The results of the kind of census of the people taken by the Ministry of National Service in carrying out the provisions of the Military Service Acts have revealed the great amount of physical unfitness in the population, only about one-third being found fit to be placed in Grade 1. These facts, which have come to the notice of Sir Auckland Geddes in his official capacity, cannot fail to have produced a strong impression which must influence his action in his new office, and colour the advice as to the establishment of a Ministry of Health which he will be called upon to give to the Government of which he is a member. The Government bill, which, it is said, now bears the title "A bill for the establishment of a Ministry of Health and Local Government," may have been introduced before these words are in print. The title would seem to involve an undesirable compromise, and we hope that Sir Auckland Geddes will be inclined rather to hold that the Ministry of Health should be from the first a real health ministry, having no concern with the administration of the Poor Law, alkali works, and steam whistles. We hope that the bill, while providing for the creation of a Ministry of Health to which would be transferred the health part of the work of the Local Government Board, will equally provide for the immediate transfer of Poor Law and other incongruous branches to some other ministry. The Home Office suggests itself.

A CONFERENCE was held on Friday, November 1st, between representatives of the following bodies: The Ministry of Health Committee of the Royal College of Physicians of London and the Royal College of Surgeons of England, the Ministry of Health Committee of the Royal Society of Medicine, and the Ministry of Health Committee of the British Medical Association, at the Royal College of Physicians, under the chairmanship of Dr. Norman Moore, President of the Royal College of Physicians of London. Discussion showed a very general agreement between the three bodies concerned, but it was

<sup>1</sup> BRITISH MEDICAL JOURNAL, October 26th, 1918, p. 475.



considered better that they should continue to act independently, meeting in conference again at any time such a step seems desirable or necessary.

At a meeting of the trustees of the Liverpool Royal Infirmary on October 31st Major-General Sir Robert Jones, C.B., F.R.C.S. Eng., Edin., and Irel., was specially elected to the post of Honorary Consulting Orthopaedic Surgeon to the Infirmary.

## Medical Notes in Parliament.

*The Influenza Epidemic: Work of the Medical Research Committee.*—In answer to a question by Mr. Rowntree, Sir Edwin Cornwall has circulated a lengthy statement as to the work of the Medical Research Committee. It states that when the first wave of the epidemic occurred last spring reports of observations from all quarters were published and special researches were organized. The urgent needs of the army for pathological and other investigations, in which the Committee was also engaged, somewhat restricted its efforts. Last autumn the Committee sent to the medical newspapers a summary of important (foreign) communications in regard to influenza, and indicated the likelihood of the onset of a secondary wave in the autumn, one that would be more severe in character than the primary wave of the spring. The anticipation, which could be read in the *BRITISH MEDICAL JOURNAL* of August 10th (p. 139) proved all too fully correct. The Committee had been continuously collecting information which might be useful to the health authorities and the medical profession, gathering from chief foreign sources, and including notes of much work done in Germany and Austria. These reports, together with British observations, were published in the Committee's monthly medical supplements. The Committee was strongly represented at the conference of bacteriologists at the War Office, the outcome of which was published in the *BRITISH MEDICAL JOURNAL*, October 26th, p. 470. The Committee's Bacteriological Department had aided the War Office in the steps taken to provide protective vaccines against complications of secondary infections amongst the troops; suggestions had been made to the Local Government Board to take analogous steps for the benefit of the civil population. It was not the duty of the Medical Research Committee to carry out the actual treatment or prevention of this disease, that being the province of the public health authorities; its province was to obtain new knowledge and information, and it claimed to have performed its part.

*Tuberculous Officers.*—In reply to a question, on October 31st, as to the position of officers who had contracted tuberculosis on active service, the Parliamentary Secretary to the Pensions Ministry said that the treatment of an officer on half-pay was a matter for the War Office. An officer retired on account of this disability received retired pay and such medical treatment as he required from the Ministry of Pensions on the same conditions as officers retired on other disabilities.

*Discharged Tuberculous Soldiers.*—Sir Edwin Cornwall, answering for the Ministry of Pensions on November 4th, stated that a scheme for the domiciliary treatment of discharged tuberculous soldiers had been under the consideration of the Pensions Department for six months, and had now been settled in consultation with the Local Government Board and the National Insurance Commission. Sanction for the necessary expenditure was received on May 17th, but no part of the expense had yet been incurred, nor had any new appointments been made. The present scheme was an extension of the arrangements for visiting and for after care already carried out by local committees in many areas. The Local Government Board would shortly issue instructions to local authorities.

*Neurasthenic Soldiers.*—Mr. Macpherson stated, on November 4th, that the War Office provided fifteen institutions for soldiers suffering from nervous shock and neurasthenia. No purely mental cases were segregated in any institution. The occupations of the men were mainly agricultural, but there were also such indoor occupations as carpentry. None of the institutions was run by a lunacy staff, but in three of them the administrator was a mental specialist. The fifteen institutions to which Mr. Macpherson referred are as follow:

Maudsley Neurological Clearing Hospital, Denmark Hill, S.E.; Springfield War Office, Upper Tooting; Red Cross Military Hospital, Vaghtall; Abram Peel War Hospital, Bradford; Ewell (County of London) War Hospital, Epsom; 1st Southern General Hospital, Monksall, Neurological Section, Birmingham; Glen Lomond War Hospital, Fife, N.B.; Dunblane War Hospital, Perthshire, N.B.; Seale Hayne Neurological Hospital, Newton Abbot, South Devon; Gateshead War Hospital, Stanington, Newcastle-on-Tyne. Neurological Section, 4th Southern General Hospital, Plymouth; Neurological Section, 2nd Western General Hospital, Brinnington, Stockport; East Preston Military Hospital, near Worthing; Neurological Section, King George V Hospital, Dublin; Ashurst War Hospital, Littlemore, Oxford.

*Ministry of National Service.*—Sir A. Geddes, in reply to a question on November 4th, said that under the Acts governing the establishment of the Ministry of National Service the complete abolition of the Ministry is contemplated twelve months after the war, or earlier if so fixed by Order in Council.

## THE WAR.

### DELAYED PRIMARY SUTURE.

For giving early succour to the wounded dependence must be placed mainly on the field ambulances and the casualty clearing stations. The casualty clearing station is the point to which all the activities of the forward areas converge, and at which anything like elaborate surgery first as a rule becomes possible. The ideal plan is for it to be on a railway at a place where a siding can be made for the ambulance trains, so that men able to walk can find their own way to the train, and those injured in the legs be carried on stretchers. But even in stationary warfare this was not always possible, and the wounded had to be taken to the train by motor ambulances. In the new phase the distance of a casualty clearing station from a railway may be very considerable. This is a disadvantage, but it is a choice of evils; a long distance from the casualty clearing station to the fighting is the greater, for though primarily intended to be the unit which makes ready the wounded for the journey by rail to the base, it must be ready to give active surgical treatment to all who require it. Thus it is not only a clearing but a sorting station, picking out from the wounded reaching it during a push all those requiring immediate operation, and retaining in its beds those unfit to travel.

The casualty clearing station is a mobile unit, and the new phase makes mobility a quality more than ever essential to its efficiency as a part of the organization of an army. It must be able speedily to follow up the advancing troops and quickly to get as far forward as is compatible with a reasonable degree of safety from shelling; absolute immunity from long range guns cannot be assured. A certain risk must be taken, and the nursing sisters who now form part of the staff are quite willing to take it.

When, as happened to the British armies in France during the last three months, a rapid advance is made over a deep and wide stretch of country, a casualty clearing station may have to go forward twenty or thirty miles, or even further. The general practice when the army is moving forward is that the casualty clearing stations leapfrog forwards, those left furthest in rear passing up in front of others which had been the furthest forward.

A casualty clearing station, so soon as it has got its main parts established in new territory, is at once ready to treat any wounded that come to it from the field ambulances. It is prepared to operate on wounds of the abdomen, the chest, and the head, and to retain such patients until the period of acute danger is over. The same principle applies to gunshot fractures of the femur, which are at once subjected to operation, though the period for which they are retained will depend on the condition of the patient, the pressure at the time, and the nature of the facilities for evacuation to a base.

To move up a casualty clearing station is, as has been said, no small operation, and transport far beyond that permanently allotted to it is necessary. It is now commonly arranged on the general plan associated with the name of Major-General Bruce Skinner, who was insistent on the principles which must govern the disposition of its several parts. The site given to it will often be a field to which a side road must be so laid that ambulances coming in and going out do not clash. They draw up at the entrance to the admission marquee or department, whence the lighter cases pass to another marquee, where they are fed and rested, and, if they are to go to the base, wait for the train. The more seriously wounded are carried into the preparation ward, which opens off the admission marquee, and those suffering from wound shock a few steps further into the resuscitation ward, which has a special staff and appliances. The greatest need of a man suffering from wound shock is warmth, and this is usually supplied by a paraffin lamp stove with a flue which passes into a cradle under the bed blankets. Another plan is to put the stove beneath the bedstead with a metal shield under the bed to diffuse the heat. In other instances electricity is the source of heat. Opening off the preparation ward is the operation room; it may be necessary to heat it, and the operating tables, which in periods of stress may number six, must be well lighted. Acetylene is used as a stand-by until the electric light outfit can be got into working order.



When all the special equipment for the operating-room—tables, stools, racks, and so forth—and for the resuscitation ward is added to the weight of beds, and of marquees and poles, blankets, cooking utensils, and the hundred and one appliances needed for the nursing and care of badly wounded men, it will be seen that the whole may be no light load for forty lorries. The introduction of the Bessonneau hut, of waterproof canvas stretched on a light frame, will lessen the weight to be carried and the time spent in taking down and setting up.

A casualty clearing station is prepared to deal with 200 seriously wounded and has beds for that number, but the total admissions may in the course of a few hours be greatly in excess of this. In such circumstances arises a question of policy: What in the interests of the army and of the individual is the wisest way of dealing with the lighter cases? Of all those reaching a casualty clearing station some 40 per cent. will not require operation, their injuries being in the nature of contusions, superficial injuries, and abrasions, or through-and-through bullet wounds with small apertures. The remaining 60 per cent. require operations of some sort, and one-half of these, or some 30 per cent. or more of the total wounded, are cases suitable for primary suture. There are surgeons who do not hesitate to say that in the study of the chief surgical problems certain principles have now been reached, and that provided these principles are wisely applied the actual technique is of small importance. The essential point upon which all seem to be agreed is that damaged and infected tissues should be excised rapidly with a firm hand. The opinion is that excision and suture can, except during heavy fighting, be successfully carried out in practically all the cases which require it, provided the surgeons are not diverted from this work by the presence of seriously wounded. To leave the damaged infected tissue in a wound sent to the base is the way to convert a slight into a serious wound. Therefore it has been decided that when there is great pressure at the casualty clearing stations primary excision may be performed there in the lighter wounds, but suture delayed until the man reaches the base. In such cases the wound is lightly packed with gauze at the casualty clearing station. It appears that from 80 to 90 per cent. of cases suitable for excision can be made to heal by primary union, and that the delay necessary for reaching the base before suture does not prevent success.

This represents an enormous saving in the beds that must be provided at the base, in the time for which the man is under treatment, and in the rapidity with which he may return. On one occasion in which the results were carefully watched it was found that a complete success—namely, primary union—was obtained in 84 per cent. by suture at the base following excision at the casualty clearing station, and partial success in 7 per cent.; total failure occurred in 9 per cent. By partial success is to be understood healing of the greater part of the wound cleanly, but the giving way of some small portion, usually owing to tension. The results are better the shorter the time spent in transit. In cases operated on within twenty-four hours the percentage of success was 95; in those in which the operation took place after twenty-four to forty-eight hours the percentage of success sank to 85. Of 67 cases marked "delayed primary suture" at the casualty clearing station which reached a certain base and came under the care of Dr. Crile, 44 were immediately sutured; they were described as superficial wounds, but included two fractures of the humerus and one of the radius. All these cases were successful. Of the total 67 cases, 91 per cent. healed without requiring removal of any stitches, 6.1 were partial successes, and, as defined above, 2.1 were failures. No case was rejected for operation because the infection was thought to have gone too far. In no case did generalized infection occur.

## CASUALTIES IN THE MEDICAL SERVICES.

### ROYAL NAVY.

#### *Died on Service.*

#### **SURGEON COMMANDER T. AUSTEN, R.N.**

Surgeon Commander Thomas Austen, R.N., died at the Royal Naval Hospital, Chatham, on October 22nd. He was educated at Charing Cross Hospital, and after taking

the diplomas of M.R.C.S. and L.R.C.P.Lond., in 1888, entered the navy, in which he attained the rank of Fleet Surgeon on February 21st, 1905.

#### **SURGEON LIEUTENANT COMMANDER J. HADWEN, R.N.**

Surgeon Lieutenant Commander John Hadwen, R.N., was reported as having died on service, in the casualty list published on November 2nd. He was educated at St. Bartholomew's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1907. He graduated B.Sc.Lond. in 1905, and M.B. and B.S. in 1907. He entered the navy as surgeon on May 14th, 1909, and in the early part of the war was serving in H.M.S. *King Edward VII.*

### ARMY.

#### *Killed in Action.*

#### **MAJOR J. MORRIS, M.C., R.A.M.C.(T.F.).**

Major John Morris, M.C., R.A.M.C.(T.F.), was killed in action on October 7th. He was educated at Edinburgh University, where he graduated M.B. and Ch.B. in 1904, also taking the F.R.C.S.Edin. in 1909. After acting as assistant surgeon to the Dinorwic Quarries Hospital and as house-surgeon of the Denbighshire Infirmary, he went into practice at Hyde, Cheshire. He joined the 6th Territorial (Stockport) Battalion of the Cheshire Regiment as lieutenant and medical officer on March 8th, 1912, was promoted to captain on August 1st, 1915, and subsequently to major. He received the Military Cross on January 1st, 1917.

#### **CAPTAIN F. C. HARRISON, R.A.M.C.(S.R.).**

Captain Frank Cecil Harrison, R.A.M.C.(S.R.), was reported as killed in action, in the casualty list published on November 2nd. He was educated at Sheffield University, and at the Royal Dental Hospital, London, and took the diplomas of L.D.S., R.C.S.Eng. in 1913, and of M.R.C.S. and L.R.C.P.Lond. in 1915. He joined the Special Reserve of the R.A.M.C. as lieutenant on August 10th, 1914, and was promoted to captain on August 3rd, 1915. He was attached to the Duke of Wellington's West Riding Regiment when killed.

#### *Died on Service.*

#### **LIEUT.-COLONEL L. P. DEMETRIADI, R.A.M.C.(T.F.).**

Lieut.-Colonel Louis P. Demetriadi, R.A.M.C.(T.F.), died at Southport on October 26th, aged 55, after a long illness contracted on active service. He was educated at Leeds Medical School, and took the diplomas of L.R.C.S.I. and L.F.P.S.G. in 1886, also subsequently the F.R.C.S.Ed. in 1889, the D.P.H. in 1892, and the degree of M.D.Dur. in 1905. After serving as house-surgeon of Huddersfield Infirmary he went into practice at Edgerton, Huddersfield. Before the war he held a commission as major on the staff of the 7th (Leeds) West Riding casualty clearing station (T.F.), was promoted to lieut.-colonel on May 3rd, 1915, and had recently been serving at the front in command of that unit. He had received the Territorial Decoration, and had twice been mentioned in dispatches.

#### **MAJOR H. W. CARSON, D.S.O., R.A.M.C.**

Major Herbert William Carson, D.S.O., R.A.M.C., was reported as having died on service, in the casualty list published on October 29th. He was born on May 22nd, 1882, and graduated M.B., B.Ch., and B.A.O. of the Royal University, Ireland, in 1905. Entering the R.A.M.C. as lieutenant on July 29th, 1907, he was promoted to captain on July 29th, 1911, and recently to major. He received the D.S.O. on June 4th, 1918.

#### **CAPTAIN N. J. ALLAN, R.A.M.C.(T.F.).**

Captain Noel James Allan, R.A.M.C.(T.F.), was reported as having died on service, in the casualty list published on October 31st. He was educated at Liverpool University, where he graduated M.B. and Ch.B. with honours in 1916. After acting as house-physician and house-surgeon of Liverpool Royal Infirmary and as obstetric assistant at Liverpool Maternity Hospital he joined the R.A.M.C.(T.F.) as lieutenant in the 1st West Lancashire Field Ambulance in 1916, and was promoted to captain in 1917.

#### **CAPTAIN E. BOYERS, R.A.M.C.**

Captain Edwin Boyers, R.A.M.C., who died recently at Steevens's Hospital, Dublin, was the son of Mr. John



Boyes, of Londonderry. He was educated at Campbell College, Belfast, and Trinity College, Dublin, graduating M.B., B.Ch., B.A.O. Dub. in 1915. He took a temporary commission as lieutenant in the R.A.M.C. and was promoted to captain after a year's service. He saw over two years' active service in France, and was mentioned in despatches in December, 1917. Latterly he was stationed in Dublin, and was detailed for duty at Kingstown in connexion with the loss of the *Leinster*, where he contracted pneumonia, which proved fatal.

**CAPTAIN R. D. D.-D. BROWNSON, R.A.M.C.(S.R.).**

Captain Roger Dawson Dawson-Duffield Brownson, R.A.M.C.(S.R.), died of influenza at Peshawar on October 21st. He was the only son of the Rev. F. Brownson of Compton Greenfield, Gloucestershire, and was educated at the London Hospital and at Cambridge, where he graduated B.A. in 1905 and M.B. and B.C. in 1911, having also taken the diploma of M.R.C.S. and L.R.C.P. Lond. in 1908. He had filled the posts of emergency officer at the London Hospital and of clinical assistant at the Great Ormond Street Hospital. He joined the Special Reserve of the R.A.M.C. as lieutenant on September 30th, 1914, and was promoted to captain on April 1st, 1915.

**CAPTAIN C. M. G. CAMPBELL, R.A.M.C.(S.R.).**

Captain Charles Montague Gordon Campbell, R.A.M.C.(S.R.), was reported as having died on service, in the casualty list published on November 1st. He took the diplomas of L.R.C.P. and S.I. in 1914, joined the Special Reserve of the R.A.M.C. as lieutenant on February 8th, 1915, and was promoted to captain on August 8th, 1915.

**CAPTAIN J. H. CONNOLLY, R.A.M.C.**

Captain James Harris Connolly, R.A.M.C., died at the Acheson Military Hospital, Regent's Park, London, on October 23rd, aged 42. He was educated at Edinburgh University, where he graduated M.B. and Ch.B. in 1902 and M.D. with commendation in 1906; and also studied at King's College Hospital, London, at St. Bartholomew's, and at the London and Middlesex Hospitals. After filling the posts of house-surgeon to the Royal Albert Hospital, Devonport, of senior house-surgeon to the Chesterfield and North Derbyshire Hospital, and of resident medical officer to the Throat Hospital, Golden Square, London, he went into special practice in London, and held the appointments of chief assistant in the aural department at St. Bartholomew's and of surgeon in charge of the throat, nose, and ear department at the Queen's Hospital for Children. He took a temporary commission as lieutenant in the R.A.M.C. on October 10th, 1914, and was promoted to captain after a year's service.

**CAPTAIN W. MALDEN, R.A.M.C.(T.F.).**

Captain Walter Malden, R.A.M.C.(T.F.), died at Cambridge on October 28th, aged 60. He was educated at Cambridge, where he graduated M.A. in 1885, M.B. in 1886, and M.D. in 1905, and at St. Bartholomew's Hospital, taking the diplomas of M.R.C.S. and the M.R.C.P. Lond. in 1909. He held the posts of clinical pathologist and director of the clinical laboratory at Addenbrooke's Hospital, Cambridge, and was honorary medical officer of the Charity Organization Society, and of the Cambridge Rescue and Prevention Society. He took a commission as captain in the R.A.M.C.(T.F.) on the staff of the 1st Eastern (Cambridge) General Hospital on May 6th, 1908, and was pathologist to that hospital.

**CAPTAIN W. L. MILLAR, R.A.M.C.**

Captain William Linton Millar, R.A.M.C., died on active service in France on October 23rd, aged 37. He was educated at Aberdeen University, where he graduated M.A. in 1903, and M.B. and Ch.B. in 1906, after which he went into practice at Forres, where he was medical officer of Kinloss parish, and honorary physician and surgeon to the Leuchlinn Hospital. He took a temporary commission as lieutenant in the R.A.M.C. on July 1st, 1916, and was promoted to captain after a year's service.

**LIEUTENANT C. BLAKE, R.A.M.C.**

Lieutenant Cecil Blake, R.A.M.C., died on October 30th in the Military Hospital at Rugby Camp, of septic

pneumonia, aged 23. He was the elder son of the late Mr. John Blake of East London, South Africa, and was only recently qualified and joined the R.A.M.C.

*Wounded.*

Major W. B. Allen, V.C., M.C., R.A.M.C.(T.F.).  
Major D. McKeown, M.C., R.A.M.C. (temporary).  
Major J. B. Scott, M.C., R.A.M.C. (S.R.).  
Captain A. F. Angus, Canadian A.M.C.  
Captain G. Davidson, R.A.M.C. (temporary).  
Captain F. B. Day, Canadian A.M.C.  
Captain H. S. Evans, R.A.M.C. (S.R.).  
Captain H. M. Gelliey, R.A.M.C. (temporary).  
Captain C. J. Haacker, M.C., R.A.M.C.(S.R.).  
Captain R. Lindsay, R.A.M.C.(T.F.).  
Captain J. C. Ogilvie, M.C., R.A.M.C. (temporary).  
Captain R. E. Potts, R.A.M.C.(T.F.).  
Captain H. A. C. Swertz, R.A.M.C. (temporary).  
Captain G. S. Trower, R.A.M.C.(S.R.).  
Captain H. P. Whitworth, R.A.M.C.(S.R.).  
Captain C. R. Young, M.C., R.A.M.C. (temporary).

**DEATHS AMONG SONS OF MEDICAL MEN.**

Bond, Frank Bertram, Second Lieutenant Royal Field Artillery, only child of Dr. Bertram Bond of Godalming, killed October 24th, aged 19.

Cuthbert, R. Howard, Royal Fusiliers, attached Army Pay Corps, fourth son of the late Dr. Cuthbert and of Mrs. Cuthbert of Lammas Park Road, Ealing, died of pneumonia in the Military Hospital, Dover, on October 25th, aged 29, after four years' active service.

Maitland-Thompson, Humphrey, Army Intelligence Department, second son of Surgeon-Captain Maitland-Thompson, died suddenly at Richmond Hill, on October 25th, aged 26.

Maurice, Francis Thomas, Lieutenant Grenadier Guards, elder surviving son of Brevet Colonel W. J. Maurice, R.A.M.C.(T.F.), of Reims, died in London of pneumonia, October 29th, aged 26. He was educated at Blundell's School, Tiverton, and at St. John's College, Oxford, where he graduated as B.A., and enlisted in the Public Schools Brigade at the beginning of the war. He went to France as sergeant in November, 1915, got his commission in May, 1917, went to France in December, 1917, and subsequently to Italy. He was demobilized in May last to resume his medical studies at St. Thomas's Hospital. Two of his brothers had previously been killed, Second Lieutenants C. H. C. Maurice and J. C. Maurice, both of the Berkshire Regiment.

Powers, Herbert Grendon, M.C., Captain Hampshire Regiment, only son of Dr. Powers, late of Westend, Hants, killed September 19th. He gained an open scholarship at Wadham College, Oxford, in 1912, and joined the O.T.C. He got his first commission on September 2nd, 1914, and went to France on a following month with the Wessex Territorial Brigade. He afterwards joined the British Army Reserve of Officers, served with the 1st Gurkhas in Mesopotamia, and took part in the recapture of Kut, when he gained the Military Cross. He was subsequently transferred to another front.

Scott, William Howard, Private, Essex Regiment, late Lincoln Regiment, second son of the late Dr. Irwin Scott of Hove, killed October 13th.

Sheppard, Charles Westear, Lieutenant Royal Engineers, only son of Dr. W. J. Sheppard, died at Putney, of influenza and pneumonia, on October 29th, aged 36. He got his first commission on March 1st, 1915, in the Oxford and Bucks Light Infantry, and was subsequently transferred to the R.E.

Weaver Adams, Philip Clive, Second Lieutenant, younger son of E. Weaver Adams, F.R.C.S., of Slough, killed in a flying accident on October 28th, aged 19.

**MEDICAL STUDENT.**

Doyle, Kingsley Conan, eldest son of Sir A. Conan Doyle, M.D., died, aged 25, at St. Thomas's Hospital, on October 28th, of pneumonia after influenza. He was studying at St. Mary's Hospital when war began, and enlisted in the R.A.M.C. He left the army last May to resume his medical studies at St. Thomas's Hospital.

Pellow, William, M.C., Captain Royal Dublin Fusiliers, who was killed in action on October 12th, was the only son of Mr. William Pellow, senior inspector of schools, Dublin. He was educated at St. Columba's College, Rathfarnham, and entered the medical school of Trinity College in 1914. He went to Sandhurst at the end of his first medical year. In August, 1915, he received his commission in the Royal Dublin Fusiliers, and became full lieutenant in May and captain in August, 1917. He received his Military Cross in November 1917, and was mentioned in despatches in December of the same year.

*[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]*



## HONOURS.

*The Albert Medal.*

THE Albert Medal for gallantry in saving life at sea has been awarded to Surgeon-Lieutenant William Fryer Harvey, R.N. The following is the account of the services in respect of which the decoration has been conferred:

On June 23rd, 1918, two of His Majesty's torpedo-boat destroyers were in collision, and Surgeon-Lieutenant Harvey was sent on board the more seriously damaged destroyer in order to render assistance to the injured. On finding that a stoker petty officer was pinned by the arm in a damaged compartment, Surgeon-Lieutenant Harvey immediately went down and supported the arm, this being the only means of freeing the petty officer. The boiler room at the time was flooded and full of fumes from the leaking oil. This alone constituted a great danger to anyone in the compartment, and Surgeon-Lieutenant Harvey collapsed from this cause after performing the operation and had to be lifted out of the compartment. Moreover, at any time the ship might have broken in two, and all hands were taken on deck, working in buckets at the time, in order to be ready for this eventuality. Surgeon-Lieutenant Harvey displayed the greatest calm and disregard of his personal safety in descending into the damaged compartment and continuing to work there amidst the oil fumes at a time when the ship was liable to sink.

## NOTES.

COLONEL HOWARD H. TOOTH, C.M.G., after four years' service, two years overseas, has returned to London and resumed duty at St. Bartholomew's and the National Hospitals.

We learn that Captain Shepherd Boyd, R.A.M.C.A.T., has recovered from injuries received in France last summer during the bombing of an ambulance train in which he was serving as medical officer.

Colonel Champe C. McCulloch, jun., M.C., U.S.A., executive officer of the board for collecting and preparing material for a medical and surgical history of American participation in the European war, has arrived in France to establish his administration for this purpose. During his absence Lieut.-Colonel Casey A. Wood, M.C., U.S.A., will be in charge of this work in the Surgeon-General's office.

According to the *New York Medical Journal* of September 28th, 39,519 physicians were at that date in the service of the United States Government; 26,931 of these were in the Medical Corps of the army, 2,818 in the navy, 220 were commissioned as surgeons or assistant surgeons in the United States Public Health Service, while 500 are engaged in the service as control surgeons without commissions. It is estimated that there are about 76,000 physicians of military age in the United States.

## NUTRITION OFFICERS FOR THE UNITED STATES ARMY.

The Surgeon-General of the United States Army has recently announced that nutrition officers are to be stationed in every National Army cantonment and every National Guard camp, as well as in every camp where 10,000 or more men are in training. These officers are food specialists who, before they joined the army as members of the Division of Food and Nutrition of the Medical Department, were connected with colleges and public bodies as physiologists, chemists, economists, food inspectors, and experts in other specialized work relating to food. Since October, 1917, the division has been making surveys of food conditions in camps. Groups of officers have gone from camp to camp noting the food served, the methods of inspection, storage, and preparation, and have made recommendations which have already led to satisfactory results. The officers also gave instruction to medical and mess officers on the principles of nutrition, the selection of foods, and the framing of dietaries. An important part of their work was the enforcement of vigilance in the prevention of waste.

## Correspondence.

## CHEAP MEDICINE.

SIR, A sentence in Sir Arthur Newsholme's report invites comment. He says:

National efficiency remains at an unnecessarily low level for lack of medical arrangements, the cost of which will be small in comparison with the benefits obtainable.

This rather suggests the further exploitation of the medical profession and the continued expectation of nineness for fourpence by the public. Medical service of a high standard, like that of any public service of first importance, can be had at a high cost only. You cannot run an A 1 public health service on a C 3 expenditure. Further on the report reads:

Every patient needs to be studied in relation to his circumstances, and his illness requires to be considered from the point of view of removal of its causes, prevention of their recurrences, and prevention of protraction of disablement.

At the present time this service is expected of medical men under the Insurance Act for a capitation fee of about 8s. per annum, and this contribution from men sometimes in at least as good a financial position as the doctor. As district medical officer I have the care of the sick poor

in a small town of over 3,000 inhabitants and of five adjoining villages, one being four miles away, and my salary is rather less than the wage I pay my grocer. I should like to add that my experience of over thirty years convinces me that the British workman quite realizes that an efficient medical service is not possible at present prices. Skilled medical attention is required by the people; it is their due, and they are willing to pay the price. The party politician and a soulless bureaucracy are the stumbling blocks.—I am, etc.,

October 23rd.

M.D. and M.O.

## THE FUTURE OF THE MEDICAL PROFESSION.

SIR,—If nothing better can be done, I readily agree that the proposals of Dr. Peter Macdonald for a National Medical Service would be advantageous both for the public and the profession. But can nothing better be done? We are supposed to guide the public in matters of health; is it consistent, or even in keeping with common sense, that we ourselves should violate the most elementary laws of health by remaining on duty twenty-four hours a day seven days a week?

There is a splendid chance, now that half our number have been for longer or shorter periods in the State service, to make a radical change in our system; and I suggest a plan by which a State doctor would have only a reasonable time on duty each day, and be enabled to put in two months' hospital work every year.

1. A whole-time State service.
2. An adequate salary: say £700 per annum, net, for men under 30; rising by increments of £50 every five years.
3. Compulsory retirement at the age of 60, with pension equal to half salary.
4. Practice to be carried on at central dispensary; State doctors to live where they please, not to practise from their private houses, and not to practise for gain in their leisure time.

Let me illustrate the case in respect to a small town where there is normally sufficient work for twenty-four general practitioners, and a small hospital. The State would provide the central premises; large waiting rooms, consulting rooms, dark room, x-ray room, etc., with dispensary attached; also a garage and at least four motor cars, and rooms for dispensers, nurses, chauffeurs, etc. The State would bear the whole expense, and the doctor's salary would be for his own private use. The practitioners would be divided into three groups of eight, who would change every four months.

*First Group:* Duty from 8 a.m. to 3 p.m., either at dispensary or visiting from dispensary.

*Second Group:* Duty from 3 p.m. till 10 p.m., either at dispensary or visiting from dispensary.

*Third Group:* (A) Half on night duty at dispensary (taking all night calls) for two months. (B) Half doing hospital work, eight hours per day, for two months.

(A) and (B) should change about, so that each man has two months' night duty and two months' hospital duty.

On Sundays only two men of the first group and two of the second to be on duty; but no difference to be made with regard to night duty men and hospital men.

During the six months April to September inclusive, each man to have a month's holiday, details of which could be arranged as easily as we have arranged our holiday schemes during the war. Thus, in each year a State doctor would have one month's holiday, seven months' morning or evening duty, two months' night duty, and two months' hospital work.

In this way he would be kept thoroughly up to date; the joint supervision of cases, and the exchange of opinions with his colleagues, would keep him from getting into a groove; and so far from the State patients receiving less efficient treatment than the diminishing number of people who still preferred to employ a private doctor (as Dr. Macdonald fears), they would actually have the benefit of more efficient treatment. Moreover, the scheme would probably be found sufficiently elastic in practice to allow, within fairly wide limits, both free choice of patient and free choice of doctor.

Of course, in every large town there would be consultants and specialists, school doctors, and a tuberculosis officer; also a M.O.H., who should be appointed and paid by the central authority. In each town, too, there would be a senior man, with administrative duties only, to supervise the general practitioners. Each patient would have a record card, with diagnosis, treatment, room for temperatures, notes, etc., so that any doctor looking at this could



obtain at a glance a good idea of the case. Those of us in *prædict* practice who have used the record cards know how exceedingly useful they can be.

In addition to the advantages I have enumerated, a State service would enable us to deal justly with hypochondriacs and malingerers without the annoyance of attempted reprisals; and, generally speaking, we should be able to use our brains more and our tongues less.

I suggest that every practitioner under fifty should be allowed to join the State service by relinquishing his private practice; but if on joining he could prove that his *net* income (over and above business expenses) was more than the State salary he was entitled to at his age, then he should receive from the State two years' purchase of the difference. Thus, a man entering the State service at a salary of £900 per annum, whose previous net income from private practice was £1,200, would receive a lump sum of £600. This may appear rather small, but we must remember that he would work shorter hours and have much less worry; and, as a matter of fact, such cases would be infrequent if the State doctor's salary were fixed at the figure I have suggested.

The State service, of course, would be absolutely free to all patients, rich and poor alike. I should imagine that, with an army of 20,000 State doctors, the cost would be about £25,000,000 per annum—about the same as the cost of the (old) Education Act. In other words, about 10s. per head of the population. But we all hope that before long we shall be able to reduce our present annual expenditure for defence, and the money could not be put to a better use than for a war on disease and the causes of disease.—I am, etc.,

North Shields, Oct. 19th.

F. C. MEARS.

SIR,—I was particularly interested to read Dr. Peter Macdonald's article (BRITISH MEDICAL JOURNAL, October 19th, p. 435), since in his par. 4 under heading 2 "A National Medical Service," he expresses views somewhat similar to those expressed by me in "Suggested Hospital Decentralization and Ideas for a State-aided Voluntary Medical Service" (published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of September 20th, 1913, p. 258), especially as to the increase in the number of hospitals, the importance of "specialists" being made by their *confrères* choosing them for their ability instead of being self-constituted, and the use of all hospitals as centres for such work as prevention of venereal disease, extension of maternity and child welfare, etc.

The main point is to give every practitioner the opportunity of becoming a "specialist" by being attached (if he choose) to a hospital where he can attend his own patients and continually enlarge his knowledge of all kinds of practice, particularly the one in which he desires to specialize.—I am, etc.,

London, W., Oct. 29th.

HARDING H. TOMKINS, M.R.C.S.

#### INFLUENZA AND ANAPHYLAXIS.

SIR,—Is it not possible that the severity of the present outbreak of influenza is due, in part at least, to anaphylaxis? The time that has elapsed since the summer outbreak suggests this. Granted that the same organisms are at work, increase in severity depends either on increased virulence of the organisms or on increased susceptibility of patients, or on both. The latter may be due to various causes, one of which is anaphylaxis. In the summer outbreak many people suffered, some possibly with only slight symptoms. At the present time it is possible that some of these people are in a state of anaphylaxis. I do not, of course, suggest that the anaphylaxis causes the disease, but if the infection attacks a person in a supersensitive condition he may be so rapidly and profoundly affected as to be unable to offer a normal resistance to the attack of the infective organisms and their allies.

If there is any truth in this hypothesis, it has an obvious bearing on prophylactic treatment by means of vaccines.—I am, etc.,

London, N.W., Nov. 1st.

F. J. WOOLLACOTT.

#### PROBLEMS OF NUTRITION.

SIR,—Major Murlin, Chief of the Division of Food and Nutrition of the Surgeon-General's Office (U.S.A.), read a paper at the April meeting (1918) of the College of

Physicians of Philadelphia, which shows that the study of the action of food is being improved by the war.

Having noticed that our recruits, more especially those from rural parts, suffered from indigestion and rheumatic symptoms as soon as they began to be trained, I wrote to Lord Kitchener giving him my views as to the cause, and he at once reduced the beef ration from 1 lb. to  $\frac{3}{4}$  lb. I have spoken to men back from the front, and they tell me they get sick of the beef ration, and do not eat it. The Italian ration is only  $\frac{3}{4}$  lb. of beef. Major Murlin says, "Our allowance is  $1\frac{1}{4}$  lb., but the actual consumption in the camps in this country does not exceed  $\frac{3}{4}$  lb. The question may fairly be asked whether the Government would not be well advised to reduce the quota of meat and replace the amount thus saved by sweets provided as a part of the ration."

It would thus appear that the American soldier, like ours, does not eat the whole of the beef, and in spite of leaving some of it has plenty of food, so that the ration of beef might be lessened and nothing put in its place; but if any substitute might be suggested fruit would be much preferable to sweets, for sugar in the inorganic form, as well as salt, ought to be avoided in every dietary.

Since I published my book, which proves that food is the chief cause of disease not only of body but of mind, I have continued the study of the physiological action of our common foods; and, when our Government has a Ministry of Health, which will regulate not only the quantity but the quality of the dietaries in our asylums, insanity will be cured quickly, and in the same way as gout or rheumatism, by proper diet and regimen.—I am, etc.,

Hawick, Oct. 21st.

JOHN HADDON, M.D.

#### BOOT HEELS AS A CAUSE OF FLAT-FOOT.

SIR,—I am not astonished that Dr. T. S. Ellis, referring on October 5th to Captain Fairweather's paper under the above heading, in the JOURNAL of September 21st, commences his criticism by saying that it "contains statements which to me are startling." What astonishes me is that they are not startling to Captain Fairweather himself. Here is a typical statement:

With heels the spastic condition of the calf muscles makes the front of the foot point downwards, and in walking the knee has to be lifted to let one foot clear the ground, and pass the other.

Where did Captain Fairweather learn his mechanics? With a heel as fulcrum the front of the foot points downwards because the weight of the body falls at the ankle in front of the fulcrum and *pushes* the foot down. Moreover, the statement that the knee has to be lifted to let one foot clear the ground and pass the other, is also utterly false. Captain Fairweather has forgotten that a heel is put on both boots, and the carrying leg is heightened by the amount the swinging leg is lengthened.

The terrible consequences pictured by Captain Fairweather as due to heels are as ridiculous as his premises. "Sprained ankles, the stoop of old age, asthma, varicose veins, weak back and spinal curvature." "Soldier's heart, myalgia, and numerous other ailments." In the mountainous area of the South of France the peasants pass nearly half their time descending hills, commonly with heavy loads poised on their heads. Down the steep slopes the heels are up and the toes down. Yet their erect carriage is frequently remarked on admirably, and they maintain the perpendicular without "corsets," or consequent flat-foot. French women for generations have worn high heeled boots, when they could get them, and they have generally a better arched foot than their English sisters. Women in England wear high heels more commonly than men, and suffer no more from flat-foot.

The great advantage of heels is that the boot is lifted out of the mud and wet and the foot preserved from damp. Probably a greater gain for durability and health than is commonly recognized. Artistically, too, nothing is more hideous than heelless boots. Is it not time we ceased our pseudo-scientific condemnation of women's apparel? The munition authorities have announced that the wearers of corsets stand the work better than the non-wearers; and men generally are probably more flat-footed than women, and wear out sooner. As Dr. T. S. Ellis points out, we do not yet agree how the arch is supported. Until we do, it is not fair to distort medical science in order to push our hobbies.—I am, etc.,

Christ St. George, Devon, Nov. 1st.

D. W. SAMWAYS.



SIR,—My reply to the letter of Captain Fairweather, relating to mine in the JOURNAL of October 5th, is that I did not intend to imply anything beyond that which I said. To this I adhere.—I am, etc.,

Gloucester, Oct. 26th.

T. S. ELLIS.

# MEDICAL AUTOGRAPHS.

SIR,—The Reading Pathological Society has lately received from Sir G. H. Makins, for insertion in its albums of medical portraits, holographs, and autographs, an extensive collection of the autographs of distinguished medical men, both British and foreign. Many of these practitioners have passed "beyond the veil," but their names will ever be remembered amongst those of the great benefactors of mankind.

The society now possesses a considerable number of duplicate holographs and autographs which are at the disposal of any other medical society that contemplates forming a similar collection. In the words of Cicero, "Benefactorum recordatio jucundissima."—I am, etc.,

Reading, Nov. 2nd.

JAMIESON B. HURRY.

## Medico-Legal.

### THE COVENTRY CASE.

*Pratt and Others v. the British Medical Association and Others.*

THIS case was mentioned to Mr. Justice McCardie once more on November 1st, on an application for judgement.

Sir Hugh Fraser (who appeared with Mr. Schwabe, K.C., for the plaintiffs) intimated that the plaintiffs no longer desired to press for an injunction, but would accept the undertaking which had been mentioned on a former occasion.

Mr. Justice McCardie: It will be in the following form: "The defendants undertake that until the hearing of an appeal or the determination of the war, whichever may last happen, they will without prejudice to their rights or contentions in this action, or to the plaintiffs' right to apply to the Court of Appeal for an injunction, in no way interfere with or otherwise obstruct the plaintiffs in the practice of their profession or in their attendance on their patients, and will use their influence with the members of the defendant Association to secure for the plaintiffs full liberty to practise their profession, to attend their patients, and to hold consultations with other members of the profession." The plaintiffs will also have liberty to apply.

Sir Hugh Fraser said that as to the cost of the shorthand notes the plaintiffs were prepared to accept his Lordship's ruling on the last occasion.

Mr. Justice McCardie: There will be judgement for the plaintiffs for £3,810. The amounts to be awarded to each plaintiff can be settled by Sir Hugh Fraser and Mr. Neilson, it being borne in mind that, as to some of the issues, judgement was given against some of the defendants and not against all. As to certain causes of action on which the plaintiffs failed, the defendants will be entitled to the costs of those, and there will be a set off. As regards my judgement, the learned reporter for the *Law Reports* has very kindly pointed out that by inadvertence I omitted to read one page of the manuscript. It should be inserted immediately after the letter of Dr. Suckling which was dated February 20th, 1914 (see the BRITISH MEDICAL JOURNAL, SUPPLEMENT, October 26th, 1918, p. 56, col. 1), and is as follows: "At the same time he wrote to Dr. Burke to say that he would help to smash the boycott. The meeting was held on February 25th, 1914. Dr. Suckling was fully acquitted. But the Coventry Division was not satisfied, for on March 17th, 1914, at a meeting at which (*inter alios*) the defendants Dr. Lowman and Dr. Orton were present, the following resolution was passed: 'That a letter be sent to Dr. Suckling expressing the regret of the Division that he has seen fit to meet a member of the Provident Dispensary in consultation.' Thereupon Dr. Suckling wrote to say that he had committed no breach of any rule. The reply of the Coventry Division to this letter was a letter of censure for doing that in respect of which the Birmingham Branch had held that he was wholly free from blame. The above incidents with regard to Dr. Suckling cast a vivid light on the coercive intention of the defendants' scheme of boycott, and an equally vivid light on the result to any medical practitioner in the Divisions surrounding Coventry who desired to render any medical recognition or advice to a doctor of the Coventry Dispensary."

Mr. McCall, K.C. (who appeared with Mr. Hollis Walker, K.C., and Mr. Neilson for the defendants), said: I have two applications to make. In the first place, I ask that the defendants have the costs of this application. The greater part of the time has been taken up in asking for that which your Lordship has refused.

Mr. Justice McCardie: You were all bound to be here in any case. It was I who suggested that the undertaking be continued. I was reluctant to grant an injunction, as I desired to lessen the asperity which may surround this case.

Mr. McCall: I ask for a stay of execution on the terms of the money awarded by way of damages being invested in War Loan

in the joint names of the two solicitors, the costs to be taxed and paid over on the usual undertaking. The defendants to give notice of appeal within fourteen days.

Mr. Justice McCardie: That appears to be reasonable.

Sir Hugh Fraser: I agree on the part of the plaintiffs.

## Obituary.

JOHN BIERNACKI, M.D. GLASG.,

Plaistow Fever Hospital.

By the death of Dr. John Biernacki, physician-superintendent of the fever hospital at Plaistow and the small-pox hospital and tuberculosis sanatorium at Dagenham, institutions which are under the control of the municipality of West Ham, the public health service of this country has lost a most valuable servant. From the day he was appointed to the administration of the establishments mentioned the object he had ever in his mind was to make them models of their kind; and so successful was he in this work that he quickly and deservedly gained a wide reputation as a hospital administrator, and his advice was sought from far and near. In this department of public health he is perhaps especially known for the introduction of what he termed the "barrier system" of nursing cases of certain infectious diseases, under which by a minute attention to details of asepsis these cases could be nursed in a general ward without harm to the other patients or to themselves, though they were separated from the other patients only by a single cord round the bed; a procedure by which the available isolation accommodation of a hospital is greatly economized. Doubtless this method had been in vogue in other hospitals before his time, but only in a crude way; he worked the method out in detail, and showed its limitations as well as its usefulness.

John Biernacki was the second son of Mr. Andrew Thomson Biernacki, for many years in the Indian Government service, and was born in India on September 21st, 1865. After studying at the Glasgow Academy and Glasgow University he took the diplomas of the College of Physicians and Surgeons at Edinburgh in 1889 and graduated M.D. in 1893. At the time of the opening of the Plaistow Fever Hospital in 1895 he was selected as its physician-superintendent from six candidates, having been previously resident medical officer of the Infectious Diseases Hospital at Bootle. He became superintendent of the Harold Wood Convalescent Home and also had charge of the Dagenham small pox hospital during the severe epidemic of 1902-4. He took a deep interest in the personal welfare of his patients, and was far more than their medical adviser; he was the friend of all. The staffs of both sanatorium and the fever hospital were devoted to him and he was ever solicitous for their interests. By them his death is regarded as a personal loss.

He was not a voluminous writer so far as published papers were concerned, but what he did give to the world was excellent. His article on infectious diseases in Bain's *Textbook of Practical Medicine*, and several papers on the pathology and treatment of diphtheria and on intubation (of which he was an ardent advocate) show that he possessed, behind a keen clinical vision, a sound and sure judgement. For some years before his death he had been engaged on a book on the nursing of infectious diseases; and it is to be hoped that the work is sufficiently advanced to be fit for publication. The need for such a volume is pressing.

Much—perhaps, at any rate of late years, most—of his energy, however, was devoted to the improvement of the status and conditions of life of nurses, and especially of those working in fever hospitals. He was the originator and one of the founders of the Fever Nurses' Association, a body which has steadily grown since its beginning eleven years ago, and has done much already to improve the position of fever nurses. But it was not only the fever nurse to whom his sympathy turned, for he spent much time and thought in the bettering of nursing conditions generally. Recognizing that it is only by State recognition that the community of nurses can come into its own, he was a strong supporter of the State registration of nurses, and was a member of the central committee formed some eight or nine years ago to promote that object. He will be greatly missed from the counsels both of the association and the committee. His temperament was inclined to be restless, perhaps because of his Polish descent. He was a



hard worker, unsparing of himself; it is, indeed, to be feared that since the war he worked too hard for a not very robust constitution. He was gifted with a lively sense of humour, so that when in the vein his conversation was most entertaining. The esteem in which he was held was testified to by the large gathering which followed his mortal remains to their last resting place in Ilford cemetery.

Dr. C. O. HAWTHORNE (London) writes: To those of us who knew him well the late Dr. Biernacki has left many affectionate memories. To know him well, however, was not easy. His sensitive temperament and quality of reserve shut him off from chance acquaintance and even from not a few of his immediate colleagues. To be quiet and non-assertive was indeed an essential habit of the man. Yet behind this habit was a very gentle mind and a great capacity for sympathy and tenderness and interest. In his own field of work he was practical and thorough even to severity. But in wider affairs he was a dreamer of dreams, and it was the artistic and the ethical that really engaged him. Not in a wide circle, perhaps, but certainly in a very affectionate one, his name has a grateful and abiding place.

Dr. R. H. ALLEN, of Forest Gate, writes: I first met the late Dr. Biernacki at Glasgow University. We were students together when he came to Plaistow Hospital as superintendent some twenty-three years ago. A friendship was made which time has cemented. It was given to very few to know the man. A man of strong character and large intellect, combined with a charming manner, very sensitive to avoid hurting the feelings of others. Children loved him. His powers of conversation were unique. To spend a holiday in his company was an education. To the very few who knew him his memory will always remain.

Dr. JAMES WILSON, Haklane House, Bridge of Allan, late of Ashville, Dumbarton, died on October 28th, at Bridge of Allan, in his 66th year. After studying at the University of Glasgow he obtained the L.F.P.S. and L.M. diplomas in 1882, and settled in practice at Dumbarton. He was medical officer to Dumbarton Combination Poorhouse for nearly thirty years, and in this capacity did much useful work. He was also the means of introducing into all the yards and foundries in Dumbarton Red Cross or ambulance centres, where accidents could be attended and first aid administered. He was the first doctor in Dumbarton to join the British Medical Association, in which body he took a prominent part, being for some time president of the Argyllshire and Dumbartonshire Branch. He was, further, on the staff of the Cottage Hospital, and held the positions of certifying factory surgeon and medical referee of the Ministry of Pensions. His shrewd, kindly, and masterful personality, coupled with his long professional service, commanded the respect of all with whom he came in contact. One of his two sons is in practice in the South of England and one on active service.

Dr. WILLIAM STARKEY, of Rathnines, Dublin, died on October 14th in his 83rd year. He was the oldest member of the profession in the district and was greatly beloved by the poor, whose friend and helper he had been for the greater part of his long and active life. He was the son of the Rev. Wm. Starkey and was born at Bandon, co. Cork, in 1836. He had a distinguished career in Queen's College, Cork, and graduated B.A. in 1857. Later he took the L.A.H. Dubl., and in 1869 the degrees of M.D. and M.Ch., Q.U.I. A man of wide culture, deeply read in the classics and English literature, he contributed to the *Dublin University Magazine* in its palmy days, and was the friend and companion of such famous Irishmen as Robert Dwyer Joyce and George Sigerson. He published in 1875 a small volume of poems and translations, and frequently contributed verse to many journals. He is survived by a daughter and two sons, the elder of whom is the medical superintendent of the Plymouth Asylum, while the younger is widely known as Seumas O'Sullivan, the Irish poet and essayist.

We deeply regret to record the death from heart failure, when apparently convalescing from influenza, of Lieut.-Colonel E. F. Harrison, C.M.G., acting Controller of Chemical Warfare at the Ministry of Munitions. Before

he joined the army, soon after the outbreak of war, Colonel Harrison practised as an analytical chemist in London, and was responsible for most of the analyses of proprietary articles in the volumes *Secret Remedies* and *More Secret Remedies*, published by the British Medical Association.

## Universities and Colleges.

### UNIVERSITY OF OXFORD.

At a congregation held on October 31st the following medical degrees were conferred *in absentia*:

D.M.—Edward H. White, Thomas S. Wright.

### ROYAL COLLEGE OF PHYSICIANS OF LONDON.

An ordinary comitia of the Royal College of Physicians of London was held on October 31st, the President, Dr. Norman Moore, being in the chair.

The following gentlemen, having passed the required examinations, were admitted as Members of the College: John Cathbert Matthews, M.D.Camb., L.R.C.P., Stuart Alexander Moore, M.D.Edin., Hugh James Orr-Ewing, L.R.C.P.

Licences to practise physic were granted to ninety-three candidates.

A communication, dated July 25th, was received from the Royal College of Surgeons stating that the Council of that College had decided to omit the names of universities in Germany and Austria-Hungary from the list of hospitals and schools of medicine and surgery published in the *College Calendar* as the places from which certificates of the professional education of candidates for the Membership and Fellowship will be received by the College for the year commencing August 1st, 1918. The communication further suggested that the desirability of also omitting those universities from the published list of the Conjoint Examining Board should be brought under the consideration of the Committee of Management. It was resolved to refer the matter accordingly.

On the motion of the Senior Conso, it was agreed to restore the licence of the College withdrawn from Mr. William Dutton Akers in January, 1912.

Dr. F. W. Andrewes, Sir Humphry D. Rolleston, Dr. Raymond Crawford, Sir John Broadbent, and Dr. H. French were appointed on a committee to draw up a pronouncement on the subject of influenza.

The resignation by Sir Frederick Taylor, Bt., of the office of Representative of the College upon the Senate of the University of London was received with great regret.

Dr. Norman Moore and Dr. Henry Head were appointed representatives upon the Conjoint Board of Scientific Societies.

After some formal business the President dissolved the comitia.

### ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The *Calendar* of the Royal College of Surgeons of England\* for the current year contains all the usual information—historical, official, and academic—revised up to August 1st, 1918, together with lists of Fellows and Members, and of licentiates in dental surgery, and diplomates in public health and tropical medicine. The roll of honour of the College now numbers 231 Fellows, Members, and Licentiates who have been killed in action, or lost their lives from wounds or disease contracted on active service. The report of the proceedings of Council refers to the effect upon hospitals and medical schools of the steps taken by the Ministry of Pensions in conjunction with the War Office to eliminate cases of military injuries, on a very wide definition of "orthopaedics," from treatment in certain civilian hospitals. The Council decided to send a letter to the Director-General, A.M.S., explaining its views, and recommending that a change of name from military orthopaedic hospitals to special military surgical centres be adopted, and that in making appointments to such centres greater consideration should be given to the need for the representation of medical staffs attached to the local civil hospitals, especially teaching hospitals. A short account is given of the work of the Committee of Reference during the year 1917-18. Under the new Military Service Act the committee is investigating the cases of all members of the staffs of hospitals between the ages of 43 and 56; and throughout the year the committee has been constantly engaged in considering the cases of doctors on the staffs of hospitals with a view to determining which of them can be spared for service with the forces. The financial report shows that the gross income of the College, exclusive of that from trust funds, amounted to £20,758, being £304 less than in the previous year. The examination and diploma fees for Membership remain at a satisfactory figure, and the Fellowship fees show no material change, but there was a further decrease of £491 in the fees for the licence in dental surgery. The total expenditure under the revenue accounts was £18,386, being £605 higher than in the previous year. A considerable drop in the revenue for the ensuing year is anticipated. Three hundred and forty-five diplomas of Membership were issued during the year, including thirty-five to women, and five diplomas of Fellowship. The licence in dental surgery was granted to forty-five men and two women. The Conservator of the museum reports the opening of the War Office collection by

\* London: Taylor and Francis. 1918. (Demy 8vo, pp. 513. 1s.)



Sir Alfred Keogh a year ago; since then many additions and replacements have been made in all sections, and special mention is made of the large Canadian section prepared by members of the C.A.M.C. It is hoped that Australian and New Zealand sections will be added. The Council of the College, through its museum staff, may justly claim to be rendering in this way a service to military surgery and medicine. Mr. Allen Doran is proceeding with the laborious task of preparing a new descriptive catalogue of the instruments contained in the College collection, while Mr. Victor Plarr, the librarian, is drawing near to the end of his work on the biographies of Fellows. The subject of the next triennial John Hunter medal will be the development of the hip-joint and the knee-joint of man. The subject of the Jacksonian prize for 1919 will be the investigation and treatment of injuries of the thorax received in the war.

#### GUY'S HOSPITAL MEDICAL SCHOOL.

A RESEARCH fellowship has been founded at Guy's Hospital in memory of the late Ronald William Poulton Palmer, B.A., Lieutenant Royal Berkshire Regiment, killed in action on May 5th, 1915, and of his sister, the late Mrs. Emily Hilda Ainley Walker. The object of the fellowship will be the investigation of the origin, progress, treatment, and cure of obscure diseases in man. Its annual value will be £150. It may be held simultaneously with a teaching post at the Medical School, on condition that the fellow devotes at least half his time to research. The fellowship has been founded by the family and near relations of Mrs. Ainley Walker and Lieutenant R. W. Poulton Palmer, in the hope that others may follow their example. It has been made intentionally of wide scope, because, in the view of the founders, it is unprofitable to endow research in any one disease since advances are made along different lines at different times, largely depending on the elaboration of methods of investigation.

## Medical News.

THE next session of the General Medical Council will commence at 2 p.m. on Tuesday, November 26th.

THE Philadelphia Board of Health has placed influenza in the list of notifiable diseases.

THE Babies of the Empire Society, General Buildings, Aldwych, W.C.2, has issued a number of leaflets consisting of extracts from books written by the medical director of the society, Dr. F. Truby King, C.M.G., whose work in reducing the infant death-rate in New Zealand is well known.

To commemorate the late Sir George Birdwood, whose early life was spent in the Indian Medical Service, it is proposed to establish a lecture bearing his name, to be delivered annually in connexion with the Indian Section of the Royal Society of Arts, with which he was closely associated for forty years.

THE Hospitals Bill, which deals with the hospitals throughout Tasmania that have Government support but no Government control, will have the effect of bringing all hospitals under Government control and supervision to a greater or lesser degree.

THE laboratory of the Royal College of Physicians of Edinburgh is now preparing the mixed vaccine of *B. influenzae*, pneumococcus, and streptococcus, recommended at the recent conference at the War Office (BRITISH MEDICAL JOURNAL, October 26th, p. 470). The cultures are derived from specimens taken from new cases typical of the present epidemic. The mixed vaccine is supplied by Messrs. Duncan, Flockhart, and Co., 104, Holyrood Road, Edinburgh.

A BRANCH of the League of Mercy, called the Wanderers' Branch, has been constituted, with Colonel R. J. Blakham, C.M.G., C.I.E., D.S.O., now D.D.M.S. of an army corps in France, as president, and Lieut.-Colonel E. F. Falkner, D.S.O., as honorary secretary. Communications may be addressed to the president or secretary, at the Army and Navy Club, Pall Mall, S.W.1.

THE Garden Cities and Town Planning Association has arranged to hold in London, on November 29th to December 2nd, the first of a series of schools for lecturers. Visits will be arranged to Letchworth Garden City and the Hampstead Garden Suburb. Further information can be obtained from the secretary at 3, Gray's Inn Place, London, W.C.1.

AT the autumn general meeting of the Irish Medical Schools' and Graduates' Association in London on October 31st, when Dr. Kenneth Frazer, president, was in the chair, a resolution was passed recording the great regret of the members at the loss of their three times elected president, the late Dr. H. Macnaughton-Jones, F.R.C.S.I. It was resolved to send a copy of the resolution to Mrs.

Macnaughton-Jones with an expression of sympathy with the family in their bereavement. The members and their friends (including a large proportion of ladies) subsequently dined together to the number of eighty-four. During the evening the Arnott Memorial Gold Medal was presented to Captain Harold Sugars, D.S.O., M.C., R.A.M.C., whose act of bravery in the presence of the enemy was recorded in the *Gazette*.

AT the second meeting of the Central Midwives Board for Ireland on October 31st, the chairman, Dr. E. Coey Bigger, referred in feeling terms to the loss the Board had sustained by the death of one of its members, Alderman J. McCarron, who was drowned in the torpedoing of the ss. *Leinster*. A vote of condolence was passed, and the secretary was instructed to send a copy to Mrs. McCarron. The meeting then considered the rules to be framed under the Act; rules were drawn up regulating the proceedings of the Board, the course of training of midwives, the admission to the roll of women in practice at the passing of the Act, etc.

## Letters, Notes, and Answers.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

ARTICLES desiring reprints of their articles published in the *BRITISH MEDICAL JOURNAL* are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the *BRITISH MEDICAL ASSOCIATION* and *BRITISH MEDICAL JOURNAL* is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the *BRITISH MEDICAL JOURNAL*, *Aitology*, *Westrand*, London; telephone, 2631, Gerrard.
  2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, *Westrand*, London; telephone, 2630, Gerrard.
  3. MEDICAL SECRETARY, *Melisecca*, *Westrand*, London; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.
- The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 3, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### QUERIES AND ANSWERS.

#### INCOME TAX.

M. inquires as to the correct rates of tax applying to an income consisting of (1) earnings £1,409, (2) taxed interest £322, (3) untaxed interest £45, total £1,776.

\*. As the total income from all sources is between £1,500 and £2,000—the earnings, £1,409, is taxable at 4s. 6d.; the untaxed interest, £45, is taxable at 5s. 3d.; and a rebate of 9d. is due on the £322, as that will automatically be taxed at 9d. in the £ instead of at the appropriate rate of 5s. 3d.

### LETTERS, NOTES, ETC.

THE fifth series of "Facts for Patriots" deals with eggs, animal fats, cocoa, and chocolate. It may be obtained, post free 5d., from the National Food Reform Association, Dames Inn House, 266, Strand, W.C.2. The subjects of previous issues include meat substitutes, the economical use of meat and fish, milk, vegetables, fruit, salads, war bread, and margarine. The complete series of five may be had post free for 1s. 10d.

#### THE PRESENT TYPE OF PNEUMONIA.

DR. H. B. HILL (Eston, Yorks) writes: Everyone, I daresay, has noticed the correspondence as to the relation of the present cases of pneumonia to influenza. There are at present two distinct varieties of pneumonia. One occurs during an attack of influenza, and follows the usual course in such cases. The other presents the following clinical conditions: A sudden and violent onset of an acute illness in a patient as a rule previously quite well. Expectoration of bright red frothy sputum occurs within a few hours. Epistaxis is frequent; there is a tendency to looseness of the bowels. Albuminuria of moderate severity is often present; delirium is frequent, and is present well up to the end of the pyrexia or even beyond it. The temperature falls by lysis rather than crisis. Heart not usually dilated. Signs of pneumonia are found in the lungs. The pleura seems to be more heavily attacked than is usual in pneumonia, and this is apt to modify the physical signs of the lung condition. The bacteriological report of the last two cases is as follows: "Streptococci, a Gram-positive coccus, and diphtheroid bacilli present. No tubercle bacilli, no pneumococci, no influenza bacilli present."



## THE TREATMENT OF PNEUMONIA.

DR. CLAUDE A. P. TRUMAN (Exeter) writes with reference to Dr. Marland's note in the issue of October 26th: I was in the habit of using the first two drugs of his prescription (creosote and potassium iodide) continually for pneumonia and other pulmonary affections during my term of practice in Reading (1891-1906), and I found them most useful. I often used, however, guaiacol instead of creosote for various reasons; and I have found the same drugs, combined with *nux vomica*, equally useful in many disorders of the stomach and bowel.

## SCARLATINIFORM RASH IN INFLUENZA.

DR. H. CAMERON KIDD (Medical Superintendent, Bromsgrove, Droitwich, and Redditch Joint Isolation Hospital) writes: The scarlatiniform rash described by Dr. Robert Kirkland in the JOURNAL of November 2nd (p. 504) has evidently been occurring in this district. In my report to the committee at the end of September I mentioned that three cases had recently been admitted to the hospital from different districts with a bright rash suggesting scarlet fever but without other symptoms of that disease, and that two of these children had developed true scarlet fever within a fortnight of admission. My own idea was that the rash must be a result of some mixed influenzal infection. On October 26th I was asked by Dr. W. H. Rowlands, who had not seen my report, to see five children in the Guardians' Cottage Home who had simultaneously developed a similar rash just five days after mixing with a first case which Dr. Rowlands had very properly decided not to be true scarlet fever, and had kept isolated for a fortnight. In all these cases the rash, though vivid and typical in appearance, was unaccompanied by any other symptoms except a slight initial rise of temperature.

## INFLUENZA IN THE LAY PRESS.

DR. J. McOSCAR (Buxton) writes: Are we not now going through enough dark days, with every man, woman, or child mourning over some relation, lost owing to one man's aggrandisement? Yet we read in our daily newspapers the enormous fatalities due to the "influenza epidemic." When epidemics occur deaths always happen. Would it not be better if a little more prudence were shown in publishing such reports instead of banking up as many dark clouds as possible to upset our breakfasts? Some editors and correspondents seem to be badly needing a holiday, and the sooner they take it the better for the public moral.

## THE SPRAY CHAMBER IN THE PREVENTION OF INFECTION.

SOME time ago we received from Captain E. C. Thwaites, R.A.M.C., a note on the use of a spray chamber in checking the spread of measles. On an outbreak of the disease in a cadet school all members, officers and cadets and permanent staff, were passed through the spray chamber, and no further spread of the disease occurred. As the disease was dying out this experiment was not conclusive, but later another experiment was made. The members of a cadet unit in process of formation came from an area infected with measles, and five cases occurred a few days after arrival. These were promptly segregated and the whole unit, numbering 389, was at once passed through the spray chamber, as were subsequent arrivals from the infected area. No further cases of measles occurred. The spray used was the Levick, which consists of two boiler chambers, an open copper bowl, and a ring burner with asbestos, the whole contained in an iron receiver. The circular boiler is filled with 2½ pints of warm water, the centre boiler with 2½ pints of disinfecting solution (chloramine-T 0.5, 2 per cent. dissolved in water), and the copper bowl with cold water. Half a pint of methylated spirit is poured on to the asbestos ring and lighted, and the boiler placed on top of it. The jets soon begin to emit a fine spray. The apparatus is placed in a room of approximately 1,000 cubic feet and capable of thorough ventilation; while the spray is working it must be tightly closed. Such a room will have accommodation for about thirty men; these should inhale the spray for about eight minutes, and they are then quickly evacuated and another thirty admitted. At the expiration of the second period the spray will have become exhausted. While recharging the spray the room should be thoroughly ventilated. By efficient organization 150 men can be passed through the room in a few minutes over the hour.

## EASY CAR STARTING IN COLD WEATHER.

DR. JULES F. REY (Bognor) writes: For years, like many others who do not possess a heated garage, I have experienced the greatest trouble in starting up my car in frosty weather, going to the length sometimes of draining off all the water in the radiator and introducing hot water, flooding the carburettor, injecting petrol in the compression taps, and, in desperation, placing a lighted paraffin lamp under the engine for some hours. These methods are all satisfactory, but require time, and cause a good deal of annoyance, especially when, as usual in the morning, one is in a hurry. Having reached the limit of my patience with the possession of a self-starter car, and determined not to misuse the accumulators, I sat down and devoted a quarter of an hour to thinking out the problem, and, to cut a long story short, proceeded to put my theory into practice. Triumphant carrying out a kettleful of boiling water (about a pint), at first I cautiously poured the contents over the induction pipes, carburettor, and spraying chamber, putting first of all a small tin cap over the

hole on top of the float chamber. I was gratified that at the first turn of the handle, or the first push of the self-starter, the engine started as though on a hot summer's day. One need not be afraid of pouring boiling water over the induction apparatus, as these are all hollow tubes of metal, and no harm can come to them, nor is there any fear of water getting into the carburettor with the engine at rest and a small plug or plate placed over the small hole of the float chamber. I am certain that this simple method will save thousands of motorists untold miseries and curses.

## ADMIRALTY SURGEONS AND AGENTS.

MEDICUS writes: Readers of the JOURNAL will have observed an appeal of the Medico-Political Committee to the medical referees under the Ministry of Pensions to state their opinion as to the adequacy of the fees paid by the Ministry for the nature of the work done. Has it not been a cardinal policy of Government departments to exploit the medical profession? Could there be a more glaring example than the petty fees paid to Admiralty surgeons and agents? Yet nobody seems to voice their cause. Can it be that they are themselves supine to the injustice under which they suffer? And yet it only requires a ventilation of their grievances and a combination of effort to have these grievances redressed, to bring the department concerned to acknowledge the just claims of a deserving body of men.

## "AN EIGHTEENTH CENTURY QUACK."

A PARAGRAPH with this title, dealing with Sir James Jay, an eighteenth century quack curer of gout, was published on September 21st. Dr. Clippingdale informs us that a most extraordinary coat of arms was granted to Jay: Three Midas heads, black, crowned gold, upon a white field. A Midas head, in heraldry, is, he adds, the head of a man with the ears of an ass.

## ERRATA.

IN a portion of the issue of last week's JOURNAL a misprint occurred in the second line of page 494, column one, the figure 49 appearing by mistake for 46. The error was corrected in the latter part of the edition. Another misprint occurred in Dr. Hope Grant's note on the treatment of pneumonia (p. 504); the word "lobar" in the seventh line should be "lobular."

## THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

## Subscriptions to the Second Appeal.

THE following subscriptions have been received up to Monday last, November 4th:

	£ s. d.		£ s. d.
Sir Rickman J. Godlee ...	3 3 0	Dra. W. A. and E. G. D. Benson ...	2 2 0
North of England Branch B.M.A. (per Dr. J. Don, Hon. Sec.) ...		Dr. D. B. Cama ...	1 1 0
Dr. T. S. Humphreys ...	2 2 0	Dr. M. Maclean ...	1 1 0
Dr. J. A. Hill ...	1 0 0	Dr. D. Welsh ...	1 1 0
Dr. H. C. Pearson ...	1 1 0	Dr. J. R. Kurn ...	2 2 0
Dr. R. A. Welsh ...	1 1 0	Dr. J. Hammond ...	1 1 0
Mrs. Ethel Bowman ...	0 10 0	Mr. E. Spencer Evans (monthly) ...	0 10 0
Dr. H. B. Hunter ...	0 10 0	Sir A. Pearce Gould (monthly) ...	5 0 0
Dr. W. Murray ...	1 1 0		

## Monthly Subscriptions.

The following monthly subscriptions have been received for October:

	£ s. d.		£ s. d.
Dr. Vincent Tighe ...	0 10 0	Dr. W. S. Hart ...	1 0 0
Dr. G. G. Turner ...	1 1 0	Dr. A. Graham ...	1 1 0
Dr. W. E. God ...	0 10 0	Dr. H. Greves ...	0 10 0
Dr. W. Latham ...	0 10 0	Dr. H. Calger ...	0 10 0
Dr. R. Legat ...	0 10 0	Dr. K. J. Dougall ...	0 10 0
Dr. A. E. Nash ...	0 10 0	Dr. A. W. Forrest ...	1 0 0
Dr. T. W. Goodbody ...	1 0 0	Dr. T. L. Drapes ...	0 10 0
Sir T. Barlow ...	0 10 0	Captain H. L. P. Hulbert, U.A.M.C. ...	1 0 0
Surg. P. G. S. Davis, R.N. ...	0 10 0	Dr. E. C. Morland ...	0 10 0
Dr. A. B. Stevens ...	1 0 0	Dr. H. Whitehouse ...	0 10 0
Lieut. J. B. C. Brockwell, R.A.M.C. ...	0 10 0	Dr. A. Hawyard ...	0 10 0
Major E. R. Fothergill ...	0 10 0	Dr. W. Stewart ...	0 10 0

Subscriptions to the Fund should be sent to the Treasurer, Dr. H. A. Des Vœux, at 14, Buckingham Gate, London, S.W.1, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited.

THE appointments of certifying factory surgeons at Llanfair-caereinion (Montgomery) and Ballyfeard (Cork) are vacant.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE  
BRITISH MEDICAL JOURNAL.

	£ s. d.
Seven lines and under ...	0 6 0
Each additional line ...	0 0 0
Whole single column ...	4 0 0
Whole page ...	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive postal telegrams addressed either in initials or numbers.



## Preliminary Note

ON

### INVESTIGATIONS UPON ONE THOUSAND CONSECUTIVE CASES OF PERIPHERAL NERVE INJURY.

BY

CAPTAIN J. LE FLEMING BURROW, M.B. EDIN.  
M.R.C.P. LOND., R.A.M.C. (T.).

Assisted by

LIEUTENANT H. S. CARTER, M.B., CH.B.,  
R.A.M.C. (S.R.).

(From the Neurological Department, 2nd Northern General Hospital, Leeds.)

THE most important preliminary to every communication on nerve injuries is a full statement of the methods employed to obtain the stated results.

In reading and criticizing the work of others our chief difficulties arise from a lack of knowledge of the methods that they have employed to arrive at their conclusions.

First, to be of practical value, routine observations on cases of nerve injury should be made at regular intervals if possible.

Secondly, a system of careful case-taking and charting is necessary.

Thirdly, there must be a standardization of methods used so that the successive observations are exactly comparable.

In recording sensory changes the commonest mistakes arise from the use of moderately coarse stimuli, which appeal to deep sensation although intended to stimulate the more superficial sense organs.

Recent writers have omitted to draw attention to the fact that local temperature changes cause most remarkable variations in sensory functions. Examination in a cold room, and of a cyanosed, oedematous, or chilled limb, will give many motor, sensory, and electrical variations from the healthy state. From observations so made misleading conclusions are drawn unless the observer be experienced enough to recognize and correct the causes of the phenomena encountered.

The methods employed for routine work by us are rougher than we would wish, owing to the large number of patients to be examined and reported upon. Certain patients only are picked out for special observation. These patients are chosen, some because their lesions are definite, and others because of a high degree of intelligence, which facilitates the recording of their sensations, etc.

#### PRELIMINARIES TO EXAMINATION.

Attention is directed to the following points in recording the history of the lesion:

The nature of the injury.

The position of the patient at the time that the injury was received.

Immediate effects.

After-history, which includes notes on the surgical treatment to date.

#### Temperature of the Limb.

It is misleading from a diagnostic point of view to examine a cold limb, either electrically or to note sensory disturbances. Head and Rivers noted the relapse of sensibility from the delicate epicritic sensation to the more primitive protopathic under the influence of low temperatures, and we have repeatedly confirmed this in recovering lesions. Unless thermal sense is to be minutely noted we are in the habit of warming up cold limbs a little above body temperature in warm water.

More recently we have used a bath of liquid paraffin wax. The wax should have a low melting point, not more than 40° C., and the bath should be kept at a standard temperature by electric heating. Many of the conflicting reports recently published—on electrical reactions, for instance—are due to the work being done on cold limbs. It is possible to obtain almost any variation in electrical responses with chilled nerve and muscle. This may be proved by adapting a healthy limb to heat or cold and noting the responses to electrical stimulation. Where vasomotor functions are much impaired the

variations in electrical responses are most striking. There are doubtless problems of pathological chemistry which, when solved, will account for local variations in such cases.

#### Shaving of Skin.

This is not done as a routine. We have removed the hairs for certain observations, especially where sensation is returning and it is desirable to exclude "hair sensibility," or to note something of its influence by exclusion.

Shaving upsets an area of recovering skin sensibility for hours. The warming of a skin area, or shaving, is most conveniently left until the inspection examination is complete, but should be done before the palpation and sensory observations are carried out.

#### THE EXAMINATION.

##### 1. Inspection.

The limb or part is fully inspected to note:

*Bones.*—(a) Position of wounds and scars; (b) attitude of the limb.

*Joints.*—(c) Presence of contractures.

*Muscles, etc.*—(d) Muscular atrophy, its distribution, and whether in any special group, distribution with reference to nerve supply or joint control; (e) muscular tremor or fibrillation. It should be recalled that muscular atrophy does not appear in most cases of complete nerve division until some weeks after the injury. In three months it is pronounced as a rule.

*Skin.*—The skin is next scrutinized for trophic changes—ulcers, blebs, delayed shedding of epidermis, "branny skin," "glossy skin," etc. The distribution with regard to nerve and root areas of such changes.

*Nails.*—The finger-nails give more reliable information than toe-nails. Colour, shape, striations, brittleness, rate of growth, etc., are noted.

*Vasomotor.*—Colour of the skin, dryness or hyperidrosis, oedema; the exact limits of these changes.

*Hairs.*—General arrangement of (regular or irregular), hypertrichosis, or, on the other hand, absence of hairs.

##### 2. Palpation.

*Scars.*—First the wound region is examined. Scar induration and fibrous nodules, or neuromata in superficially placed nerves are noted.

*Nerves.*—Quite gentle pressure is next exerted over the nerve trunks to note any paraesthesia caused. This is usually described by the patient as a bursting sensation, or a tingling, or "pins and needles sensation" and referred to the skin area supplied by the nerve under the finger. The exact level on the nerve trunk peripheral to the injury that the palpating finger reaches before the paraesthesia ceases to be felt should be noted.

*Joints.*—Joints of a limb should be gently moved passively to demonstrate the degree of stiffness, ankylosis, etc. Voluntary movement on the part of the patient should next be observed. Individual muscle and tendon are watched and palpated so that mimicry by surrounding muscles which are healthy will not mislead the observer.

*Muscles.*—Limbs should be placed in neutral positions to avoid the effect of gravity on weak muscles; a useful manoeuvre to note returning voluntary power after paralysis. It is easy to judge the amount of effort that the patient is exerting by watching the surrounding muscles. Muscles should also be palpated to obtain a correct idea of their tone, "spasm," or fibrous contracture. Pain on pressure or pinching of the muscle is noted in irritative nerve lesions.

##### 3. Percussion.

Direct percussion of muscle bellies and tendons is necessary to observe the nature of the response to this form of mechanical stimulus.

Slow contractions are obtained by direct percussion of the muscle bellies in cases of muscles where reaction of degeneration is subsequently found to be present; the amplitude of the curve of muscle contraction in such cases is considerable, with a slow rise and fall. Cold limbs are associated with a contraction of small amplitude and of a sluggish character.

In cases of "reflex contracture" (the physiopathic contracture of Babinski and Froment) a slow contraction of large amplitude is the rule.



## SENSORY EXAMINATION.

1. *Light Touch.*

We have used an artist's small brush with ermine hairs, of which all but a few are removed. This is much easier to work with than cotton wool and the strengths of the stimuli vary less. The brush is applied with short sweeping movements, holding it in a slanting direction so that contact with the skin occurs at an acute angle. In this way no deformation of skin by pressure takes place. The calibrated hairs originated by Von Frey have not been used in routine examinations owing to the large number of cases to report upon in a limited time. In recovering lesions and in some partial lesions the skin has been shaved to note the effects of "hair-sensibility" stimulated by tension on the pilomotor apparatus during examination of touch and pressure, etc. Where a paresthesia is complete, shaving is unnecessary. Shaving, when required, must be performed some hours before the sensory examination is attempted, because of persistent paraesthesia which follows such coarse skin stimulation in many recovering cases.

2. *Sensation to Pin Prick.*

We have used the spring algometer described by Head and Holmes for investigating this sensation.

The chief value of this instrument is that the needle is controlled by a spring, the pressure of which can be adjusted. In this way a standard stimulus is obtained, and the value can be charted. Readings obtained at later examinations may then be safely compared and progress noted. The sensation of pin prick is a compound one, made up of a sense of pressure, which the patient describes as "blunt," and a sensation of "sharpness," which is distinctly of a class of discriminating sensibility (epi-critic).

3. *Thermal Sensibility.*

It is very difficult to obtain accurate and strictly comparable records of sensation to heat and cold.

Small nickel-silver tubes fitted with corks and thermometers are used for large areas; Goldscheider's pointed solid metal cylinders and medium copper wire for punctate sensibility. The varying external temperature, skin temperature, etc., make the difficulties very great and the examinations long and tedious. Except for selected cases and spinal cord cases, we have so far found it impossible to make routine examinations of thermal sense. Unless all the fallacies are guarded against, observations are inaccurate and may be actually misleading.

4. *Deep Sensibility.*

(a) *Pressure.*—Threshold values may be obtained by some form of algometer. We have used the algometer described by Head and Holmes for many cases. With a small disc of cork on its point a pure tactile pressure effect can be obtained when the weights are added. When the point is used without its shield, then pressure pain is invoked. In both cases the stimulus is standardized, and in the subsequent examinations readings charted some weeks before may be strictly compared.

(b) *Roughness.*—The Graham Brown aesthesiometer is used to obtain threshold values, and the result compared with the reading on the healthy side. In recovering lesions the radiating tingling and other sensory abnormalities present make the readings almost valueless.

(c) *Localization.*—For charting this sensory function a large diagram of the part under examination is used. The

patient points with a pencil to the spot corresponding to where he feels the pressure (in deep sensibility) or the spot lightly touched (discriminating sensibility). Localization may be conveniently noted during the examination of touch and pressure.

(d) *Joint and Muscle Sense, Bone Sense.*—Joint and muscle sense may be tested by gentle passive movements. The bone sensation to tuning-fork vibration is noted in routine. Difficulties will be experienced from "overflow" conductions, especially near joints.

5. *Discriminating Sensibility.*

(a) *Size and Shape.*—Common everyday objects are used to observe this function. The patient names them, their size, thickness, etc., by his sense of touch unaided by sight.

(b) *Texture.*—Wool, cotton, cloth, silk, indiarubber, etc., are compared in turn by the patient, who is allowed to use his sense of touch only. He names each fabric in turn.

6. *Recognition of Two Blunted Points applied Simultaneously.*

For observation of this sensory function two blunted compass points have been used. The points are applied at the same moment in the longitudinal axis of the limb, and the patient simply states whether he feels two points or only one. To make control observations the readings from the healthy side are taken first, the skin being touched with two points, or with one as a variation. The distances apart of the points and a record of the patient's answers are kept.

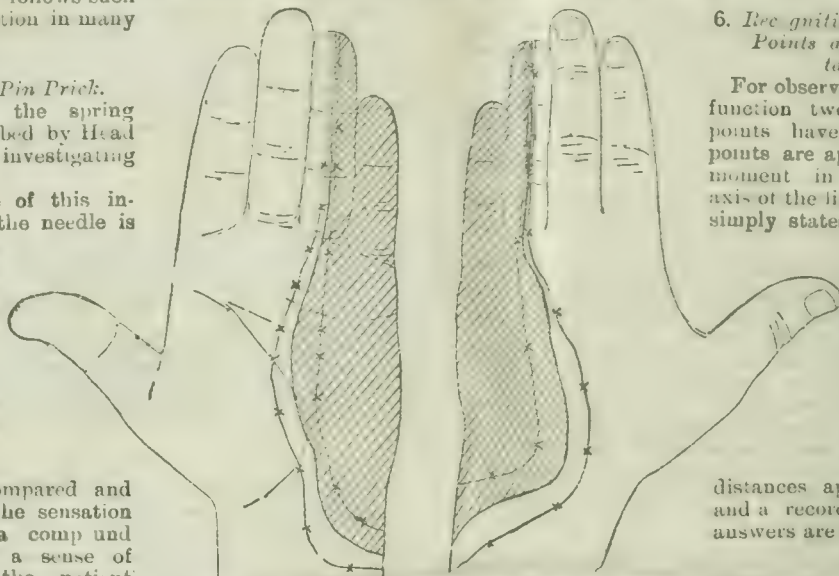


FIG. 1 AND FIG. 1A.—The hatched area shows the average loss to light touch in our series of patients; test as of the ulnar nerve above the wrist. The cross-hatched area shows the larger area over which discriminating sensibility is lost. The inner or solid line corresponds to the points at which pin prick is first appreciated, but as a "blunt" sensation.

## ELECTRICAL EXAMINATION.

A. *With Interrupted Current.*

The limb must be thoroughly warm and the skin moist so that its resistance may be as

low as possible. No preliminary massage should be allowed. An ordinary medical induction coil is used, and the current from its secondary employed.

A key "make" and "break," or metronome with mercury cups is attached to the testing electrode. A large pad for the indifferent pole is placed over the nerve trunk centrally and away from the field of exploration.

A small "button" electrode is used on the motor points of the muscles and then on the nerve trunk if superficially placed.

A positive reaction to faradism is valuable and will definitely exclude a serious lesion of the lower neuronic system—that is, the motor cell in the cord and its peripheral process.

A positive reaction to the rapidly interrupted current will also be observed in hysterical (iphiatic) cases; reflex (physiopathic contracture) cases, lesions of the upper motor neuron; functional cases generally, and cases of malingering.

For the lower neuron lesion a stimulus of much longer duration is necessary to invoke a response. A patient with a recovering peripheral nerve lesion is nearly always able to move affected muscles before faradic responses are obtainable (cf. also Duchenne).

*Character of Contraction.*—Slow with small amplitude in the muscles of cold limbs, partial lesions of peripheral nerves, or where limbs have been immobilized in splints for a long time. Slow, prolonged, and of large amplitude in recovering lesions of nerves. Brisk responses in healthy muscles where the limb is warm. Quick with increased amplitude in "reflex contractures" and in some functional cases.



### B. Examination with the Constant Current.

We have used a switch-board fitted with a wire rheostat for the purpose of varying the strength of the current, which is supplied from a motor transformer adjusted to give a constant current at a hundred volts pressure. A milliammeter and a switch for reversing the direction of the current through the patient's circuit complete the apparatus. The electrodes used for the faradic test are also employed for galvanic stimulation. The large pad is placed on the root of a limb over its nerve trunks or to the side of the spine. The small electrode is applied to the skin over the muscle bellies, choosing points as near as possible to the motor points, or simply over the main mass of muscle substance. The small electrode is first made the kathode by leaving the pole-reverser switch at "normal." The current is gradually increased by sliding the traveller of the rheostat in the direction marked "strong." After each small addition the current is broken and restored again by means of the testing key (or metronome). The smallest amount of current necessary to cause a contraction with the negative pole (kathode) is noted. The direction of the current is then changed by swinging over the pole reverser switch, so that the testing electrode now becomes the anode, or positive pole. The current is made and broken as before, and the amplitude and other characters of the contraction are noted and compared. Most stress is laid upon the character of the muscular contractions, particularly upon the slow rising, slowly subsiding, "worm-like" or "wave-like" contraction which seems to spread in both directions along the muscle fibres from the neighbourhood of the electrode. With the kathode on the tendon of a muscle a "longitudinal reaction" may be sought. This consists of a slow undulating response which sweeps over the muscle from the point of stimulation, and it is found in those cases where the muscle gives a classical reaction of degeneration. We should here emphasize that although the classical reaction of degeneration is sometimes absent in cases of undoubted complete discontinuity of the nerve, yet in a very large number it is certainly present, and the character of the muscle contraction is most reliable, always provided that the observer will take care that a limb is reasonably warm before examination.

### Analysis of the First Thousand Neurological Records.

Nerves Injured.	Times Injured.	Nerves Injured.	Times Injured.
Ulnar .....	521	Anterior tibial .....	5
Median .....	242	Musculo-cutaneous (leg) .....	2
Musculo-spiral .....	24	Anterior crural .....	5
Radial (cutaneous) .....	20	External saphenous .....	1
Posterior interosseous .....	19	Spinal cord .....	5
Musculo-cutaneous arm) .....	24	Cauda equina .....	2
Internal cutaneous arm) .....	25	Functional cases .....	
Brachial plexus .....		Hand .....	1
Root lesions .....	17	Arm .....	1
Outer cord .....	17	Physiopathic cases .....	
Inner cord .....	19	Hand .....	4
Posterior cord .....	21	Arm .....	1
Cervical roots .....	12	Leg .....	3
Circumflex .....	2	Hemiplegia .....	3
Facial nerve .....	2	Syringomyelia .....	1
Spinal accessory .....	2	Brown Séquard paralysis .....	2
Sciatic .....	121	Causalgia .....	4
External popliteal .....	97	Trench fever paralysis .....	1
Internal popliteal .....	8	Muscular lesion .....	1
Posterior tibial .....	8		

In some cases of the above series multiple nerve injury was present.

### NOTES ON SOME OF THE INJURED NERVE TRUNKS.

#### Brachial Plexus.

A. Roots.—Lesions of cervical roots occurred in 29 instances. Wounds above the clavicle most frequently

injure cervical roots 5 and 6, either separately or after their junction to form the upper trunk. Damage to the lower roots we have seen less frequently, owing to the fact that concomitant vascular injuries cause speedy death from haemorrhage. Recovery after complete division is surprisingly slow even in the case of such a purely motor root as the fifth cervical.

B. Cords.—The outer cord was involved 17 times, the inner cord 19 times, the posterior cord 24 times.

Recovery after suture occurs earlier than one would expect in lesions so remote from the periphery.

#### Musculo-spiral Nerve.

This nerve was injured 204 times.

Return of function is apparently more rapid than in any other nerves after suture. The length of interval between the date of injury and the date of repair seems to bear no constant relationship to the rapidity with which recovery takes place. The local sepsis, scar tissue, and other conditions at the site of injury strongly influence prognosis. We have confirmed the fact that the radial branch of the musculo spiral has no exclusive area of supply for deep sensibility. This is mainly supplied by the median and ulnar nerves under the radial skin area. The musculo-spiral has few pain fibres in its bundles. Where the nerve is divided in the upper arm, voluntary movement after suture is noted in the dorsiflexors of the wrist in from seven to eight months on an average. The last muscles to recover, as a rule, are the thumb extensors. In a few cases we have observed the return of a degree of power in all muscles in so short a time as fifteen months. One of these patients has since re-enlisted and has proceeded on active service. Much incoordination is evident at first when voluntary movement returns.

#### Median Nerve.

This nerve was injured 242 times.

The fibres of supply to the outer interosseous muscles may be distributed via the inner head of the median instead of by the ulnar nerve as usual. It is not uncommon to notice a healthy abductor indicis (first dorsal interosseous muscle) in a case of completely divided ulnar nerve in the forearm—a useful fact to remember when recording progress of ulnar nerve function after suture.

The median flexor group in the forearm recover much before the intrinsic muscles of the hand after nerve repair. The average lapse of time after suture of the nerve before voluntary power is noted in the flexor group of the forearm is from seven to eight months.

The small muscles in the hand take from fourteen to twenty months or even longer for recovery. Voluntary movements seem to appear earlier in cases where re-education exercises are given to co-ordinate the muscle groups than in cases where such treatment has not been carried out.

The inner cord and inner head of the median contain the bulk of those fibres, in the upper extremity, which, when irritated, give rise to the syndrome of "causalgia." The symptoms are always associated with the development of scar tissue in the nerve bundles. The fibrosis may be very small in amount and to the naked eye invisible, but is quite a feature of these cases microscopically.

Alcohol injections for true causalgia have proved of little permanent value in our experience. The intense continuous pain of causalgia with its effects on the patient's mentality, the gradual contracture, and increasing uselessness of the hand, justify complete resection of the affected

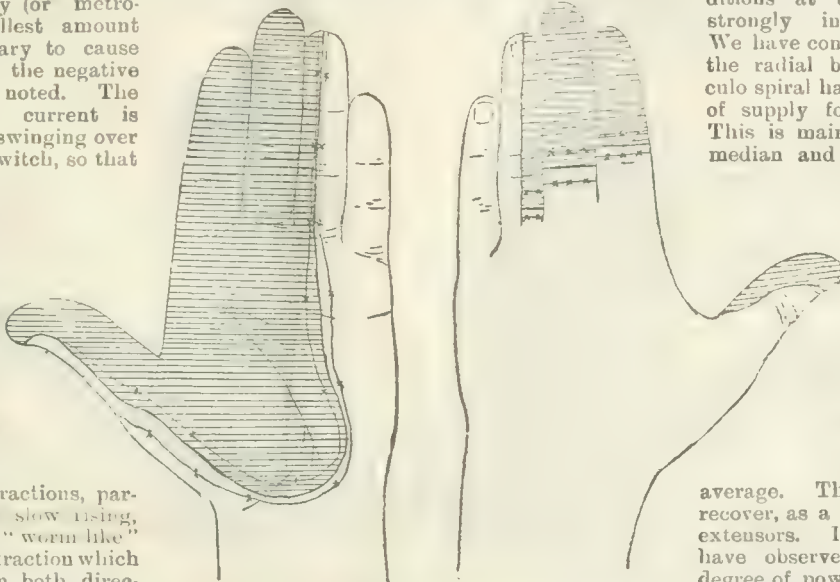


FIG. 2 AND FIG. 2A.—The same convention is of good for these diagrams as regards the skin area supplied by the median nerve.



length of nerve. The resection must extend beyond the scar tissue, in the central end especially, to ensure relief from pain. End-to-end suture or nerve graft repairs the nerve.

Relief from pain has been immediate in the cases so far thus treated.

All cases of causalgia syndrome are not associated with the typical "burning pain" (thermalgia), in which the name had its origin.

#### *Ulnar Nerve.*

This nerve was injured 327 times.

The muscular supply is very constant except for some of the small muscles on the radial side of the hand, especially the first dorsal interosseous. It is not surprising that these fibres of the inner cord are sometimes distributed by the median nerve after the cord splits into its terminal branches instead of by the ulnar. As a rule, these particular fibres lie on the outer and posterior aspect of the ulnar nerve. Early recoveries after suture have not been seen. Complete return of discriminating sensibility has not yet been noted in the case of the ulnar nerve. An average of nine months usually elapses after nerve suture before voluntary power returns in the ulnar supplied muscles of the forearm.

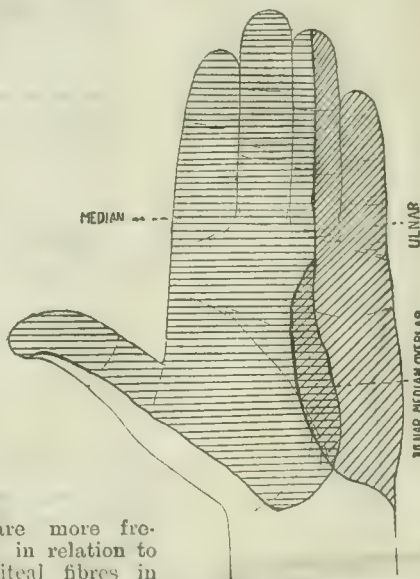


FIG. 3.—This shows the average overlap in the palm of the median and ulnar supply. Deep sensibility is not charted in these diagrams.

#### *Sciatic Nerve.*

This nerve was injured 121 times.

The external popliteal fibres are more frequently damaged; in relation to the internal popliteal fibres in the proportion of 97 to 8 in our series.

The external popliteal nerve is very similar in its functions to the musculo-spiral, and behaves in the same way after suture. It recovers quickly where repair is easy and local conditions are good at the site of suture. There is no area supplied with deep sensibility exclusively by the external popliteal nerve.

The internal popliteal fibres correspond in function to the median in the upper limb. They contain the bulk of the pain fibres, and are slow to regenerate after repair. These nerves obey the same rules in recovery of motor and sensory functions as their corresponding nerves in the upper limb.

#### NOTE ON THE VALUE OF TINEL'S SIGN.

In some cases gentle pressure or percussion over the trunk of a nerve distal to the site of injury gives rise to a tingling sensation in the skin supplied by that nerve. Tinel has elaborated the sign and has stated very fully its significance and uses. We have confirmed his statements and find the sign a reliable one if precautions are taken to avoid confusion with irritation symptoms. The sign is of value in gauging progress.

In regeneration of nerve fibres the sign may be elicited at progressively lower levels over the nerve trunk. In the case of the ulnar nerve, for example, the sign may be elicited at the elbow, and nowhere below, at the first examination. A few weeks later it may be noted that gentle pressure in the forearm over the ulnar trunk gives rise to a "pins and needles" sensation in the ulnar area of the hand, and so on until pressure over the nerve at the wrist is also associated with paraesthesia in the ulnar supplied skin.

Tinel's sign may be noted with ease on an ordinary

ward round, when time for a thorough examination of sensory improvement is not available.

Nerve suture should be delayed so long as the "tingle" continues to be felt when the nerve is gently pressed at progressively lower levels.

#### GENERAL CONCLUSIONS.

We may state that so far our observations after nerve repair point to the following general facts:

Trophic and vasomotor functions recover first. Trophic ulcers may heal surprisingly quickly after repair of peripheral nerves.

Deep sensibility recovers next, and usually in the order of sense of pressure, perception of movement in joints, etc., and then roughness and pressure pain. Accurate gauging of position and range of movements are slower in their reappearance. Localization of tactile pressure recovers earlier.

Radiating ill-localized sensations referred to wide areas and usually associated with tingling appear next; they

have a high threshold value, and conform largely to the "protopathic sensation" of Head and Rivers. Next in order come accurate perception of light touch with a gradual disappearance of radiating sensations and a gradual lowering of the threshold value of the stimulus required to obtain responses from the patient.

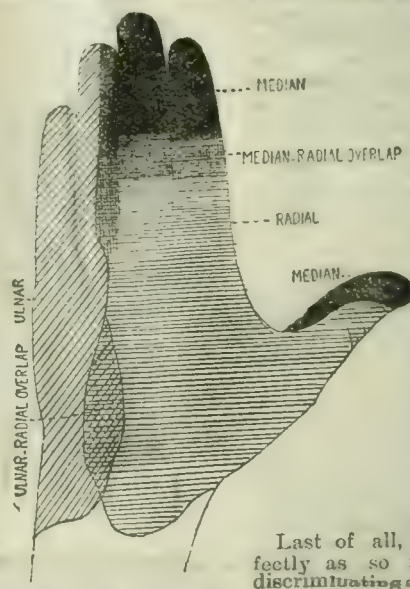


FIG. 4.—This shows the average overlapping areas on the dorsum of the hand of the median, ulnar, and radial supplies.

Last of all, and very imperfectly as so far observed, the discriminating sensations—that is, stereognostic sense, etc., and lowering of threshold values to those of normal skin.

We shall have some criticism to offer in a subsequent paper on the various sensory phenomena, including the commonly accepted views of discriminating sensibility.

Voluntary movement appears in the highest members of a group of muscles first, and gradually extends downwards as a rule. Motion usually follows the return of "protopathic" sensation. It is present long before the radiating ill-localized sensations are abolished.

#### *Electrical Reactions.*

The first change after nerve suture is a brisker response to the anodal closing stimulus. If local temperature effects are eliminated this fact is a reliable guide to progress. Gradually the polar reversal changes through polar equality to normal polarity with increasing briskness of contraction. The muscles are quicker to respond and relaxation is more rapid until the normal galvanic twitch is obtained. This is not invariable even when all precautions are taken, but it is certainly the rule.

The faradic responses are usually much slower in reappearing, and we have seen muscles act by volition weeks before the slightest faradic response is obtainable. Occasionally, however, the faradic responses return soon after voluntary movement. Electrical examinations by means of condenser discharges we have found disappointing.

The method by determination of the "chronaxie" of muscle is a subject to be reported upon later.

We wish to thank Lieut.-Colonel Littlewood, C.M.G., for permission to publish the work, and our surgical colleagues, without whose co-operation the work would have been impossible.



# THE PAST AND FUTURE OF THE CRUSADE AGAINST TUBERCULOSIS.\*

BY

SIR MALCOLM MORRIS, K.C.V.O.

WHEN invited to open a discussion on this subject I had little difficulty in consenting. Twenty years ago I had some slight responsibility for the initiation of a campaign against tuberculosis. One of its immediate results was the foundation of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis, which at once set about stirring up the medical profession and the public to take effective action against a disease which claims more victims than any other to which the human race is liable. Among the measures which it vigorously advocated was the provision of sanatoriums, and in its second annual report, issued in 1901, it was able to point to the fact that the erection of a considerable number of such institutions was in progress. Another consequence of the crusade was the Congress on Tuberculosis held in 1901. Of that congress I have a vivid recollection, partly because it fell to my lot to act as secretary-general, but also because it was the occasion on which Koch startled the world with his heresy, long since exploded, that bovine tuberculosis is not transmissible to man.

Having these associations with a movement which has done not a little to stimulate and guide the modern methods of combating tuberculosis, it seemed to me that there might be some appropriateness in my undertaking to raise the question whether, after an experience of twenty years, we may consider that we are proceeding on the right lines.

Before that question can be profitably considered we shall do well to ask whether our theory of the conditions governing the dissemination of tuberculosis is sound and sufficient.

Until the *Bacillus tuberculosis* was isolated, in 1882, the main stress was laid upon the factor of heredity. Environment, in the narrow sense of climatic conditions, including dampness of soil, received recognition, but it was a recognition that largely took the form of protecting the patient as far as possible from the pernicious effects of fresh air. It was the era of the closed window and the respirator. With the demonstration of the microbic nature of the disease the stress was shifted to the factor of infection. Heredity was reduced to a diathesis, and at times even a diathesis was denied. For a time, too, environment fell into the background.

Of the three factors, the *environmental* has come to attain a much enlarged significance. Let us take it as connoting not merely a damp soil, atmospheric vicissitudes, insanitary dwellings, ill ventilated workshops, and unhealthy occupations, such as those in which the lungs are irritated by mineral or organic dust, but also under-nutrition, overstrain and exhaustion, alcoholism, and unhygienic habits generally—everything, in fact, which weakens the power of resistance to infection. It may be that even at the present time the predominance given to the element of infection is an obstacle to the full realization of the importance of environment. But if I read the signs of the time aright, the current is moving in the right direction. If average medical opinion has not yet implicitly accepted the recent dictum of Sir Douglas Powell, that if there were no dirty surroundings and bad habits of life, the infection of tuberculosis would almost cease to be operative, it is certainly travelling towards that point, and one of my objects on this occasion is to give an impetus to the movement. It is environment, in the comprehensive sense in which I use the word, that largely explains the rise in the phthisis death-rate in this country which has taken place during the war.<sup>1</sup> Compared with 1913, there was an increase of 1,582 deaths in 1914, of 4,621 in 1915, of 4,490 in 1916, and of 6,058 in 1917, due, in all probability, to the lowering of the nutritive standard, the severer strain of industrial life, and the depressing influences of widespread anxiety and grief.

With regard to the factor of *infection*, I have already suggested that it has received excessive emphasis. The statistics that have been published of healed tuberculous lesions found *post mortem* in those who have died from

other causes, and the enormous proportion of children who give a positive response to the tuberculin test, suggest at first sight that it is hardly possible to exaggerate the importance of infection. Of the former group, the most recent and most arresting figures are those published in 1917 by Reinhardt of Berne, whose consecutive necropsies revealed evidence of tuberculosis in 96 per cent. In the latter group I need refer only to the figures of Hamburger and Monti, whose tuberculin tests, cutaneous and injectational, showed that 94 per cent. of Viennese children between the ages of 11 and 14 were tuberculous. In a sense, therefore, the infection of tuberculosis may be regarded as having a virtually universal prevalence. But we must distinguish between what I may perhaps term effective tuberculosis and a tuberculosis so slight as in many cases to escape clinical observation.

Metchnikoff's theory is that the cases of abortive tuberculosis are due, speaking generally, to attenuated strains of the micro-organism. The patient, usually in childhood, is infected by such bacilli, his powers of resistance enable him to repel the attack, and the antibodies evoked by the process confer upon him a measure of immunity against further attacks. Metchnikoff<sup>2</sup> cites his own experience in the following words:

At 23 years of age I married a young lady of the same age who was attacked by grave pulmonary tuberculosis. Her condition of feebleness was such that it was necessary to carry her in a chair in order to mount the few steps which led to the church where our marriage was to be celebrated. . . . My wife died of tuberculosis after four years of suffering. I passed the greater part of that time by her side in the greatest intimacy without taking any precaution against the contagion; nevertheless, in spite of these conditions, which were specially favourable for catching the disease, I have remained free from tuberculosis, and that during forty-four years since my marriage.

The inference Metchnikoff draws from his experience is not that tuberculosis is non-infective, but that, having suffered in childhood from scrofula—which has been observed to impart some degree of protection against phthisis—he had acquired an immunity that enabled him to resist the constant and massive infection to which his marriage exposed him. And while recognizing that "rational hygienic measures" have played their part in the reduction of the tuberculosis death-rate, he holds that much is due to "the unconscious immunization by the tuberculous vaccines scattered around us." I do not think we should be justified in accepting this theory without a much stricter scrutiny than it has yet received. It may not explain all the related facts; but it is at least suggestive, and if it encourages the search for a prophylactic, that will be all to the good. Whether or not it supplies us with the explanation of the difference between effective and abortive tuberculosis, it is obvious that infection in tuberculosis comes into quite a different category from infection in, say, small-pox or diphtheria. Owing to the ubiquitous diffusion of the contagium of this disease the community is constantly exposed to infection, and yet it is only a small proportion of the population that contracts effective tuberculosis.

We must be on our guard, therefore, against overstressing the factor of infection. Some have even gone so far as to demand the segregation of consumptives. When it was noised abroad that Chopin, during his residence in the Balearic Islands, was suffering from active phthisis he was turned out of the little house in which he was living; and in these days one hears from time to time of consumptives being made to suffer because of the exaggerated fears of those around them. If this tendency be not checked, tuberculous patients may come to be regarded with some measure of the repulsion which is felt towards lepers—a legacy from the days when leprosy was endemic in these islands. Some time ago the Royal College of Physicians deemed it expedient to issue a caution on this subject, and it behoves us to protest, whenever occasion arises, against the persecution to which tuberculous patients are liable. There is no cruelty so extreme as that which derives from fear.

I come now to the *prenatal* factor. In his brilliant little book on *Health and Disease*, in the Home University Library, Leslie Mackenzie expends a pretty wit upon the conception of a tuberculous diathesis. He asks whether the disposition to tuberculosis with which some people come into the world is an inherited variation of the germ plasm or a condition acquired from a tuberculous parent,

\* Read at a meeting of the Tuberculosis Society, October 26th, 1918.



so that such children are born infected with the microbe or some of its toxins. That is a question which we are unable to answer, and it seems better, therefore, to speak of a prenatal rather than of an hereditary factor.

That tuberculosis "runs in families" has never been disputed, and the fact can only be explained by prenatal influence or by familial infection. The massive infection to which children living in tuberculous households are constantly exposed suggests at first sight that familial infection is a factor very seriously to be reckoned with. But this view appears to receive little support from statistics. Those of Goring, relating to all classes of the poor, indicate that the mate of a tuberculous person is no more likely to be tuberculous than any other person. Other statistics show that as the social scale rises the chances that a tuberculous person will have a tuberculous mate increase, but, as Professor Karl Pearson maintains,<sup>3</sup> to no marked extent, and only in about the same measure as in such obviously non-infective conditions as deaf-mutism and insanity. It is most unlikely that familial infection operates more freely among the well-to-do than in the crowded and less cleanly households of the poor, and it would seem therefore that the difference between the two groups may be largely accounted for, as the eugenists believe, by the principle of "assortative mating"—the attraction of like for like in both psychical and physical characters, a form of sexual selection that is mainly intellectual and is not met with among the poorest classes.

Turning now to the relation between tuberculous parents and their children, the statistics analysed by Professor Pearson suggest that a tuberculous father is twice as likely to have tuberculous children as to have a tuberculous wife, and that even at very early ages, when contact between mother and child is so close, the children of tuberculous mothers are only a very little more likely to be tuberculous than are the children of tuberculous fathers. As Professor Pearson asks, if in tuberculous families the main factor be infection, "why should the father and mother be equally influential with their children, and why should the father be twice as influential as the husband?" Now I do not assert that the statistics thus analysed are decisive. But they do suggest, I think, that pre-natal influence has more to do with the spread of consumption than we have of late allowed, and is a more potent factor in the dissemination of effective tuberculosis than is infection. If that apparent inference is to be negatived it must be by statistics pointing to a different conclusion. Meanwhile, eugenists are certainly on the safe side in discouraging marriage among the tuberculous, and it is for the medical profession to consider whether a reversion to its older attitude towards this question is not required.

On the whole I do not see how it can be maintained that we have yet reached finality in determining the relative importance of the three factors under discussion. The older view, which made much of the so-called hereditary factor, may have had more truth in it than was too hastily assumed when the disease was proved to be microbic. The factor of infection has been overstressed, and environment probably accounts for a great deal more than the prominence given to infection has left us free to recognize.

#### *Are Preventive and Remedial Activities on the Right Lines?*

In attempting to answer this question a note of warning may in the first place be sounded against claiming too much for them. The success of the modern crusade against tuberculosis is sometimes said to be demonstrated by the steady fall in the tuberculosis death-rate during the five and twenty years preceding the outbreak of the war. But the fall began more than twice five-and-twenty years ago—long before our efforts took their present form. It began about the middle of the last century, and the rate of decrease among the white races generally appears to have been but slightly augmented since the initiation of the administrative measures directed specially against the disease.

Among those "rational hygienic measures" of which Metchnikoff speaks the first place must, I think, be given to sanatorium treatment. That it has fulfilled all the expectations cherished twenty years ago cannot indeed be maintained. Its striking effects in so large a proportion of

early cases, and even in cases somewhat more advanced, in arresting the progress of the disease, and leaving the patient in a state of apparent cure, led not unnaturally to its being hailed as an almost infallible agent in all but quite advanced cases. A more extended experience has shown only too clearly that the benefit derived from sanatorium treatment may not be maintained if the patient returns to an unsuitable occupation or an otherwise unhygienic mode of life. In an illuminating discussion on this subject organized by the Medical Society of London in November of last year, under the presidency of Sir St. Clair Thomson, while the value of this treatment was vigorously asserted, its limitations were freely admitted. No attempt was made to gloss over the fact that in many cases a return to urban industrial life is followed sooner or later by relapse. In the well-to-do, who return to an environment which is not unfavourable, and find it easy to conform to the prescribed regimen, relapse is much less frequent. Professor Pearson, who thinks very little of this treatment, concedes that where the upper and middle classes are concerned the sanatorium probably acts as a school of hygiene, and that is obviously a point of much importance. It is unfortunate that sanatorium statistics should be so incomplete. Their incompleteness arises partly from the great difficulty of following up the later history of cases for any considerable period, and partly from lack of control figures giving the results of extra-sanatorium treatment. Personally, having had some opportunities of seeing its effects, I can have no doubt of the value of this measure, subject to the qualification stated, and I rejoice to find that the number of beds in sanatoriums—public, voluntary, and private—has risen from 5,500 in 1911 to 11,893 in 1916, and this in spite of the check imposed by the war. But sanatorium treatment needs to be supplemented by a great extension of the farm colony system, in the interests of those for whom an outdoor life is a permanent need. And the crusade against an unhealthy environment must at the same time be energetically prosecuted.

With the farm colony may be bracketed the open-air school. The vicissitudes of our climate impose severe limitations upon this measure, but it also, like the farm colony, must be greatly expanded.

The dispensary system, of which Sir Robert Philip is the distinguished pioneer, is in the front line of our offensive, in the sense that by domiciliary visits of trained observers it looks out cases in their earliest stages and brings them under treatment, at the same time seeing that patients observe the rules of treatment in the home, and correcting as far as possible environmental defects. Before tuberculosis was made universally notifiable it did good service in bringing cases to the knowledge of the medical officer of health. It does valuable work in ascertaining the tuberculous according as their cases are suitable for home treatment, or demand sanatorium or hospital treatment, or must be relegated to homes for the dying, as well as in designating children for attendance at open-air schools. Of late years dispensaries have been rapidly increasing in number—from about 30 in 1911 to 371 in 1917; but we must not rest satisfied until the country is covered with a network of these institutions, which, for the amount and value of the work they do, are probably the most economical of all antituberculous agencies.

A multiplication of homes for the dying is another of our needs. Quite rightly the statistician excludes sentiment from the working out of his problems, unless it be the very human sentiment of exulting over a defeated antagonist. To him tuberculous patients are but factors in a calculation, and one may admire the skill with which they are marshalled in serried ranks and manoeuvred across his pages. To medical men, whose office it is to alleviate their physical distress, they are stricken fellow creatures, and I am sure that a demand for more of these beneficent institutions where they may end their days in such comfort as their sufferings permit will evoke a sympathetic echo in any medical assembly.

Of treatment by tuberculin I need say little on this occasion. It had an unfortunate beginning. The inflated claims made in its behalf, and the rashness with which it was used, inevitably provoked a violent reaction against it. Gradually, however, it has been finding its true place. In diagnosis it is eminently useful, and as an adjunct of general treatment in carefully selected cases its value is in my judgement established.



I have not scrupled to admit that our knowledge of the conditions under which tuberculosis is disseminated is far from complete. But I hold that, in spite of the imperfection of our theory, the means by which we seek to control the disease are justifying themselves. We shall do well, therefore, to carry on the campaign with undiminished vigour upon the same general lines as at present, ready, however, to receive new light when it comes, and to adjust our measures accordingly.

If the proof that in the main our activities are well directed is less absolute than could be desired, it is chiefly because of that statistical insufficiency which so often applies an abrupt check to the exploration of public health questions. The need will never be met until Parliament sees fit to create a Ministry of Health, one of whose functions it will be to collect statistics bearing upon all the aspects of tuberculosis at which I have glanced, and to subject them to a skilled analysis that will elicit their true significance. Not until then shall we be within sight of a complete solution of the problems presented by tuberculosis.

#### REFERENCES.

<sup>1</sup> Supplement to the Forty-seventh Annual Report of the Local Government Board 1917-18. <sup>2</sup> *Br. Med. J.* c. January, 1913. <sup>3</sup> *Tuberculosis, Heredity, and Environment*, by Professor Karl Pearson, F.R.S. 1912.

## TREATMENT OF ANTE-NATAL AND POST-NATAL SYPHILIS.\*

By JOHN ADAMS, F.R.C.S.,

MEDICAL OFFICER IN CHARGE OF THE THAVIES INN VENEREAL CENTRE FOR PREGNANT WOMEN.

BEFORE proceeding with the practical part of my paper I desire to say a few words on the origin of what is the first and at present, I believe, the only hospital of its kind:

Following the issue of the Royal Commission Report on Venereal Diseases, the Guardians of the City of London Union were invited to consult informally with Sir Arthur Downes and Mr. Crier of the Local Government Board upon the best ways and means of providing, staffing, and equipping a centrally situated institution for the reception and treatment of parturient women suffering from venereal disease. Several conferences and meetings were held, and suggestions were considered that a portion of the Thavies Inn establishment, the property of the guardians, might be adapted with advantage for these cases. On April 11th, 1916, the Chairman of the Thavies Inn Committee reported that the Local Government Board had decided to make an order to carry out the above suggestions, and that the Metropolitan Asylums Board should arrange with the City of London Guardians to receive and treat such cases at Thavies Inn, the actual cost to be made a charge on the metropolis generally. These proposals were agreed upon and a specially trained matron, sister, and nursing staff, with myself as medical officer in charge, were appointed, and the hospital was duly equipped ready to receive patients on September 1st, 1917.

The institution provides for 20 beds, and contains a lying-in room and an operating theatre; it is managed by the guardians of the City of London, who take a keen and progressive interest in its working and results.

Since the opening, thirty cases of pregnant syphilitic women have been admitted, and in this paper I wish to deal with these cases only and to reserve for a future date any remarks I may wish to make regarding patients suffering from gonorrhoea.

The most practical way of dealing with the subject will, I think, be to give an account of every case of syphilis which has been admitted to the hospital, including details of the treatment before and after delivery, and the treatment of the baby, and the results, as far as they can be ascertained, during the short time the centre has been opened.

On admission a Wassermann test is made by Dr. Stansfeld of St. Bartholomew's Hospital on the blood of every patient suspected of suffering from syphilis. More recently I have decided that the best safeguard against overlooking cases of syphilis is to have a Wassermann test made in every case admitted; for some patients, sent as suffering from gonorrhoea and without any symptoms or history which would suggest syphilis, have been confined of a child who has had the appearance of the latter disease, and on testing the mother's blood a positive reaction has been found.

\* A communication to the Obstetrical Section of the Royal Society of Medicine on November 7th, 1918.

Immediately on the birth of the child a specimen of blood is taken from the vessels of the divided umbilical cord in a cubic centimetre glass tube, and a similar amount of the mother's blood is secured for the purpose of a Wassermann test. A small portion of the placenta is also obtained for examination for spirochaetes. If further specimens of the child's blood are required, a small quantity, from a quarter to half a cubic centimetre, is best obtained by pricking the heel with a medium size Hageborn's needle in three or four places near one another, and allowing the blood to drip into the glass tube. This should be repeated, if necessary, at intervals of a month or six weeks for a further test.

As soon as syphilis is diagnosed in the mother treatment by one of the salvarsan substitutes is commenced, and weekly doses are administered by intravenous injections. At the same time intramuscular injections of grey oil, 40 per cent. B.P.C. emulsion, are given and I find that little or no pain is caused by the latter injection. Pregnant women bear intravenous injections of salvarsan extremely well, and these can be given up to the time of confinement. The figures which I shall give later show that treatment of the mother has a decided influence on the child. The salvarsan substitutes have been galyl and novarsenobillon, galyl in glucose solution being used exclusively for the babies. In the case of mothers the weekly injections begin with a small dose, which is gradually increased until nearly the maximum is given. Intramuscular injections of mercury are given in 1-grain doses on the same day as the salvarsan is administered.

While yielding to none in my admiration for the treatment of syphilis by salvarsan—giving as it does, in the majority of cases and at all stages, results of a brilliance hitherto unattained—I believe at the same time that the administration of mercury is as important for the cure of syphilis as it ever was, and I am inclined to think that too little of the drug is given.

Of the many methods advocated for the administration of mercury, none is, in my opinion, wholly satisfactory.

Intramuscular injections are often painful; the preparation itself frequently varies, and some metallic mercury is usually deposited at the bottom of the bottle containing the cream, showing that the doses given are not uniform.

Intramuscular injection of mercurial compounds such as the benzoate, although practically painless, has to be repeated daily to get the best results; patients naturally object to these repeated injections, and it is often not possible for the patient to attend regularly.

In administration of mercury by inunction the results depend on several factors which often vary; there is the preparation itself, the time given to the rubbing, and the variations in the absorbing power of different skins. Moreover, it is necessary to get someone experienced in the art to obtain the full effects of the inunction.

Treatment by suppositories, advocated by Mr. Shillitoe and used by him with considerable success, has this disadvantage, that patients dislike the mode of treatment, and the amount of mercury absorbed must vary considerably from time to time, in accordance with the local conditions in the rectum itself.

Treatment by the mouth was advocated by the late Sir Jonathan Hutchinson. His method—namely, the administering of a pill of hyd. c. cret. with equal parts of pulv. ipecac. co.—has been used probably more than any other. Administration in this form requires about ten times as much mercury as is the case with mercurial injections. Patients can take mercury in this way without any necessity for the constant attention of their medical adviser, and the effects are generally excellent. Therefore, when it is not possible for patients to be under continual supervision, I am inclined to think this is, on the whole, the most generally convenient way in which to administer mercury.

With regard to treatment by novarsenobillon and galyl there does not appear to be any material difference between the effects, but the former has in my hands had a tendency to produce, in a few cases only, a more or less severe dermatitis; while in one patient, when galyl was used subsequently on several occasions, no such symptoms appeared, but on resuming a medium dose of novarsenobillon severe dermatitis was again set up.

In the Thavies Inn centre every dose given to mothers and babies is registered on a chart for future reference, and the weekly weight of the baby is noted.

It is found most convenient to give the intramuscular injections, both of salvarsan and mercury, with a special syringe graduated in fortieths of a cubic centimetre. Thus each division of the syringe corresponds to 1 c. of mercury. For the purpose of sterilization the needles should be made of platinum-iridium, which can be heated in a spirit flame without damaging the point. When galyl in glucose is used the needle must be carefully wiped and water passed through the needle two or three times before heating it in the spirit flame, as a high temperature



on glucose causes it to solidify, and renders the needle unfit for use. The syringe which I have mentioned can be obtained from Messrs. Maw, Son, and Sons.

Even in the weakest premature syphilitic baby I have never seen anything approaching a local inflammation following an intramuscular injection of galyol or mercury, neither do the injections appear to cause pain. The babies' motions are usually grass green for a day or two after the injection of galyol, but there is no other evidence of digestive disturbance.

It was difficult at first to determine what dose of salvarsan the babies should be treated with; to give an intravenous injection to a baby from 2 to 7 days old is usually impossible, but I was fortunate enough to find a preparation of galyol in glucose which is admirably suited for the purpose of intramuscular injection. I made a rough calculation by comparing the weight of the baby with that of the mother. A newly born baby is about one-seventeenth the weight of the mother; the average dose of galyol for an adult is 30 cg., one-seventeenth of that quantity would be about 2 cg. This should be gradually increased up to 5 cg. or more as the child grows, and it is borne very well. The mercury is given in doses from  $\frac{1}{4}$  to  $\frac{1}{2}$  grain or more, corresponding to  $1\frac{1}{2}$  to 3 cg.

The safest and most convenient way to give intramuscular injections to new-born babies is in the gluteal region, and if a line be taken from the anterior superior spine of the ilium to the commencement of the gluteal fold and this line divided into three sections, anywhere in the middle third is the region to select. The intramuscular galyol and mercury injections can be given the same day on opposite sides, and are well borne. It is advisable that there should be an interval of a week to ten days before repeating the injections.

[The chart\* and case histories were explained and described here.]

In looking over the number of mothers who have been treated by me, out of thirty cases six babies have been born free from syphilis, or, to put it more correctly, free from any evidence of that disease, having a negative Wassermann reaction at birth which continued on future examination of the blood, although the mothers have still given positive reaction for a considerable time after delivery.

It has been found that those babies who have at first a positive reaction generally yield a negative reaction after treatment sooner than their mothers. Up to the present I have not found any case in which a baby who had become negative has later developed a positive Wassermann reaction. The average number of doses of galyol required to bring about a negative reaction has been 6.5, and the amount per case 26 cg. With one exception (Case 15) it has been found that the child gained regularly in weight and showed no further signs of syphilis.

On January 10th Dr. Amand J. Routh read a most instructive paper before the Harveian Society in which he gave extracts from the report of the Royal Commission on Venereal Diseases, and showed the deadly effect of syphilis on the unborn and newly-born child, and the apparent hopelessness of treating such cases. I quote the following paragraph from his paper:

There is no doubt that congenital syphilis is a more serious infection than primary syphilis, and that the treatment of congenital syphilis is less satisfactory than in those infected primarily, and Charles Gibbs writes to me that he has never known a positive reaction in a congenital syphilitic child become negative under treatment.

The wastage of child life is terrible. Dr. Routh estimated that 27,000 deaths, in England and Wales alone, occur annually in the antenatal period and the week following birth as a result of syphilis, and Dr. Russell Andrews, in his evidence before the Royal Commission on Venereal Diseases, stated that nearly 50 per cent. of all syphilitic fetuses are stillborn, and that 75 per cent. of those born alive die within the first year, most of the deaths occurring during the first week of life.

The accommodation at the Thavies Inn Venereal Centre is so limited that the cases cannot be admitted before the

sixth month of pregnancy, and the treatment is therefore often not begun as soon as it should be. With a larger hospital and earlier treatment, I am of opinion that very few of these syphilitic children would be born dead, that a larger proportion of them would go to the full term, and that, if not free from syphilis at birth, they could by treatment soon become so.

The treatment which I have described has been brought to the test of experience sufficiently long to show what can be done for these cases, and the results are most encouraging. But the future treatment of ante-natal and post-natal syphilis cannot be allowed to remain where it has been in the past; and the treatment which is being adopted to-day will be improved on to-morrow. I am certain that the lives of thousands of syphilitic children have been lost unnecessarily in the past, while it would have been a blessing to themselves and humanity if many of those who have survived had never lived in misery to be a burden to the State. In the future such children may be made healthy and useful members of the community. I am indebted to the Local Government Board and the City of London authorities for providing a hospital which has given me the opportunity of bringing my evidence for this statement before the Obstetrical Section of the Royal Society of Medicine this evening.

If I were to criticize my year's work I should say that, had the drugs been in bigger doses, the results would have been still better; but one had to tread with caution the unknown paths of research in the case of these newly-born children, and, on the whole, I am of opinion that the means adopted are only the beginning of still greater progress in the future treatment of ante-natal and post-natal syphilis.

What has impressed me most in the treatment of these cases has been the large doses which these newly-born infants are able to take and the excellent results which have ensued.

#### Conclusions.

1. Syphilitic pregnant women can be treated with salvarsan, even up to the day of their confinement, with safety and every advantage.
2. A mother whose blood gives a positive Wassermann reaction may, after treatment, be delivered of a child whose blood gives a negative reaction. The child may continue to thrive and give a negative blood test.
3. Syphilitic children can safely be treated by salvarsan immediately after birth.
4. Salvarsan, combined with treatment by mercury, has a more certain and quicker action in producing a negative Wassermann reaction in the child than in the mother.
5. In nearly all syphilitic children born alive, treatment can convert a positive Wassermann reaction into a negative, and such children appear to become healthy and show a regular weekly gain in weight.

NOTE.—Between a syphilitic mother and a child who gives a negative Wassermann reaction at birth the placenta appears to act as an interceptor of syphilitic virus, probably brought about by the chorionic ferments. See the paper referred to above by Dr. Amand J. Routh, on antenatal syphilis, *BRITISH MEDICAL JOURNAL*, January 12th, 1918, p. 47.

## A METHOD OF OVERCOMING THE ADHERENCE OF TENDONS AFTER SUTURING.

BY

P. C. COLLINGWOOD FENWICK, L.M.S.S.A.LOND.,  
FIRST HOUSE-SURGEON, NORFOLK AND NORWICH HOSPITAL.

SEPTIC gunshot wounds of the hands and feet often involve important tendons, and if these cannot be satisfactorily dealt with they become adherent to the surrounding structures and the function of the limb is more or less impaired. In this hospital we have recently had a case of this class which I think may be of interest to orthopaedic surgeons, as I have seen so many gunshot wounds which have healed leaving the hand partially useless owing to fixed and adherent tendons.

Pte. J. B. was admitted with a shrapnel wound on the posterior surface of the left hand. The wound was very septic and the whole hand swollen and oedematous. He was unable to extend his three inner fingers as about two inches of the tendon of the extensor communis digitorum

\* The chart referred to gave the result of 24 babies born at the hospital: 5 were born negative; 7 became negative after treatment; 3 mothers had no treatment before death of baby *in utero*; 1 died from syphilis; 1 died suddenly without any apparent cause; 1 was born dead; 6 remain positive under treatment, and are doing well; 6 babies were born from syphilitic mothers since the chart was drawn up. 3 are already negative.



had been blown away. He was given saline band baths and boracic fomentations. After about six weeks the wound had healed; he was sent to a convalescent hospital for three months and during that time he was given massage and faradism to the muscles of his forearm. On his return to this hospital I operated upon his hand,



making an incision from two inches above the posterior annular ligament to the knuckles. The remaining portion of the extensor tendons were involved in scar tissue, and it was somewhat difficult to dissect them out.

A flap of the tendon of the extensor communis digitorum was brought down from above the ligament, which was not interfered with, and at its distal end was split into three parts and stitched with silk to the cut tendons of the three inner fingers. To prevent the newly constructed tendons becoming adherent to the scar and surrounding tissues thick catgut was wound round each tendon as far

up as the annular ligament, as seen in the accompanying drawing. The wound was then stitched up with salmon gut and the hand placed on a flat splint. Three days after the operation the splint was removed and the patient allowed to move his fingers slightly. A fortnight later faradism was applied to the muscles of the forearm, and it was found that the extensors of the fingers were working well.

The incision healed by first intention, but ten days after the operation a small quantity of pus discharged from one of the stitch holes; this soon stopped, and seems to have had no detrimental effect on the result of the operation, which has been excellent. The patient can now fully extend and flex all his fingers.

For permission to report on this case I am indebted to Mr. S. H. Burton, F.R.C.S., senior surgeon of this hospital, under whose care Pte. J. B. was admitted.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### FLEXED KNEE-JOINTS IN BELOW-THE-KNEE STUMPS.

THE most effective method of extending knee-joints that have become flexed and fixed after amputation is shown in the accompanying illustration. It has been used at the Pavilion General Hospital for Limbless Men at Brighton during the past year.

It consists of a plaster-of-Paris saddle with a light pommel, along the back of which a wooden spreader is fixed by enclosure in the plaster bandages. Part of the girth behind the thigh is cut away to admit of the limb being withdrawn upon occasion, though this may not be necessary, as it should be worn continuously.



A Martin's rubber baudage is, when the cast is dry, wound round the stump and the end of the spreader as firmly as the patient will permit. The distal edge of the bandage should encroach on the ends of the stump and the spreader, in order to prevent the bandage slipping upwards.

It should be worn day and night until the joint yields, which it usually does more rapidly and effectively than by

any other method we have tried. The action of the rubber bandage is continuous, and muscle resistance is tired out and defeated, especially at night.

W. A. CHAPPLE, M.D., Ch.B., M.R.C.S., D.P.H.,  
Brighton. Major R.A.M.C.

#### SUPRAORBITAL ZONA.

IN reviewing this subject one is often struck with the more or less casual way it is discussed, orally or in the books. It merits more attention. It is so different a complaint in the child, the young adult, the middle-aged, and the old: In the child and young adult it is seldom at all serious; in the middle-aged it is oftentimes very serious.

The intense pain of the onset, the possible blindness, the constitutional depression and weakness during the attack, the severity of the pain left, which may last for years, the scarring—all make this disease in the middle-aged and old an anxiety.

The following is a case in point:

A. C., a delicate woman aged 44, in April, 1909, had her abundant hair cut rather severely. From that day until a month later she felt the chill of wind through the hair; then severe headaches set in of a neuralgic type all over the head, with a sense of weight on the top; this state continued until the end of October, nearly seven months after the haircutting; the pain then became limited to the left half of the head, and was very intense. In the middle of November a rash appeared on the forehead at the margin of the hair and on the forehead itself; it consisted of small vesicles, which rapidly passed into large bullae, becoming puriform, and breaking down at once, the base showing a necrotic condition. The general health was not good, owing to depression and the weakness from loss of rest due to the intense pain. There was much pain in the eye and down the side of the nose. The necrosed spots were treated with a hot solution of glycothymoline applied on lint, changed every half-hour. In about six hours all the bad spots seemed to have taken on repair and the application was ordered to be continued every two hours for another twelve hours; the subsequent treatment was a simple unguent. During the hot applications the pain much decreased, but as the spots got better the patient complained of haziness of the sight and there was increased tension of the globe. Eserine was at once used, and in two days the tension fell, but there was now some iritis, which under the usual treatment subsided. The subsequent history was uneventful. The scarring is bad, and on the slightest drop in health there is pain in the forehead. I suggested electric vibratory massage over the left side of the head, which gave much relief, and it was applied later to the eyebrow with excellent effect.

Drugs are of no avail in removing the after neuralgia, which I have known patients to suffer from for years, but I venture to think that in electric vibratory massage we have a means of giving great relief if not producing cure.

Bodicote.

F. B. JUDGE BALDWIN.

#### AN EARLY SIGN OF HEART INCOMPETENCE.

CLINICALLY, one is often thankful for small hints, and the earlier the sign of impending trouble the greater should be its value. For this reason I think pitting of the heels is worth looking for when we might expect but fail to find oedema over the tibia or dorsum of the foot. Slight pitting of heels appears from my observations to be very common in elderly adults, but when it is marked, and the pulse pressure is found to be, perhaps, 100 or 110 only, then the heart is not doing its work as it should. The other factors in blood pressure, apart from inefficient action of the heart, should of course be taken into consideration, and lowered arterial tonus, if uncompensated by more vigorous heart action, might account for a tendency to oedema not primarily cardiac. It is only suggested that this sign may be of use where more obvious indications of a faulty circulation have not yet appeared.

Fouriesburg, O.F.S.

FRANK ELY.

THE American Red Cross Society has established a general dispensary and hospital, with a children's clinic, in Jerusalem, and has taken over two orphan asylums with four hundred children.



## Reports of Societies.

### ANTE-NATAL AND POST-NATAL SYPHILIS.

At a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, held on November 7th, with Dr. AMAND ROUTH, Senior Vice President, in the chair, Dr. JOHN ADAMS read a paper on "The treatment of ante-natal and post-natal syphilis," which is printed at page 541.

The CHAIRMAN said that some of them might have seen a preliminary statement on this subject in the BRITISH MEDICAL JOURNAL a little time ago. If so, it would have whetted their appetite for what was to come.

Dr. ADAMS interrupted his paper to refer to the cases of which a list had been distributed. With the exception of two out of the twenty-four cases of which particulars were given, all were cases of acute syphilis in the mother. They came to him in the primary or early secondary stage, and by treating the babies at the beginning they were dealt with at a time when the syphilitic virus probably had more effect on the child than it would have later on.

The CHAIRMAN, after thanking Dr. Adams, said that, apart from the deaths during pregnancy and afterwards, due to complications in labour, there was no larger single cause of infantile death than syphilis. There were two important matters to consider in ante-natal syphilis. First, how was it that any child infected with syphilis at fertilization, and untreated, was born alive? Considering the relatively large size of the spirochaete, and its great powers of multiplication in a small fertilized ovum, it seemed wonderful that any child reached full term; a large number die no doubt in a very early stage. Secondly, there was the number of healthy children whose mothers had borne syphilitic children, but had been treated at, say, the third month. That pointed to something which was controlling the pregnancy in spite of the infection. The circumstances which could influence chemically the ovum were represented by the chorionic ferments or their chemical derivatives. These ferments, scattered throughout the woman's body, rendered her to a certain extent immune from the active propagation of the spirochaete during pregnancy; further, in successive pregnancies these ferments or their derivatives became cumulative in their effect, so that women who had borne syphilitic children might apparently be themselves cured of syphilis, and eventually bear healthy children. In most of Dr. Adams's cases the woman had definitely shown signs of syphilis; so far as he could gather, many of the women were syphilitic before they conceived; but there were a very large number of syphilitic women—women who had borne and were going to bear syphilitic children if untreated—who gave a negative reaction during pregnancy and a positive reaction afterwards if the clinical evidences of the spirochaete again developed. Children of women who had had syphilis a long time often showed a negative Wassermann reaction at birth, and remained negative until five or six weeks afterwards, when the reaction became positive. With regard to Dr. Adams's cases, five of the children were born with a negative Wassermann reaction whose mothers were known to be syphilitic. What happened later to these children was not certain. If the observations were continued, it would be possible to see whether they became positive eventually, but a large majority had shown improvement by becoming negative in a way which he had not anticipated. Those children who were born positive and had become negative numbered six out of the twenty-four—a proportion of 25 per cent. This was a most excellent result, especially if it were permanent. He thought it would be found that in pregnant women who were not suffering from primary or secondary syphilis at the time, the results would be very much better even than these.

Dr. W. S. A. GRIFFITH, after congratulating Dr. Adams on the paper, said they were only at the beginning of this subject, and the ultimate results must be awaited; but Dr. Adams had shown that under this treatment a considerable number of babies increased in weight and appeared healthy, and most of them had a negative

Wassermann reaction. That was an enormous step forward. It was necessary, however, to know the further history of these babies before arriving at any final conclusion.

Major W. G. SPENCER congratulated the City of London on having undertaken to treat these cases as in-patients. As such they could be treated on intensive lines, not only by salvarsan, but also by mercury. Salvarsan treatment did not cure the disease, but it removed the superficial appearances of the disease. Dr. Adams, by his intensive method, not only got rid of the superficial manifestations, but also of the disease. He hoped that it might go out to local authorities generally—to the lay public in control—that if they wanted to diminish venereal disease they must provide in-patient treatment on a large scale in order that persons might be treated very actively for a few days, or a week or two, or a month or two, until the head of the disease was got rid of; after that out-patient treatment might follow. He congratulated Dr. Adams on starting a new method of trying to cure the venereal patient.

Dr. M. HANDFIELD-JONES said that the difficulty in discussing the paper was that so few had enough cases which were certainly acute syphilis, to be able to criticize usefully the results and conclusions. But if one had cases where the disease had been manifested before the sixth month and the mother had been satisfactory afterwards and the child had been born living and had lived and been healthy, there was reason to suppose that it would remain so. He had watched such a case until the child was twelve years of age, and it had remained perfectly free.

Captain W. GIRLING BALL said that the great difficulty was to get the cases of syphilitic mothers early enough. He took it that the patients had mostly had syphilis for some time before the sixth month, and that might be the reason why some of the cases were less successful than others. The salvarsan given to the mother had also an effect on the unborn child, and therefore a more prolonged treatment might have had a more beneficial effect on both. In the majority of cases a negative Wassermann reaction followed twelve doses of salvarsan and twelve injections of mercury. The figures which Dr. Adams had given did not satisfy him that the method of treatment was of such great benefit as it yet might become. The mortality was still very high. He disagreed as to the harmful effects following novarsenobillon; at St. Bartholomew's it had been administered in injections to out-patients in thousands of cases. He congratulated Dr. Adams on the institution of his hospital; it was on such lines syphilis might be got rid of. Women attended the special out-patient clinics very well, but it was almost impossible to get the men to attend with any regularity. The Government was really wasting its money if the patients would not carry through the treatment in the way advised.

Mr. W. H. KELSON said that it was most important that this batch of cases should be followed up to ascertain what would happen in future pregnancies.

Dr. A. E. STANSFELD, who had made the Wassermann tests in Dr. Adams's cases, said that it seemed to him not quite fair to these results to take the percentage of deaths as a criterion. Cases of syphilis varied very much in their response to treatment, and that came out perfectly well in this particular paper. He pointed out that three of the children with strong positive reactions at birth subsequently, in the course of two or three months, developed negative reactions and remained negative. He was struck by the extremely short time which had elapsed in these three cases for the change from the positive to the negative reaction to take place. Older children with strongly positive Wassermann reactions never became negative in anything like that time. Once a strongly positive Wassermann reaction had been made negative there was every hope that continuation of treatment would render it persistently negative. So that even if Dr. Adams had only these three cases to show he had made out a strong case for the treatment after birth.

Dr. ADAMS, in his reply, said he was well aware that observations extending only over a year were not sufficient foundation for a perfect system of treatment, but he had been urged to bring the cases at their present stage before the Section.



## Reviews.

### BURNS.

Under the title of *Burns and their Treatment*,<sup>1</sup> Dr. MacLEOD has published a small textbook which should prove of great value to the general practitioner, more especially from the point of view which must of necessity appeal to him mostly—namely, the treatment. When it is realized that in 1915 there were 2,451 fatal cases of burning from various causes, some slight estimate may be made of the importance of this subject in general practice, for if this is the yearly total of fatal burns, the number of cases which do not lead to a fatal issue must be enormous. The distinction of burns from heat—dry and moist—takes up about one-half of the whole. There follow on this special chapters on burns of special causation—from electricity, lightning, x rays, radium, the sun, corrosives, and high explosives.

Treatment, which is perhaps the salient feature of the book, is dealt with in a very practical manner. In the main it is divided into two parts, general and local. As regards the latter, an important point is made of the fact that burns have a greater tendency to become septic than almost any other form of injury to the cutaneous surface, and that therefore every effort should be made to prevent this; for this purpose aseptic rather than antiseptic measures should be employed. The older methods of greasy applications, and the fallacy of the old idea at once to exclude air from the injured surface, meet with strong condemnation as being complete mistakes. A strong case is made out for the encouragement of the healing of the granulating surface of a burn by what is known as the "open method," where healing is allowed to take place under a natural or artificial scab. The concluding chapter, on dermatitis from high explosives, doubtless owes its appearance to the conditions which have led to a large number of accidents to munition workers. The short paragraphs in many of the chapters on preventions and precautions are very practical; this is especially the case with those on lightning, x rays, electricity, and explosives. At the end of each division is to be found a useful reference to the more important publications on the subjects dealt with. To sum up; this is a concise book, full of points of practical importance, and a valuable guide to treatment, written by an author who thoroughly understands his subject. It should be in the hands of every general practitioner.

### PHYSICAL THERAPY.

In *Reclaiming the Maimed*,<sup>2</sup> Dr. TAIT McKENZIE, to quote his own words, has "put in small compass a description of the means that have been potent in putting back into military service nearly half of the men wounded or otherwise disabled in action who had climbed with decreasing speed the uphill road to recovery that too often halts at permanent invalidism." The author's reputation as a professor of physical therapy in the University of Pennsylvania, and his previous works, are a guarantee that what he writes is worth our notice. In the small compass of 124 small pages, which include 115 illustrations, he has set forth all the most important methods of cure for the disabilities caused by war.

Dr. McKenzie gives a description and plan of a department of physical therapy in a military hospital for convalescents which is worth consideration by all those who may have to institute such a department. The various forms of medical electricity and their applications are very clearly and succinctly treated, and the effects of light and heat and hydrotherapy are duly considered. Massage and passive movement and active movement, and re-education and gymnastics and games receive due notice.

There is also an interesting chapter on the fine work in masking facial deformity which has been done by Captain Derwent Wood, A.R.A., at the 3rd London General Hospital.

Many of the methods of treatment described require

<sup>1</sup> *Burns and their Treatment*. By J. M. H. MacLeod, M.D. London: Henry Frowde, and Hodder and Stoughton. 1918. (Fcap. 8vo, pp. 160; 19 figures, 6s. net.)

<sup>2</sup> *Reclaiming the Maimed*. A handbook of physical therapy. By R. Tait McKenzie, Major R.A.M.C., Professor of Physical Therapy, University of Pennsylvania. New York: The Macmillan Company. 1918. (16mo, pp. 128 + viii; 115 figures, 2 dols.)

more or less elaborate and expensive machinery, but good results may often be achieved with the simplest apparatus or even with none at all. In functional cases, if the physician or surgeon has not the power of convincing the patient that he is going to recover, the disabled man may be successfully impressed by imposing machinery, or strange jets and currents of water, or electrical discharges. Any surgeon who is undertaking the treatment of war disabilities will find this little book helpful, and it may be read with advantage by those who take an intelligent interest in massage.

### NOTES ON BOOKS.

WE have received a copy of a report of experiments on the transmission of heat through heavy building materials, carried out for the Research Committee of the Institution of Heating and Ventilating Engineers, with the aid of grants from the Department of Scientific and Industrial Research. The research was carried out at University College, London, by Mr. A. H. Barker, director of the laboratory of the Heating and Ventilating Engineers, with the assistance of Mr. Kinoshita, M.Sc., and in the early stage of Mr. C. H. Avery and Mr. F. E. Eustace, research students of the institution. In the case of a thick wall separating two masses of air at different temperatures, heat is communicated to the inner surface of the wall by contact of air and by absorption of radiation, and sometimes in other ways. The heat is transmitted by heat conduction through the walls from the inner to the outer surface and from the outer surface passes to the colder surroundings by convection of currents, by evaporation of moisture, and by radiation. The rate at which it is lost is determined by various factors—the temperature of the surface, the mean temperature of surrounding surfaces, the emissivity of the wall surface, the mean emissivity of the surrounding surfaces, and the configuration relation between the surface and the surrounding. Sun shining on the wall may produce a reversal of the flow of heat, and the proximity of neighbouring dwellings or walls, whether heated or unheated, will have a notable effect. We cannot follow the very technical details of the actual experiments, but may note that dampness of the inner wall may increase the average emission of heat by 50 per cent., and also that the general effect of lining a 9 in. brick wall with wood was proved to be a reduction in the transmission coefficient of about 40 per cent.—that is, a match-boarded brick wall 9 in. thick is approximately equivalent to a plain brick wall 21 in. thick.

A report of the Special Committee of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on painless labour, together with the discussion thereon, has been published in a pamphlet entitled *Twilight Sleep (Scopolamine-morphine Narcosis)*.<sup>3</sup> A report of the meeting at which the report was presented and discussed was published in our issue of December 15th, 1917, p. 791.

Books addressed to the expectant mother are apt to fall between the two stools of twaddle and over technicality. A small volume by Dr. CHARLES PORTER, M.O.H. Marylebone, entitled *The Future Citizen and His Mother*,<sup>4</sup> avoids both faults. It is founded upon a series of Chadwick lectures on maternity and child welfare, and has doubtless benefited by the experience gained in delivery. An introductory chapter gives an account of organization of infant welfare work, the second deals with the care of the mother, the third with the infant, and the fourth with the young adult. The advice given throughout these chapters is sound and expressed in simple language. In an appendix are reprinted a number of leaflets distributed from infant consultations and by health visitors in the borough of Marylebone, which may serve as models for other places. Sir James Crichton-Browne has written a foreword to the volume, in which he describes Dr. Porter's lectures as a masterly treatise on the raw material of education, and on the methods by which that raw material may be improved in quality and educability.

<sup>3</sup> Longmans, Green, and Co. (5s. net.)

<sup>4</sup> *The Future Citizen and His Mother*. By Charles Porter, M.D., et al. With a Foreword by Sir James Crichton-Browne. London: Constable and Co., Limited. 1918. (Cr. 8vo, pp. xvi + 144. 3s. 6d. net.)

SIR LEONARD ROGERS has written a foreword to a book on kala-azar by Dr. Ernest Muir, of the Mission Hospital, Kalna. Its object is to give medical practitioners in small towns and villages a guide to the diagnosis and treatment of this disease, which is very prevalent in some parts of India; to this end the publishers, Messrs. Butterworth of Calcutta, have fixed the price of the book at Rs. 2 net.



## PREVENTION AND TREATMENT OF INFLUENZA.

MEMORANDUM BY THE ROYAL COLLEGE OF PHYSICIANS,  
LONDON.

THE following memorandum, adopted by the Royal College of Physicians of London on November 8th, has been issued:

### *Memorandum on Influenza.*

In view of the alarming and contradictory reports of the present epidemic of influenza that have appeared in the public press, the Royal College of Physicians deem that an authoritative statement on the subject is desirable in the public interest.

The past few weeks have now afforded sufficient experience to permit some positive statements to be made. Though the epidemic shows signs of abatement in London, it is still severe elsewhere; moreover, its after-effects call for intelligent anticipation.

The present epidemic is virtually world-wide, irrespective of race, community, or calling. Similar world-wide epidemics occurred in 1803, 1833, 1837, 1847, 1890. The long intermission since the last widespread epidemic had already made an early reappearance probable, but the conditions of epidemic prevalence of influenza are too obscure to allow of precise prediction.

This outbreak is essentially identical, both in itself and in its complications, including pneumonia, with that of 1890. The disproportionate occurrence of a special symptom, a well-recognized phenomenon in the case of epidemics, as for example nose-bleeding in the present epidemic, does not invalidate this statement. The present epidemic has no relation to plague, as some have suggested.

Although there can be no question that the virus of influenza is a living organism, and capable of transference from man to man, yet the nature of the virus is still uncertain. It is possibly beyond the present range of microscopic vision. The bacillus discovered by Pfeiffer, commonly known as the influenza bacillus, has in the past been regarded as the probable cause, though on insufficient evidence. There is doubt as to the primary part it plays in the disease, important though it probably is as a secondary infecting agent. Pfeiffer's bacillus, the pneumococcus, and above all in this epidemic the streptococcus, seem to be responsible for most of the fatal complications of influenza.

Infection is conveyed from the sick to the healthy by the secretions of the respiratory surfaces. In coughing, sneezing, and even in loud talking, these are transmitted through the air for considerable distances in the form of a fine spray. The channels of reception are normally the nose and throat.

It is manifest that the closer the contact the more readily will this transmission occur; hence the paramount importance of avoiding overcrowding and thronging of every sort, whether in places of public resort, public conveyances, factories, camps, dwelling-rooms, or dormitories.

The sum of available evidence favours the belief that the period of incubation is about forty-eight hours or even somewhat less.

The dangers of influenza are gravely increased by the complications, and much can be done to avoid or to mitigate these. Such complications may develop insidiously, and without previous signs of severe illness.

Carefulness does undoubtedly decrease and carelessness increase, both morbidity and mortality; it is important therefore that the public should have a clear idea of such measures of personal prophylaxis as are available against infection; larger measures of public health, administered by Government or local authorities, stand outside the scope of the present memorandum. The individual must be taught to realize and acquiesce in his duty to the community.

Well ventilated, airy rooms promote well-being, and to that extent at any rate are inimical to infection; draughts are due to unskilful ventilation, and are harmful; chilling of the body surface should be prevented by wearing warm clothing out of doors.

Good nourishing food, and enough of it, is desirable; there is no virtue in more than this. War rations are fully adequate to the maintenance of good health, though they may not afford just the particular articles that each fancy demands. Alcoholic excess invites disaster; within the limits of moderation each person will be wise to maintain unaltered whatever habit experience has proved to be most agreeable to his own health.

The throat should be gargled every four to six hours, if possible, or at least morning and evening, with a disinfectant gargle, of which one of the most potent is a solution of 20 drops of liquor sodæ chlorinatae in a

tumbler of warm water. A solution of common table salt, one teaspoonful to the pint of warm water, is suitable for the nasal passage; a little may be poured in the hollowed palm of the hand and snuffed up the nostrils two or three times a day.

Since we are uncertain of the primary cause of influenza, no form of inoculation can be guaranteed to protect against the disease itself. From what we know as to the lack of enduring protection after an attack, it might in any case be assumed that no vaccine could protect for more than a short period. But the chief dangers of influenza lie in its complications, and it is probable that much may be done to mitigate the severity of the affection and to diminish its mortality by raising the resistance of the body against the chief secondary infecting agents. No vaccines should be administered except under competent medical advice.

No drug has as yet been proved to have any specific influence as a preventive of influenza.

At the first feeling of illness or rise of temperature the patient should go to bed at once and summon his medical attendant.

The early stages of an attack are the most infective, but infection may persist throughout the illness, and segregation should be maintained at least till the temperature is normal.

Relapses and complications are much less likely to occur if the patient goes to bed at once and remains there till all fever has gone for two or three days; much harm may be done by getting about too early. Chill and over-exertion during convalescence are fruitful of evil consequences.

The virus of influenza is very easily destroyed, and extensive measures of disinfection are not called for. Expectoration should be received when possible in a glazed receptacle in which is a solution of chloride of lime. Discarded handkerchiefs should be immediately placed in disinfectant, or, if of paper, burnt.

The liability of the immediate attendants to infection may be materially diminished by avoiding inhalation of the patient's breath, and particularly when he is coughing, sneezing, or talking. A handkerchief should be held before the mouth, and the head turned aside during coughing or sneezing. The risk of conveyance of infection by the fingers must be constantly remembered, and the hands should be washed at once after contact with the patient or with mucus from the nose or throat.

Each case must be treated, as occasion demands, under the direction of the medical attendant.

No drug has yet been proved to have any specific curative effect on influenza, though many are useful in guiding its course and mitigating its symptoms.

In the uncertainty of our present knowledge considerable hesitation must be felt in advising vaccine treatment as a curative measure.

A period of enfeeblement following an attack of influenza should never be disregarded, as it is apt to mask the presence of other morbid conditions.

London, November, 1918.

IN a recent communication to the Société de Biologie, Paris, Latapie stated that the serum obtained from a goat which had been immunized to the bacillus of Pfeiffer for eleven months had considerable therapeutic efficacy as tested on guinea-pigs. Animals inoculated in the peritoneum with several times the lethal dose survived if they received an intravenous injection of the serum even as late as three hours before the time at which death was expected. Latapie states that the serum should not be taken until at least three weeks after the last injection of the virulent microbe; at that time it is not toxic, but if taken earlier it is.

FROM the recently issued seventy-first report of the Royal Earlswood Institution for Mental Defectives (which appears in attenuated form) we gather that 1917 was an anxious year for the board of management owing to diminution of annual subscriptions, and the higher price of food and supplies, and increased wages. The bank loan has increased to £15,000. The average number of patients resident in 1917 was 478 (318 males, 160 females), and the percentage of deaths calculated on this, 8.15, the highest recorded since the opening of the institution. An unusual number of the older patients, many of them having been resident from thirty to over fifty years, have died. We regret that the annual report of the medical superintendent (Dr. Caldecott) does not appear in print, but the board refer to an outbreak of measles early in the year, mild in character, which extended to 144 cases. Statistical tables appended show that 43 cases were admitted during 1917, 23 discharged, and 466 remaining in the institution on December 31st, 1917.



## THE EVOLUTION OF THE VOLUNTARY HOSPITAL AND ITS FUTURE.\*

BY

W. THELWALL THOMAS, CH.M.L'POOL, F.R.C.S.ENG.,

PRESIDENT OF THE MEDICAL INSTITUTION; PROFESSOR OF  
REGIONAL SURGERY IN THE UNIVERSITY OF LIVERPOOL  
(IN CHARGE OF THE DEPARTMENT OF SURGERY);  
SURGEON, ROYAL INFIRMARY.

INSTITUTIONS for the treatment of sick persons can be traced far back into the centuries before the dawn of Christianity, although it has been often stated that hospitals were essentially associated with the Christian religion. Sanatoriums were found in centres devoted to the worship of ancient deities, and I am sure that you will recall the interesting description of the curative establishments—the early faith-healing resorts in connexion with the worship of Æsculapius at Epidaurus, so graphically described and realistically pictured by our former President, Dr. Caton, as an arresting instance.

In this country were early established St. Bartholomew's (1137) and St. Thomas's (1215) in London, and right down the Middle Ages religious houses were the centres for the dispensing of medical and surgical help of a sort—mingled, of course, with devout religious observances and exhortations. They could not have been of any great number or size, for until about 1720 London only possessed the two mentioned, of a character really in any way comparable to our modern hospitals.

The dissolution of the monasteries by Henry VIII upset these pious associations of religion and medicine; but soon after, in the reign of Elizabeth, we find the inauguration of a Poor Law system to deal with the needy poor, and since then this has continued—in an unsatisfactory manner, failing to keep pace with the development of the times, down to our time, and is not likely to be continued much longer after the criticisms of the Poor Law Commission of recent date.

Very little can be found in the early centuries of real interest on the subject of hospitals until we arrive at the eighteenth century, when there occurred a sudden and marvellous growth of these institutions, founded by the charitable public and the medical profession, and it was in reality at this time that the "Voluntary Medical Charity" as we have since known it came into existence. It afforded me some interest to seek for causes for this sudden appearance of hospitals, and it seems to have been due to two great movements—one educational and the other philanthropic, due to the great religious revival—in other words, the great advance that then occurred in medical learning with the desire to teach, and the conscience awakening effects of Methodism.

The combination of these two great movements found medical men and the charitable public meeting in a desire to do what they could to alleviate the conditions of the suffering poor, and, by uniting their talents, founded hospitals as we have since known them all over the country.

During this century medical progress was most apparent; chairs of anatomy were established in Edinburgh in 1705, in Cambridge 1707, Glasgow 1718, and a lectureship in anatomy at Oxford in 1750. Chairs of clinical medicine were founded in Edinburgh in 1741, in Oxford in 1780, and about 1757 Cullen began to lecture on medicine in the English language instead of in Latin; and what is more important still, in my opinion, the medical school associated with the hospital—the "Hospital Medical School"—came into existence, the special feature of British clinical instruction, in Guy's in 1725, Edinburgh 1736, and the London Hospital Medical School in 1785 (superseding the private medical school of Sir William Blizard).

Side by side with this development the religious revival associated with the names of Dean Berkeley, George Whitefield, and the Wesleys, awakened the nation to the parlous condition of the poorer classes. To give you some idea of social affairs that existed I cannot do better than quote from Green's *History of the English People*:

"At the other end of the social scale lay the masses of the poor, they were ignorant and brutal to a degree which it is hard to conceive—for the increase of population which followed on the growth of towns and the development of

commerce had been met by no effort for their religious and educational improvement. Not a new parish had been created, schools there were none, save the Grammar Schools of Edward and Elizabeth and some newly established 'Circulating Schools' in Wales for religious education. The local peasantry—who were fast being reduced to pauperism by the abuse of the Poor Laws—were left without much moral religious training of any sort." And again: "We saw but one Bible in the parish of Cheddar, said Hannah More, and that was used to prop a flowerpot. Within the towns things were worse. There was no effective police: in great outbreaks the mob of London and Birmingham burnt houses, flung open prisons and sacked and pillaged at their will. The criminal class gathered boldness and numbers in the face of ruthless laws, which only testify to the terror of society; laws which made it a capital crime to cut down a cherry tree, and which strung up twenty young thieves of a morning in front of Newgate: while the introduction of gin gave a new impetus to drunkenness. In the streets of London at one time gin shops invited the passer-by to get drunk for a penny—or dead drunk for two-pence."

And later, describing the moral upheaval brought about by the religious movement:

"A yet nobler result of the religious revival was the steady attempt, which has never ceased from that day to this, to remedy the guilt, the ignorance, the physical suffering, the social degradation of the profligate and the poor. It was not till the Wesleyan impulse had done its work that the philanthropic impulse began. . . . By the writings, and by her own personal example, Hannah More drew the sympathy of England to the poverty and crime of the agricultural labourer. A passionate impulse of human sympathy with the wronged and afflicted raised hospitals, endowed charities, built churches, sent missionaries to the heathen, supported Burke in his plea for the Hindoo, and Clarkson and Wilberforce in their crusade against the iniquity of the slave trade."

Among the hospitals founded during this period were:

In London (5).—Westminster 1719, Guy's 1725, St. George's 1733, the London 1740, and Middlesex 1745.

In the Provinces (20).—York 1710, Salisbury 1716, Cambridge 1719, Bristol 1735, Windsor 1736, Northampton 1743, Exeter 1745, Worcester 1745, Liverpool 1745 (opened 1748), Newcastle 1751, Manchester 1753, Chester 1755, Leeds 1767, Stafford 1769, Oxford 1770, Leicester 1771, Norwich 1771, Birmingham 1778, Nottingham 1782, Canterbury 1793.

In Scotland in six large towns.

In spite of these endeavours hospital construction was very faulty, sanitation primitive, and overcrowding the rule. Septic fevers and other affections rampant, the average mortality 20 per cent. or more, and recovery from surgical operations a rarity. There were exceptions, of course, and it is gratifying to us to know that in Liverpool we had a pioneer in surgery and sanitation at this period in Edward Alanson, surgeon to the infirmary from 1770 (when he was 23 years of age) to 1794, an interesting account of whose life and work was published by Mr. R. W. Murray, our member.

I cannot refrain from mentioning a remarkable series of cases from the preface of Alanson's work on *Practical Observations on Amputation and the After Treatment*. He writes:

I have never refused to operate upon any case that has presented, where a single person in consultation has thought such operation advisable, and since I began the method here recommended in Case 1, I have operated in thirty-five cases, such as promiscuously occurred at the Liverpool Infirmary, without the loss of a single patient.

At the expiration of a month after the operation the wound has either been perfectly healed, or less than a sixpenny piece, in all, the wound has been ultimately cured, and the cicatrix remarkably small. . . . Had not these cases occurred in a hospital where the practice has been made as public as possible, I should not have ventured to publish an account—which I fear but few would have credited.

Previous to our improved plan, out of forty-six amputations, at which I was present and had an opportunity of inspecting the after treatment, ten died. . . . In most of them there was an exfoliation—in several a sugar loaf stump—and in some the wound remained incurable. (Second edition, London, 1782.)

From then on to modern times the hospitals always found the medical profession anxious and ready to do their part in the noble work without stinting time or energy.

During last century the further growth of hospitals can be traced almost entirely to medical men—who started

\* Inaugural address delivered on the opening of the eightieth session, October 24th, 1918.



free clinics in the poorer parts of the towns, and, when the necessity for extension became apparent, calling in charitably disposed friends to assist, and thus founding the numerous general and special hospitals now to be met with in all large towns.

In Liverpool with the exception of the Infirmary, that is the history of every medical charity, and I have little doubt that this applies to all other towns. Now, in spite of the large amount of work done, and with modern methods, the far greater turnover, particularly of surgical cases, the increase of hospital accommodation has not expanded with the needs of the people nor the capabilities of the developments of medicine and surgery. The public has not realized the necessity for providing sufficient funds, and I am not far wrong when I state that in the large general voluntary hospitals of Liverpool the actual number of beds is very little in excess of what it was thirty years ago, although the population has increased from 544,500 in 1883 to 756,500 in 1913.

For these figures I am indebted to Dr. Hope.

Each institution has a heavy annual debt, which has prevented the expansion that should have taken place, and although the work per bed, in operations alone, has greatly increased, the deficiency of available beds has been acute for many years; and to those associated with the work, the knowledge of a long list of patients awaiting admission is heart-breaking. The magnificent voluntary labours of the lay committees, struggling under an incubus of debt, is beyond all praise, and their cheery persistence, in spite of chronic bankruptcy, an inspiring stimulus to all workers associated with them. The pleasing delusion that hospitals are better insolvent than solvent has done incalculable harm in crippling the progress demanded by the advance of medical science, and preventing the extension commensurate with the increase of population. Attempts to galvanize public interest in subscribing have been instituted in the shape of Hospital Sunday Funds, founded about 1870, limited to one Sunday per year, and the Hospital Saturday Fund, since 1874; but the sums raised by every method fall far short of requirements, and quite 50 per cent. of receipts appear to be made up from the very uncertain source of legacies and endowments.

In 1913 the total available sums at the disposal of the four large general hospitals in Liverpool—the Royal Infirmary, the David Lewis Northern, the Royal Southern, and the Stanley—was short of £70,000, making it about 1s. 9d. per head of the population of the city per annum, leaving out of consideration the population of the large area which sends patients (North Wales and South-West Lancashire).

Through financial stress, the introduction of a system of payments by patients of small sums for dressings and medicines and a special charge of a sum each week towards cost of maintenance to cases from a distance, have been the unfortunate means of causing a distinct alteration of the old time feeling of gratitude for services freely given previously without any cost; and a distinct ascension up the social scale of patients presenting themselves, and letters occasionally received from country patients stating that "the writer understands that if he pays a few shillings per week to the hospital he can get the operation done for nothing," indicates the sender's commercial value of the services almost demanded.

The great world upheaval at present taking place has caused every one to take stock, and in looking backwards it is noticeable that Parliament during the last thirty years has been busy legislating to provide more and more work for voluntary hospitals, without any attempt to relieve their finances or assist in providing additional accommodation and extension.

The Employers' Liability Act and the Workmen's Compensation Act threw a large volume of work on the hospitals. The employment of men depended on their being whole or sound, or being made so, and all accidents were expected to be dealt with by the charities.

Insurance companies quoted terms for exemption against claims—of course, counting on the humanity of voluntary hospitals to treat patients without cost of maintenance or medical services, so that these items did not need to figure in any bill of costs—hence low premiums; whereas if an injured workman were taken to his own home, both items would be taken into consideration in awarding compensation.

The great parliamentary juggle of promising medical

attendance under the Insurance Act, and literally dumping the serious medical and all surgical cases on the charities, made them the real dispensers of the "refreshing fruit" so freely promised to the needy.

The Education Act appointed salaried medical officers to ferret out all cases of illness and defects in the children. Their work is very efficiently performed, but, alas! the powers conferred upon the local authorities to deal with the treatment were only optional, and the majority of such bodies have not availed themselves of them.

The new Education Act just passed makes these powers compulsory, and it is much wider in its application, and extends to all schools, and to a greater age; and lastly, one must add, the recent action of the Pensions Ministry, having promised medical and surgical treatment to discharged sailors and soldiers, expects the voluntary hospitals, which have already freely granted beds for wounded soldiers and thus greatly reduced the available space for civilians—previously inadequate—to find the beds, when the congestion has been so marked for many years.

The sum of all these demands, coupled with the unsatisfactory state of the Poor Law hospitals, has brought the hospital problem acutely forward, and has made it clear to the most casual observer that the charities as at present equipped in beds and staff cannot cope with the situation unless aided in a very material manner. Whether some of the voluntary hospitals as at present organized can be continued in the future depends entirely upon the charitable public; or whether by the "pooling" of funds, some large central hospitals with increased accommodation and extensive developments in keeping with modern requirements of teaching, research, and special departments is possible can only be determined by the ventilation of the question and ascertaining the wishes of the interested bodies and the desires of the subscribers; the question of transport being so easy nowadays with motor ambulances renders distance of little moment to the patient. Public opinion is being rapidly stirred up to realize that a great extension of the hospital system is needed, and endeavours are being made at "reconstruction" under the banner of a Ministry of Health.

That this question has not been very acute before is largely due to the members of the medical profession, who, owing to the rapid development of the art and science of surgery since the days of Lister, have been able in the last thirty years to increase enormously the number of patients dealt with per bed per annum.

I find that in 1883 in the Royal Infirmary one operation theatre for surgical cases was found to be sufficient for the purpose, and one operation afternoon per week was almost enough to deal with the work—the number of operations for that year was only 420, and the surgical staff 4; whereas in 1913 (the year before the war) three operation theatres were in use by a staff of six surgeons, and the operations (not counting out-patient work and special departments) were nearly 2,000—possible only by advanced surgical methods, and the much greater demands on the honorary staff. Increasing work, increasing demand for beds, increasing difficulty of obtaining subscriptions, and increasing balances on the wrong side, have combined to draw serious attention to the general situation—hence the anxious faces and perturbed minds of hospital authorities and honorary staffs; and it appears to me to be very important at the present time, when a Ministry of Health Bill is in process of being drafted, that their united voices should be heard, and their opinions sought by, or brought to the attention of, the powers that be, so that they can have some effect in moulding developments.

The medical profession is noted more for the number of its units than its unity of purpose, and we are more apt to squander our force in squabbling about details than in enunciating broad outlines when legislation is mooted; and skilful Ministers and ardent politicians have in the past been able to play off one section against the other, and carry out unsatisfactory measures.

The Ministry of Health is to be called into existence, fifty years after the medical profession had suggested it, to bring order out of chaos, and to try to concentrate in one Ministry all the departments and subdivisions of departments which at present interest themselves in small fragments here and there of the national health.

A much amended and improved Insurance Act may be able to deal with domiciliary treatment, but the hospital



question is a great difficulty, and possibly some combination of large modern Poor Law hospitals with the voluntary charities may offer a partial solution of the difficulty, but a material increase in accommodation will be necessary to effectively meet the demands for hospital beds.

The lay committees of the voluntary hospitals, through the British Hospitals Association, are moving in the matter, but there does not seem to be that interest taken by the medical staffs that is warranted by the position of affairs. The Colleges of Physicians and Surgeons and the Royal Society of Medicine have appointed a committee to consider and report, but it appears to be so urgent and important a question that the hospital physicians and surgeons of the country should take an active interest in the matter forthwith.

Much as many of us may dislike any alteration in the voluntary hospital system, we must not be blind to the fact that the State and municipality have already taken in hand the treatment, by salaried medical officers, of infectious diseases, tuberculosis, venereal diseases, antenatal affections, maternity cases, baby welfare, etc., so that the possible enlargement of that assistance (already acknowledged and acted upon by the medical profession) will only be an extension to other diseases.

Any drastic change into a State medical service will hardly appeal to the British democracy, who have not shown any great love for bureaucracy; such a possibility fills many with anxieties. The possible transference of the administration of hospitals from the hands of gentlemen who have devoted their lives to the self-imposed task, to committee of town councils, composed of members elected in the first instance on account of some special popular political creed, and liable to be changed every few years by the swing of the political pendulum, might do harm, and go far to destroy that public confidence in institutions which had established traditions and a good name—elements that go far, and are indeed important factors in the mind of sick persons and their friends, and conduce largely to their happiness and recovery. It will, I hope, be possible to retain the services of present expert lay committees in any new proposals.

Public funds might be available to enable necessary developments—particularly for increased accommodation and laboratories with their staff—in teaching centres, under joint State, university, and hospital control. To still keep up local interest and pride, the Treasury might give a sum equal to local municipal and private contributions. With increased funds and a larger number of beds clinics might be established with chief physicians or surgeons, with graded assistants, devoting a definite amount of time daily to teaching, research, and treatment; in other words, taken together with laboratory assistance, of a skilled "team" under the control of the "chief" for high class scientific work.

The great difficulty in the past has been in retaining in hospital service young men of promise. It will be necessary to remunerate them according to the nature of their duties, but in any case a living wage is essential to enable them to work enthusiastically and develop their powers, without the chilling depression of deficient means or the necessity for a too eager stampeding after private practice.

The Board of Education has realized that medical education is technical education of great importance to the State, and has been making grants to medical schools and teaching hospitals; an extension of this method is all that is needed.

By this system of work and training we should be preparing future physicians and surgeons for a scheme of decentralization, by means of which could be established in county towns and small boroughs hospitals efficiently staffed by physicians and surgeons devoting themselves to medicine and surgery in its higher walks only, in close co-operation with the medical profession of the district. It would be necessary to appoint them at a salary varying in amount according to the duties expected of them, but always responsible for the medical and surgical cases in the hospital and the supervision and direction of laboratory work, which would be available for the use of the medical profession of the district. They would be obtainable for purely consultative work under definite, agreed arrangements.

Medicine and surgery are hard taskmasters, and it is becoming impossible to combine general practice with the part that a physician or surgeon should efficiently fill.

Such institutions could be made the centres for medical and surgical discussions and progress for the whole neighbourhood, the clinics being available to all medical men for post-graduate work and research. This decentralization would provide appointments and opportunities for well-trained young men, and good work would soon demand their transference to more responsible posts in large centres associated with teaching schools and universities. At present the hospitals in the large towns relieve the country districts of their obligations towards their own needy sick without recompense.

The suggested scheme just outlined would offer a definite system of training in the higher walks of the profession which we have hitherto lacked. Take the case as at present—in surgery.

To obtain a high diploma in surgery—a necessary qualification for most surgical appointments—a candidate can present himself for the final examination without having been a house-surgeon under an acknowledged teacher, or even a house surgeon at all, or producing any evidence of having performed a single operation on a living patient. However expert he may have proved himself in surgical gymnastics on partially shrivelled and pickled material in the class of operative surgery, it is very poor training for dealing with living patients with blood in their vessels; yet, should he obtain his diploma, and a surgical appointment follow, he may be called upon to deal with complicated and serious emergency operations the very next day. We must all realize that this is not ideal, and it is interesting to note that our American friends have made their Fellowship depend upon a long term of real training in the craft as well as the science of surgery, and we cannot do better than take that leaf out of their book when we proceed to reorganize medical education, a preceeding long overdue.

Public funds being utilized for equipment and extension of hospitals will lead to an effort of standardization in methods, efficiently recording of all cases in detail, and a levelling up in matters of aseptic technique; we work too much in water-tight compartments, and are in danger of being auto-intoxicated—a condition of self-satisfying narcosis which is not conducive to scientific progress. Under a broadened basis a spirit of emulation would be fostered, to the great advantage of all concerned, and particularly in the interest of the patient.

In large centres of population hospitals might be graded into classes:

1. For acute and subacute medical and surgical cases with a quick evacuation rate.
2. For more chronic types of disease.
3. For convalescents.

The first type would require a larger relative number of staff to patients than the others.

The convalescent hospital has not been sufficiently developed in this country, and offers great scope for quickening recovery if placed at some little distance from the congested centres of large towns where most general hospitals are placed. The expense of building and equipment need not be great. This war has demonstrated the utility and efficiency of buildings of a very simple type as hospitals, and the large sums expended in hospital construction in the past need not be emulated. Out-patient departments (as distinct from the casualty room) should be available *only* for patients sent by medical men. This has, I know, been largely the custom, but should be made more completely so, enabling the sufferer to be guided by the practitioner to the hospital most suitable for his condition.

These suggestions are offered more with the intention of stimulating your interest in the matter than as a definite scheme; for among the problems of "reconstruction" after the war the hospital difficulty must be met, and the free expression of opinions, from all points of view, will do much to clear the ground for the reorganization and development that is inevitable, and if this object is attained I hope that my little contribution will not have been in vain.

#### REFERENCE.

<sup>1</sup> Vol. IV. 1834, p. 1609.



## THE END CROWNS ALL.

The whole earth is at rest, and is quiet. For the Lord of hosts hath purposed, and who shall disannul it? and His hand is stretched out, and who shall turn it back?

They that see thee shall narrowly look upon thee and consider thee, saying, Is this the man that made the earth to tremble, that did shake kingdoms: that made the world as a wilderness, and destroyed the cities thereof: that opened not the house of his prisoners?

THE British nations draw breath as a runner who has won the race. It has been hard and long, and there is no one among us who has not his own grief, and from many a man and woman the shadow can never pass. We have escaped the extremity of suffering that France, Belgium, and Serbia have endured, and our hearts go out to them in their great task of raising up the desolation and repairing the waste cities. We ourselves have tasks in the coming days which call for the same qualities of courage, energy, and endurance as have been shown during these last years.

British medicine can look back with pride on the part it has taken in the war and the share it has had in the winning of it. By an appeal to results it is justified before the nations. The old diseases of the armies have been stopped, the new have been held in check; to the wounded has been brought instant and sustained relief. The principle by which it has been guided is not new but it can never grow old, for it is "ever to search out and study the secrets of Nature by way of experiment." But the profession has been hard pressed for men at home, in the Dominions, and in every colony and dependency. Canada, Australia, New Zealand, have not only given great medical services to their own contingents, but have found means to help the home forces, and at more than one time of special strain generous aid was given by the profession in America.

The return to civil medicine must be gradual, but the principle governing medical demobilization will be that those who have served longest shall return first.

## British Medical Journal.

SATURDAY, NOVEMBER 16TH, 1913.

### THE MINISTRIES OF HEALTH BILL.

LORD RHONDDA, who gave the impetus which brought the proposal for a Ministry of Health within the scope of practical politics, declared it a matter of so great urgency that it ought to be dealt with even during the continuance of the war. Fate has decreed that the bill for its establishment should be introduced into Parliament at a moment which makes it the first measure of reconstruction. Whatever criticisms the scheme embodied in it may have to meet, we may heartily congratulate the Minister of Reconstruction on having worked quietly through all the anxieties of the last year, gathering opinions from many quarters, so that when the parliamentary opportunity came he was ready with his measure.

The difficulties in the way were not small. The first was due to the large number of ministries concerned with health administration, each having its own independent relation with local authorities. The second was the necessity of dealing in some way with the Local Government Board, which is less a ministry than a congeries of departments for the central control of local government in all its aspects. It includes a public health branch, which, owing to circumstances that reflect no honour on the politicians or civil service of the day, started badly, and has remained in a subordinate position, so that in spite of the work of many distinguished men who have been at its head it has not had the power to exert direct influence on the policy of the Board, and has been far too much dependent on the personal bias of the Minister and the power of the chief medical officer to interest him in health matters. A third difficulty arose out of the fact that the Board is the central body responsible for Poor Law administration. The unhappy traditions of that branch of its work account for much of the unpopularity incurred by the Board.

The bill avoids rather than meets the major difficulties, but to get it into right focus it is necessary to remember that it professes to do no more than make a beginning in the task of establishing Ministries of Health for England and Wales and for Scotland. "a first instalment," as Dr. Addison said in introducing it, "of the legislation needed to render it possible to achieve real progress in improving the health of the people." The ideal set up is that the Minister of Health shall be empowered to take all possible steps to secure the effective carrying out and co-ordination of measures conducive to the health of the people, including the prevention and cure of diseases, the treatment of physical and mental defects, the collection and preparation of information and statistics relating thereto, and the training of persons engaged in health services. (Clause 2; the Bill is printed in the SUPPLEMENT.)

This is a very wide sweep of duties, and though Dr. Addison was careful to say that the bill does not provide medical treatment for any individual, yet if the duties of the Minister are to include "the cure of diseases" and "the treatment of physical and mental defects" there seems no doubt that he will have power in the future to set up some form of state medical service, including the maintenance and provision of hospitals and laboratories.

The scheme sketched in the bill contains great possibilities, but its success must depend largely upon the spirit in which it is carried out, and we have every hope that in the hands of Sir Auckland Geddes this spirit will be one with which the medical profession can be in full accord. No scheme, however good in conception, can succeed if it is framed on bureaucratic lines; the only scheme which can succeed is one devised under the active guidance of the profession and commanding its sympathetic approval, so that every medical man and woman may feel confidence in the Ministry of Health. The medical profession must be consulted in the planning and execution of any health policy: three widely representative bodies—the British Medical Association, the Joint Committee of the Royal Colleges in London, and the Committee of the Royal Society of Medicine—have



met in conference. They are agreed on basic principles, and it should be generally understood that in this matter the profession has its own mind and must be heard.

The scheme of the bill embodies one principle to which the medical profession attaches first-rate importance: consultative councils are to be set up as part of the machinery of the Ministry. A consultative council will advise on the administrative orders and instructions of the Ministry, report to the Minister on subjects referred to it by him, and also on its own initiative make recommendations to him. The members of the Council will actually be appointed by the Minister, but it is essential, as far as the medical consultative council is concerned, that its members shall be nominated or recommended by the profession itself. Machinery has been devised for enabling the members of such council to be recommended by the profession for the Minister's acceptance, and this machinery has already met with a considerable amount of approval.

Another important principle embodied in the scheme is that it will be one of the duties of the Minister to collect and prepare information and statistics relating to health. Under the direction of a succession of able superintendents of statistics, the Registrar-General's department has collected and interpreted the statistics as to the causes of death in a manner which has taught many valuable lessons and has reflected great credit on the department of science which deals with these matters in this country. But not as much can be said for the method in which statistics of disease have been handled, nor for the energy and resource displayed in the "preparation of information," which implies not only the collation of the results of pathological, clinical, and epidemiological researches, but also their institution and continued prosecution.

The bill, following the precedent of much recent legislation, leaves a great many of the most important reforms to be carried out subsequently by administrative action. It provides at once for bringing under one Minister the Local Government Board, the Insurance Commissions for England and Wales, the duties of the Board of Education with regard to mothers and infants, the duties of the Privy Council with regard to midwives, and those of the Home Secretary with regard to the protection of infant life embodied in Part I of the Children Act, 1908. The bill does not affect Ireland, but it provides for setting up a Board of Health in Scotland, to be responsible to the Secretary for Scotland, and for bringing into it the different Scottish health services in the same way as England.

This ends the enacting part of the bill, but powers are given by Order in Council to transfer to the Health Ministry other health duties. The powers and duties so to be transferred are those of the Board of Education as to the medical inspection and treatment of children and young persons; all the health duties of the Ministry of Pensions as regards the treatment of disabled officers and men; and all or any of the powers and duties of the Home Secretary with regard to lunacy and mental deficiency—that is, of the Board of Control. Power is taken also to effect transfers by Order in Council from the Minister of Health to another Government department. The bill does not directly affect the functions of local authorities.

Dealing with the strong objections which have been expressed to the inclusion of the Poor Law duties of the Local Government Board in the Ministry of Health, Dr. Addison affirmed that the bill by no means fixed any Poor Law taint on the different

services mentioned, and he went on to give the expected Government undertaking that it accepted the principle that all services relating to the care and treatment of the sick and infirm should not be administered as part of the Poor Law, but as part of the general health services of the community. The Government undertaking went further, inasmuch as it specifically stated that the Government regarded it as a matter of urgency that effect should be given to this as soon as possible. It was also said that the Government accepted the principle that the remaining functions of the Poor Law authorities should be transferred to other bodies, but no precise proposals were formulated. The apology, indeed, for the incomplete character of the measure was that the whole matter was so vast that it could not be dealt with at this time, and that in particular many years of steady effort would be required wholly to disentangle Poor Law administration, and to bring about the reforms desired. It was, however, stated further that the Government recognizes its responsibility for making proposals on these subjects as soon as the exigencies of the parliamentary situation permit of their being dealt with. Meanwhile, however, it was considered that it would be improper to postpone the consolidation of other health services until this could be accomplished.

The Government has announced that it does not hope to be able to proceed with the bill this session. Weighted as it is by the inclusion of the Poor Law branch of the Local Government Board, it cannot be reckoned an uncontroversial measure, in spite of the declaration that the Government regards reform of the Poor Law as an urgent matter. Moreover, criticism of the inclusion in the Ministry of Health, even as a temporary expedient, of various other departments of the Local Government Board, such as those concerned with electoral lists, the regulation of elections of local authorities, light railways, the use of traction engines and motor cars, and the supervision of fire brigades and public libraries, may not be wholly stilled by the undated promise to transfer to some other Government department those other branches which will be incongruous in a Ministry of Health. It is, however, all to the good that the scheme should have been made public now, since it affords a definite basis for discussion during the period that must elapse before a bill can come before the new Parliament.

We are not convinced of the necessity of identifying the Health Ministry with the fabric of the Local Government Board. The Health Ministry needs a new and free atmosphere in which to develop the future health policy for the nation, away from the trammels of an old Government department. Why should not the thinking department—the General Staff—of the new Ministry be separately housed and circumstanced, with, as a beginning, the Registrar-General's department attached to it? This would make an excellent start, for the Registrar-General's department, developed and extended, would constitute the Ministry's intelligence department. Then later, as occasion showed that it was wise, the Ministry could gradually gather into it the health services belonging now to the various Government departments.

## WAR INJURIES OF PERIPHERAL NERVES.

EARLY in the war it became evident that there was much to be learnt as to every aspect of the treatment of injuries of the peripheral nerves. There were few reliable criteria for recognition of the pathological state underlying a given clinical picture; there was



no consensus of opinion as to the phenomena calling for operation, nor for the optimum interval between injury and surgical intervention; nor as to the proper methods of dealing with the various types of lesion. Prognosis, in the unaccustomed presence of sepsis, was little more than sanguine guesswork. There were, in fact, few, if any, observers who had clinical material enough to formulate directions worthy of universal acceptance. Nor was it in the field of surgery alone that differences of opinion existed. The whole range of physical, electrical, and manipulative treatment was employed as opportunity offered, without well established ideas of the physical and physiological effects upon damaged, nerveless, and poisoned tissues.

All this was largely inevitable, but the dawn of a new state of affairs is heralded by such contributions as that we publish this week by Captain Burrow and Lieutenant Carter,<sup>1</sup> which is based upon a thousand cases; and by the series of articles appearing elsewhere in the medical press—those, for example, in the new number of the *British Journal of Surgery*. Indications are abundant that great advances have been made, and that the time is approaching for the formulation of general principles upon an authoritative basis.

It has become clear that in this department, as in others, one of the most important desiderata is an association of effort which, perhaps unfortunately, has come to be spoken of as "team work." Team work at the front means work by associated individuals whose exact functions are so practised and defined as to accomplish a maximum of efficient work in a minimum of time. At home, in dealing with problems such as that under consideration, it should rather be an association of departments without too much insistence on individual members, although it is obvious that certain individuals should have opportunities for great personal experience. In this matter, as elsewhere, there is urgent need for the closest co-operation between the physiologist, the neurologist, the psychologist, the pathologist, the surgeon, the directors of the physical, electrical, and massage departments, and for nursing at its most intelligent level.

It is impossible here to do more than allude to a very few of the directions in which progress has been made. Diagnosis is improving more or less in proportion to the wealth of material available. Souttar and Twining<sup>2</sup> have pointed out that more is to be learnt from consideration of rough monthly charts of a given case than from a single examination however elaborate and minute. The significance of signs and symptoms, of the many varieties of sensation, of the escape or involvement of particular muscles, of the meaning of electrical reactions, of trophic and vasomotor indications, is beginning to be better understood.

Prognosis has always been difficult, for there are many unknown quantities: but there is great promise in the increase in knowledge of pathology of divided nerves;<sup>3</sup> of the possibilities of regeneration in young nerve fibrils, distal and proximal; of their behaviour in scar tissue, their tendency to follow vessels and vascular channels; of the establishment of central connexions; and of the value of indications of early recovery in estimating a final result. Similarly, there seems to be some sort of agreement as to the value

of the various electrical responses, but it is to be noted that Burrow and Carter have not found condenser discharges of great use. The recovery period seems to vary from about seven to twenty months, clinically, and Cone, judging from the histological standpoint, states that both ends are "ready to unite before the end of eight months."

The peculiarities of particular nerves are now more distinctly known.<sup>4</sup> The musculo-spiral, almost entirely motor, offers good prognosis after suture, possibly because the chances for motor fibres to find a "motor" path are practically cent. per cent., whilst in mixed trunks such as the ulnar the chance may be as little as 50 per cent. "Recovery of the ulnar nerve," says Souttar, "is a slow and uncertain process," and he adds this significant remark: "To many people 'an ulnar nerve is a luxury rather than a necessity' . . . to the majority the loss of the ulnar nerve is a matter of no importance." To those, on the other hand, who make separate and delicate use of their fingers "it is probably an injury past repair." The median holds a position somewhere between the musculo-spiral and the ulnar. The sciatic, division of which has long been known to entail little disability that cannot be alleviated by simple mechanical appliances, is made up of external popliteal fibres which resemble the musculo-spiral in their general behaviour, and the internal which correspond in character to the median. The modifications of operative technique have been in the direction of simplification. There is little doubt that direct end-to-end suture is the one really trustworthy operation, the various forms of graft and implantation giving at the very best only imperfect results, and frequently none.

#### DEMobilIZATION AND RECONSTRUCTION.

The scheme of reconstruction explained by Dr. Addison in the House of Commons on November 12th gives evidence of much patient preparation. It aims at the restoration of trade and industry as rapidly as possible, and at better methods of production and conditions of life. Medical demobilization will, as already explained, be regulated by the special conditions of the profession. The fundamental principle to be followed in general demobilization is that it shall be governed by industrial requirements and broad social conditions. To advise the Minister of Reconstruction a council of men and women of mature experience and distinction in affairs has been appointed. It is divided into five sections, and the chairman and vice-chairman of each are to meet, as a rule, once a week to advise the Ministry informally on any points of difficulty that may arise in the daily work of the department, and to suggest convenient methods for approaching questions of great complexity and importance. Most of the sections have several special committees. A women's advisory committee will meet regularly, under the presidency of Lady Emmott, to give the Ministry advice in connexion with questions affecting the position of women. Mr. Lloyd George, in addressing a meeting of his Liberal supporters on November 12th, appealed for the prosecution of bold land and housing programmes. The housing problem is very urgent; its solution is being delayed by the shortage of building materials and of workers in all the many departments of the trade. One of the committees set up by the Ministry of Reconstruction is to deal with building, and, in the event of the supply of material or labour being insufficient, to lay down the principles and methods by which priority of various claims should be settled.

<sup>1</sup> Lie Fleming Burrow and Carter: Investigations upon 1,000 Consecutive Cases of Peripheral Nerve Injury, p. 515.

<sup>2</sup> Souttar and Twining: Injuries of Peripheral Nerves, *Brit. Journ. Surg.*, vol. vi, p. 279.

<sup>3</sup> Cone: Surgical Pathology of the Peripheral Nerves, *Ibid.*, vol. v, p. 321.

<sup>4</sup> White: Notes on 50 Cases of Injury of the Peripheral Nerves, *Ibid.*, vol. iv, p. 607. Gwynne Williams, *Ibid.*, vol. vi, p. 315. Kennedy, *Ibid.*, vol. vi, p. 317.



# ANTE-NATAL AND CONGENITAL SYPHILIS.

Though it is beginning to be realized that the wastage of infant life in the ante-natal and early post-natal periods due to syphilitic infection is serious—it is calculated to be from 20 to 30 per cent. of the total mortality of these periods—only isolated attempts in preventive therapeutics have been made. Dr. John Adams, F.R.C.S., gives elsewhere in this issue (p. 541) an account of a scientific scheme of routine treatment. The guardians of the City of London Union have equipped a portion of Thavies Inn for the treatment as inpatients of a certain number of pregnant women suffering from venereal disease. Work was begun in September, 1917, with twenty beds, under the charge of Dr. Adams, whose enthusiasm and energy have made the experiment so far successful that it cannot fail to be imitated throughout the country. Every case is investigated clinically and bacteriologically, the huetic reaction (Bordet-Wassermann) of the mother is tested by Dr. Stansfeld of St. Bartholomew's Hospital, both on admission and after delivery, and that of the child at birth and at intervals afterwards. The mother is treated by intravenous injections of galyi or novarsenobillon, and mercury is also given by the mouth or by intramuscular injections. The infants are given intramuscular (gluteal) injections of galyi in glucose. All the mothers admitted had syphilis in the primary or secondary stages, so that the infection was in the active virulent phase. Owing to the limited accommodation no mother could be admitted until the sixth month of pregnancy had been reached. Down to that time, therefore, infection had been progressing unhindered by treatment. Doubtless, in the case of many other mothers similarly affected the ova had failed to reach that period of gestation. The child, when deprived suddenly at birth of the benefits derived from the injections given to the mother, and of any added influence of the chorionic ferments, as suggested by Dr. Amand Routh, becomes increasingly subject to the activity of the syphilitic virus, but Dr. Adams thought it best to wait seven to ten days before beginning to give the injections of galyi in glucose. The results of his treatment as regards the children are stated in his paper. Even if some of the children apparently cured should later on become clinically syphilitic with a positive reaction, Dr. Adams has proved at least two valuable points. The first is that even when the treatment of pregnant women, in the primary or secondary stages of syphilis is begun as late as the sixth month, and the surviving children, whether the reaction in them is positive or negative, continue under treatment, the majority become apparently healthy, and gain weight normally; in two to four months the reaction becomes negative and has not been observed again to become positive. The second point is that children of syphilitic mothers who have been under the influence of maternal intravenous injections of novarsenobillon during three months of intrauterine life, can safely be given relatively large injections of galyi in glucose without risk and with great benefit. Obviously an uncured woman, even though her child is apparently cured, should not pass from under medical treatment and supervision, and if again pregnant, should be readmitted for treatment, if possible, before the third month. Those in charge of venereal clinics are coming more and more to recognize the danger of insufficient treatment of all forms of venereal disease due to the tendency of patients to cease to attend when the more obvious symptoms abate, so that the cases cannot be followed up until cure is assured. The Local Government Board is endeavouring to have a proportion of available maternity beds reserved for venereal cases, and the success which Dr. Adams has obtained will do much to encourage general and lying-in hospitals to provide the special accommodation required. If means to increase the knowledge of venereal patients regarding their own personal danger in ceasing treatment too soon can be devised, the medical profession, whether engaged in general or special practice, will gladly co-operate.

# THE QUATERCENTENARY OF THE ROYAL COLLEGE OF PHYSICIANS.

A fortnight ago we published a report of the address the President of the Royal College of Physicians of London gave after the Harveian Oration, in the course of which he briefly recounted the story of the foundation of the College, and read a Latin letter of congratulation signed by sixteen Fellows of the College serving with the British armies in France. A reply has now been sent in the following terms:

Accipimus, O Socii, litteras vestras jucundissimas, pro quibus libenter gratias agimus.

Quod si graves Reipublicae vices, si clades nostrorum lacrimabiles, publicas nobis ferias interdicunt, si etiam convulsio Moratorum, ut ita dicamus, (Morbus dengat, licet tamen vobiscum paululum gaudere, licet Collegium nostrum, per quatuor saecula traditum, mirari.

Libet vero ex litteris vestris cognitum praecipue laudamus, quod vobis inter arma inter labores inter pericula collectis non deest tamen erga Collegium pietas, neque litterarum humanarum cultus.

Adsit utinam fusta illa dies, quum ad patriam ad domos ad Collegium redeuntes pacem cum honore referetis.

Valete!

Apud Lond. Frid. Kal. Nov., MCMXVIII.

The following is an English rendering of this letter:

Fellows of our College,

We have received your most delightful letter and gladly thank you for it. To us public holidays are forbidden by the grave vicissitudes our State has survived, and by the deplorable slaughter of our countrymen. Yet, true to the Good Companion, if we may name him, withholds his license from banquets, we would join with you a moment in joyful admiration of our College and its four centuries of tradition.

Most of all do we recognize and applaud the filial devotion to our College and love of the traditions shown in your letter, for it comes to us from amid the toils and dangers of warfare.

May that well-omened day come soon when you shall return to your country, your homes, and our College, bringing peace with honour.

Farewell!

London, October 31st, 1918.

# IMPERIAL WAR MUSEUM.

The Medical Director General has invited naval medical officers to assist in making the Naval Medical Section of the Imperial War Museum a success. Trophies and articles of almost all kinds, so long as they appertain in any way to the sick or wounded sailor or to the Naval Medical Service, ashore or afloat, during the war, are needed. As such trophies must necessarily be few in number, it is proposed to supplement them by photographs, paintings and models, illustrating the work of the Naval Medical Service, and in both respects it is hoped medical officers, sisters, and sick-berth ratings and others will interest themselves in sending trophies or offering to make or obtain specimens. Models of new and improved apparatus relating to treatment, transport, and sanitation would be of interest, and photographs would be not only of interest in themselves but of use in construction of models. Purely pathological specimens are not required for this section. Trophies should be sent addressed, O.H.M.S., c/o Curator, Imperial War Museum Store, 149, Lupus Street, Pimlico, S.W.1. They should be marked *Naval Medical Section*; a label should be attached, giving title, place of origin, and any other necessary information, with name and address of donor. A list, giving the same information, should accompany each consignment, and medical officers are invited to send in suggestions and write for further particulars, so that duplication should not take place. Communications should be addressed to Surgeon-Commander M. H. Knapp, R.N., c/o D.P.N., 23 Room, Admiralty, S.W.1, who has been appointed medical representative on the Admiralty Subcommittee.

We regret to record the death, on November 11th, of Sir Hermann Weber, F.R.C.P., in his 95th year.



## Medical Notes in Parliament.

### Ministries of Health Bill.

ON November 7th, under the ten minutes rule, Dr. Addison, Minister of Reconstruction, introduced "a bill to establish a Ministry of Health and a Board of Health to exercise in England and Wales and in Scotland respectively powers with respect to health and local government; and for purposes connected therewith." It was explained that the plural designation was used because the arrangements for Scotland are to be separate.

Dr. Addison recalled the origin of the measure, telling how he was asked by the late Lord Rhondda to take up the matter, and how he had consulted local authorities, medical men, and representatives of the great insurance organizations. He claimed that the proposals represented, save in some unimportant particulars, a common measure of agreement amongst those who had gone into the matter with him. It was agreed that vigorous health policy and efficient administration could not be obtained until in the first place the Government authorities now dealing with these subjects were consolidated. The main purpose of the bill was to bring together under one body of men and one Minister the chief Government departments concerned in matters affecting the health of the people. The bill did not provide medical treatment for any individual, nor did it affect the functions of any local authority of any kind. It would bring together under one Minister—

#### The powers and duties:

- Of the Local Government Board;
- Of the Insurance Commission of England and Wales;
- Of the Board of Education with regard to the health of mothers and infants;
- Of the Privy Council with regard to midwives;
- Of the Home Office for the protection of infant life.

Power was also taken to bring in, as and when possible:

- The medical inspection and treatment of school children now under the charge of the Board of Education;
- All the health duties of the Ministry of Pensions as regards the treatment of sick soldiers;
- The powers of the Secretary of State with regard to lunacy and mental deficiency.

These different powers were involved in various administrative arrangements which it would take some years, at least, to disentangle. A good deal of misapprehension existed as to this bill, but he could definitely say that the bringing together of the different services mentioned in association with the Local Government Board in no way fixed any Poor Law taint upon them. As matters stood at present under the Local Government Board, Poor Law was separated—there was no taint, for example, in the sanitary services of the local authorities, but as for the future, he was authorized to say that the report of the Local Government Committee, presided over by Sir Donald Maclean, on the transfer of functions of the Poor Law authorities in England and Wales, had been carefully considered by the Government, and the Government accepted the recommendation that all services relating to the care and treatment of the sick and infirm should be made a part of the general health services of the country instead of being part of the Poor Law administration, and the Government regarded it as a matter of urgency that effect should be given to these recommendations as soon as possible. The Government accepted the principle that the remaining functions of the Poor Law authorities should be transferred to other bodies. Those enthusiasts for a Health Ministry who held that the Government must wait until the Poor Law was reformed were thoroughly impracticable. The Poor Law would require many years of steady effort, both in the House and in connexion with administrations, wholly to disentangle, and meanwhile the necessary consolidation of important health services could not be postponed. The bill brought together in Scotland, in the same way as in England, the different health services under a Board of Health. The proposals did not extend to Ireland because Ireland would, as was hoped soon, administer her affairs herself. It was proposed to leave the position of the Irish Insurance Commissioners as far as possible unchanged. Provision was made, however, for the continuance of a Joint Committee similar to that now in existence representing the four countries with regard to financial matters in National Insurance. Another important feature of the bill was the provision of advisory or consultative councils as part of the machinery of the Ministry. This had been criticized in many quarters, but the existence of live

and healthy bodies of the kind would, he believed, have a very wholesome effect on administrative work, certainly in the development of the health services of the country. The functions of these advisory bodies would be defined in Orders in Council. "They are to deal," he said, "with matters referred to them by the Minister. They are to be able to make suggestions to the Minister as to subjects that may be referred to them. They are also on their own initiative to make recommendations to him." Thus, under the bill, the Government proposed to bring together all the important services concerned with health, and to bring under one Ministry the surveillance of all the local health services of the country. It was essential to take this step first, because the legislation necessary to provide for the full development of the health services of the country might be controversial, and certainly would be difficult and involved. Therefore it was necessary to take it in these two stages. Dr. Addison concluded his speech as follows: "I believe if we acquire the powers sought in this bill we may, for the first time in this country, be able to develop and ultimately to apply scientific, well thought out, and thorough health measures for the benefit of our people."

Mr. Hogge (Edinburgh, E.) opposed the bill on the ground (1) that it took away from the National Insurance Commissions in the three parts of the kingdom their existing rights and omitted Ireland; (2) that the new arrangement was to be associated with the Local Government Board and its Poor Law work; (3) that the unanimous demand in Scotland for a separate bill was not met; (4) that the great friendly societies and approved societies had not been allowed to express their opinion. He asserted that to introduce such a bill in the declining days of the present Parliament was mere window dressing.

Dr. Addison explained that he had consulted scores of representatives of authorities and of approved societies. The bill was then read a first time.

The names of the backers are Dr. Addison, Sir George Cave, Sir Auckland Geddes, Mr. Munro (Secretary for Scotland), and Sir Edwin Cornwall (who represents the National Insurance Commissioners in the House of Commons).

Sir E. Carson has put down a motion to reject the bill when it comes on for second reading on the ground of the exclusion of Ireland.

*Return of Medical Men from the Army.*—Sir Edward Cornwall stated, on November 13th, that in view of the armistice, negotiations were now going on with a view to bringing home medical men as rapidly as possible.

*The Medical Research Committee.*—Sir Edwin Cornwall stated, on November 7th, in reply to Sir William Collins, that the amount expended up to the present time by the Medical Research Committee amounted to about £247,000. Details were to be found in the annual appropriation accounts presented each year to Parliament.

*Women Doctors in Military Employment.*—Sir Philip Magnus asked Mr. Macpherson on November 6th whether, as women doctors in military hospitals discharged similar duties and received the same pay as men doctors, and were entitled to wear the Royal Army Medical Corps badge, he would take steps to rectify the anomaly of their being refused even honorary commissions, or leave to wear badges of rank which would be useful to them in maintaining discipline. Sir Philip also asked that they should have relief from income tax equivalent to that granted to men doctors under the service rate. Mr. Macpherson replied that he found, after careful inquiry, that it was legally impossible to grant commissions in the army to women. Legislation would be necessary. He should be glad to consider the question of granting marks of distinction to women among themselves. Sir Philip on this inquired whether Mr. Macpherson had any hope of being able to introduce the necessary legislation this session. He further asked whether the marks of distinction which it was proposed to give would enable women doctors or women surgeons to maintain the necessary discipline in order to carry out satisfactorily the work upon which they were engaged. Mr. Macpherson replied that he was consulting the Chancellor of the Exchequer as to legislation. With regard to marks of distinction, he personally was opposed to the utilization of the present system of marks of distinction for commissions. He should prefer the marks of distinction to take the form of such as were already given to administrators and directors of women's corps. Pressed further by Mr. Gulland on the subject of legislation, Mr. Macpherson said he had promised to state the case for and against to the Chancellor of the Exchequer. The question of remission of income tax of women doctors, he added, was purely one for the Treasury.

*The Control of Milk Supply.*—On November 7th Mr. Clynes said with regard to the Government scheme for the temporary control of the wholesale milk trade that an assistant commissioner for milk had been appointed in each of the six of the Food Commissioners' divisions, and progress was being made with the appointments for the remaining divisions.



# THE WAR.

## CASUALTIES IN THE MEDICAL SERVICES.

### ARMY.

#### *Died of Wounds.*

#### CAPTAIN N. H. LITTLE, C.A.M.C.

Captain Neville Hall Little, C.A.M.C., was born on June 24th, 1893, at Trenton, Ontario, and graduated in medicine at the University of Toronto in 1916. He came to England in April, 1917, went to France in July, 1918, and served with a general hospital until September, when he was posted to a field ambulance, with which unit he was serving when he received the wounds of which he died on October 29th.

#### LIEUTENANT D. W. SINCLAIR, R.A.M.C.

Lieutenant David William Sinclair, R.A.M.C., attached Royal Scots, was reported as having died of wounds, in the casualty list published on November 7th. He had only graduated M.B., Ch.B. Edin. in 1918, and joined the R.A.M.C.

#### *Died on Service.*

#### MAJOR D. BURROWS, R.A.M.C.

Major Donald Burrows, R.A.M.C., died at the War Hospital, Chester, on November 6th. He took the Scottish tripe qualification in 1902, after which he entered the West African Medical Staff. In 1903 he took the certificate of the London School of Tropical Medicine. He was district medical officer of Sierra Leone until he took a temporary commission in the R.A.M.C. last year, and had since been promoted to acting major.

#### CAPTAIN J. M. DOWNIE, R.A.M.C.(S.R.).

Captain James Maitland Downie, R.A.M.C.(S.R.), died at a British general hospital at Basra of pneumonia following influenza on October 29th, aged 25. He was the only son of Dr. Walker Downie of Glasgow, and was educated at the Universities of Cambridge (Christ's College), where he graduated B.A. with first class honours in the Natural Science Tripos of 1914, and Glasgow, and took the diplomas of M.R.C.S. and L.R.C.P. Lond. in 1916. After serving as resident house-surgeon of the Western Infirmary Glasgow, he joined the Special Reserve of the R.A.M.C. in 1916, and was promoted to captain six months later.

#### CAPTAIN T. R. GUILFOYLE, C.A.M.C.

Captain Thomas Reginald Guilfoyle, C.A.M.C., who died on October 29th, was born at Lucan, Ontario, on October 5th, 1892. He graduated in medicine at the Western University, London, Ontario, in 1914, and came to England in July, 1916, and served with a stationary and a general hospital in England until February, 1918, when he was invalided to Canada. He returned to duty in England in July, serving as S.M.O.

#### CAPTAIN C. H. V. SMITH, C.A.M.C.

Captain Charles Henry Vernon Smith, C.A.M.C., died on November 1st, 1918. He was born on July 15th, 1886, at Oxford, Ontario, and graduated in medicine at the McGill University in 1914. He came to England in March, 1916, and went to France in July and served with a general hospital and as regimental M.O. until December, 1916, when he was invalided to England.

#### CAPTAIN F. R. TICKLE, R.A.M.C.

Captain Frederick Ralph Tickle, R.A.M.C., died suddenly in London on November 6th. He was educated at Liverpool University, where he graduated M.B. and Ch.B. with first class honours in 1906. After acting as house-physician of Liverpool Royal Infirmary he went into practice at Southampton, where he was medical officer of No. 5 District, and public vaccinator of No. 4 District of the Southampton Union. He took a temporary commission as lieutenant in the R.A.M.C. early in 1917, and was promoted to captain after a year's service. While attached to the Rifle Brigade he was taken prisoner in the German advance last April, being returned as a prisoner of war in the casualty list published on May 13th, and had been repatriated only a week before his death.

### Wounded.

Colonel H. N. Dunn, C.M.G., D.S.O., A.M.S.

Major H. B. Graham, D.S.O., M.C., R.A.M.C. (temporary).

Major J. S. Levis, R.A.M.C. (temporary).

Captain T. L. Bomford, I.M.S.

Captain H. F. Brice-Smith, M.C., R.A.M.C. (temporary).

Captain J. R. Cameron, R.A.M.C. (temporary).

Captain A. R. Campbell, Canadian A.M.C.

Captain W. H. Ferguson, M.C., R.A.M.C. (temporary).

Captain L. H. Fraser, Canadian A.M.C.

Captain C. H. T. Iott, R.A.M.C. (temporary).

Captain N. H. Little, Canadian A.M.C. (since died).

Captain R. T. Raine, M.C., R.A.M.C. (temporary).

Captain E. Rogerson, R.A.M.C.

Captain C. H. Seville, R.A.M.C. (temporary).

Captain F. E. Sprawson, R.A.M.C. (temporary).

Captain W. B. Wilson, R.A.M.C. (temporary).

Captain and Quartermaster M. J. Morison, Canadian A.M.C.

### DEATHS AMONG SONS OF MEDICAL MEN.

Adair, E. S. B., died at the Warley Military Hospital, Essex, on November 5th, aged 18, son of Dr. E. W. Adair, Redbourne, Kirton-in-Lindsey, Lincs. He joined the Artists' Rifles in August at Romford, and succumbed to pneumonia following influenza.

Chapman, Earnest Herbert Stuart, acting Major Indian Cavalry, only son of Dr. H. F. Chapman of Richmond, Surrey, died abroad of influenza on November 1st, aged 33. He was born on March 6th, 1885, and got his commission first in the City of London Regiment, the Royal Fusiliers (7th Foot), on August 16th, 1905. He joined the Indian army on September 28th, 1908, when he was appointed to the 31st Duke of Connaught's Own Lancers, the old 1st Bombay Cavalry, became captain on August 16th, 1914, and acting major during the war.

Darwin, J. H. B., Lieutenant, Manchester Regiment, son of Surgeon-Major Darwin, medical officer Lancashire and Yorkshire Railway, reported wounded and missing at Cambrai on December 3rd, 1917, now reported to have died in hospital in Germany as a prisoner of war.

Dochard, Alfred Archibald, Lance-Corporal Motor Transport, Army Service Corps, only son of the late Dr. A. T. Dochard, and of Mrs. Dochard, of Blackpool, died of pneumonia after influenza at Salonica on October 23rd.

Edridge-Green, Henry Allen, Lieutenant Royal Welsh Fusiliers, attached Royal Air Force, only son of Dr. F. W. Edridge-Green, died at Castle Mount Military Hospital, Dover, November 5th, aged 24. He got his first commission on May 12th, 1915.

Girvin, Colin Bertram, Captain Royal Dublin Fusiliers, only son of Colonel Girvin, A.M.S., died at Catterick Camp, Yorkshire, November 4th. His first commission was dated September 22nd, 1914.

Guilding, Sydney Cecil Lansdown, Second Lieutenant Royal Field Artillery, only son of Dr. L. M. Guilding of Reading, died of influenza in hospital abroad on November 4th, aged 19.

Haydon, Nathaniel Maurice, Inns of Court O.T.C., fourth and youngest son of Dr. Edgar Haydon of Newton Abbot, died of pneumonia after influenza at West Herts Hospital on November 1st, aged 18.

Kelly, Cecil Godfrey, gunner, Royal Field Artillery, son of the late Dr. Bernard Kelly, killed September 27th.

Lundie, R. C., Captain (temporary Major), Royal Engineers, son of Dr. R. A. Lundie of Edinburgh, whose death in action we recorded in our issue of November 2nd, joined the Royal Engineers, Special Reserve, as Second Lieutenant in 1909, and was among the first batch of S.R. officers trained under Lord Haldane's scheme. He became first lieutenant in January, 1914.

Mallam, Clifford Angus, M.C., Captain Princess Charlotte of Wales Royal Berkshire Regiment, son of the late Dr. G. B. Mallam of Sparsholt, Berkshire, died October 29th, of wounds received the day before, aged 28. He was educated at Epsom College and at Keble College, Oxford, enlisted in the Public Schools Brigade in October, 1914, got his commission on May 26th, 1915, and went to France in March, 1916. He was adjutant of his battalion for two years, and had gained the Military Cross and a bar thereto.

Stephen, James Eliot, Lieutenant 3rd Buffs, and Punjabi Infantry, who has been reported killed in action, was the only son of G. N. Stephen, temporary Lieut.-Colonel R.A.M.C., B.E.F. On leaving school he was sent to Canada to complete his education in the open, and was to have returned at the end of 1914. Owing to the outbreak of the war his return was delayed until 1915, when he arrived as a private in the 1st Canadian Pioneers. From this battalion he was promoted a second lieutenant in the Buffs, and served with a battalion of that regiment on the Salonica front until the middle of 1916. He was then selected for service in India, where he was attached to a battalion of the Punjabi Regiment. Not long afterwards he was promoted lieutenant, and at the time of his death he was serving in the East Persia-Cordon Field Force. The date of the action in which he fell and its exact locality are not at present known. He was just 25.



Thorp, Austin, D.S.O., Colonel Royal Garrison Artillery, second son of the late Dr. Charles Thorp, medical officer of Tadmorden, killed October 30th, aged 45. He was born on October 23rd, 1871, got his first commission in the Artillery on March 4th, 1893, became captain on February 22nd, 1900, major on March 24th, 1914, and lieutenant colonel on December 8th, 1915. He had served four years at the front, had twice been mentioned in dispatches, and had gained the D.S.O.

*We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.*

## HONOURS.

THE following awards to medical officers, in recognition of "conspicuous gallantry and devotion to duty in the field," are announced in a special Supplement to the *London Gazette* dated November 1th.

### Bar to D.S.O.

Captain (acting Lieut.-Colonel) George Pritchard Taylor, D.S.O., M.C., R.A.M.C.

In arranging for clearing the wounded in the forward area during an attack he personally reconnoitred the whole area and arranged relay posts for the bearers, freely exposing himself in the front line to heavy fire while searching for wounded. Throughout the operations the wounded thanks to his personal zeal and devotion to duty, were cleared with remarkable rapidity. (D.S.O. gazetted January 1st, 1918.)

### D.S.O.

Major Frederick Neill Le Messurier, A.A.M.C.

He was continuously in the front line during both stages of an attack assisting in collecting and arranging for the prompt despatch of the wounded to the rear. He behaved splendidly, and by his untiring efforts and a complete disregard of his own safety he greatly assisted the brigade throughout.

Lieut.-Colonel Arthur Mitchell Wilson, A.A.M.C.

While in charge of bearer divisions during an attack he followed close on the heels of the infantry into captured villages, establishing bearer posts, and effected the evacuation of the wounded with remarkable rapidity. He worked splendidly throughout, and by his untiring devotion to duty saved a number of lives.

### Second Bar to Military Cross.

Captain James Alwin Colville Scott, M.C., R.A.M.C.

He attended to a very large number of wounded in the open, under heavy fire from machine guns and artillery, and it was largely owing to his skilful arrangements that the casualties were rapidly evacuated. Later on, while performing these duties, he was severely wounded by shell fire. Throughout the whole of the operations his courage and his example of self-sacrifice were worthy of high praise. (M.C. gazetted January 1st, 1917. Bar gazetted June 18th, 1917.)

### Bar to Military Cross.

Captain Frank William Fry, M.C., A.A.M.C.

He was in charge of motor ambulances during an attack, and before moving them forward he reconnoitred the roads at considerable risk in his car. He remained on duty continuously for four days, exploring each route and opening up new tracks for each successive advance. By his untiring zeal and devotion to duty he enabled the evacuation of the wounded of two divisions to be smoothly continued. (M.C. gazetted September 16th, 1918.)

Temporary Captain Arthur Wilmot Raymond, M.C., R.A.M.C.

During an attack a number of wounded men were on an exposed ridge in front, he went forward with his stretcher party, and, in spite of heavy machine-gun fire, pressed and evacuated them all. This incident manifested courage. (M.C. gazetted June 18th, 1917.)

Captain Alexander Frazer Wilson, M.C., R.A.M.C.

He attended to the wounded of a party which was caught in a sudden barrage of enemy high explosive and gas shells, working in the open under heavy fire. He succeeded in dressing their wounds and evacuating them to hospital. His coolness and disregard of his own safety were worthy of great praise. (M.C. gazetted January 1st, 1918.)

### Military Cross.

Temporary Captain Leo Blake, R.A.M.C.

During operations in connexion with a counter-attack he displayed great courage and skill in attending to the wounded at all hours of the day and night.

Temporary Captain Ferguson Fittou Carr-Harris, D.S.O., R.A.M.C.

During an attack he attended the wounded under heavy fire and organized bearer parties. It was due to his fine example under most difficult conditions that a large number of wounded were evacuated from "No Man's Land."

Temporary Captain Francis William Clark, R.A.M.C.

He dressed the wounded continually by day and by night, although his aid post had no cover except small banks, and he was constantly under heavy shell fire. His cheerful devotion to duty was a splendid example to all.

Temporary Captain Percy Selwyn Clarke, R.A.M.C.

After an unsuccessful attack he went out into "No Man's Land" and attended to many wounded, being exposed to heavy shell and machine-gun fire the whole time. His courage and coolness were a fine example to the stretcher-bearers working under him, and encouraged them in their difficult and dangerous task.

Captain Elmer John Dickinson, C.A.M.C.

He attended to the wounded, both on our own and those of our allies, in a first-aid post close to the enemy lines under heavy fire and mortar attacks. On two occasions enemy aircraft flying very low fired into the post, breaking the medicine bottles and causing casualties. He behaved with great coolness and courage, inspiring the men around him and keeping up the spirits of the wounded by his example.

Lieutenant William Aldridge Fraser, R.A.M.C.(S.R.).

For marked courage and untiring zeal in carrying out his duties under heavy artillery and machine-gun fire. He inspired all his staff by his energy in organizing parties to bring in wounded, thereby saving many lives.

Temporary Captain John Williamson Few, R.A.M.C.

During five days' hard fighting he was indefatigable in attending to the wounded, both in his bear-aid post under heavy fire to the regimental aid posts, arranging for the evacuation of casualties and maintaining the supply of medical necessities. His example of disregard of danger greatly encouraged his bearers and his efforts undoubtedly saved many lives.

Temporary Captain Frederick Waistell Hird, R.A.M.C.

He remained for two and a half days in a village that was being heavily shelled, and many houses of which were in flames and added to a very large number of wounded from our own and allied troops. When his aid post was set on fire he was indefatigable in his efforts to remove the wounded to a safe place. The excellent manner in which he organized stretcher parties under heavy fire undoubtedly saved many lives, and he set a splendid example to all who were working with him.

Captain William Joseph Lacy-Hickey, R.A.M.C.

He worked for two days and two nights, practically without sleep attending to the wounded in the front and organizing stretcher parties to evacuate the casualties. His work was carried out under the most difficult conditions, and he was under heavy fire the whole time. He set a very fine example of courage and endurance.

Captain Algernon George Rowley Lilford, A.A.M.C.

He remained at his post under gas shell and in a explosive bombardment which exploded gas shells near by. His cool example and energy caused the successful evacuation of patients and saved many lives.

Lieutenant Gerald Esmond MacAlevy, R.A.M.C.(S.R.).

For great gallantry and resource in evacuating casualties from rear aid posts under heavy artillery and machine-gun fire. Though frequently forced to move on account of hostile fire, he never lost touch with any of them, and it was entirely due to his untiring devotion that all the casualties were safely cleared.

Captain Donald Walter McCredie, A.A.M.C.

His battalion was practically isolated for two days, during which he tended wounded under fire. He continually crossed machine-gun swept spaces, all stretcher bearers had been shot down, and he was wounded. Throughout he showed untiring energy and devotion to duty, and by his fine conduct saved many lives.

Captain John Clark McCullough, C.A.M.C.

Under heavy shell fire, and at great personal risk this officer continued to attend to the wounded of his own and other units until he himself was seriously wounded. On previous occasions his fine work has resulted in the saving of many lives.

Captain (acting Major) George Mortimer McGillivray, R.A.M.C.

For conspicuous gallantry and initiative during an attack. As officer in charge of bearers he personally visited all regimental aid posts and maintained a continuous evacuation of casualties. He also, under heavy fire, led a bearer party to clear a wood of wounded. He behaved splendidly, and saved a large number of lives.

Captain Malcolm Archibald McKechnie, C.A.M.C.

He worked with untiring perseverance in evacuating the wounded from the field of action under heavy fire, until he was seriously wounded himself. It was largely due to his efforts and self-sacrifice that the casualties were so successfully and rapidly evacuated from the area.

Temporary Captain James Franklin McLay, R.A.M.C.

For great courage and devotion to duty in tending to the wounded under heavy shell fire. His conduct was worthy of the highest praise.

Temporary Captain Michael Murphy, R.A.M.C.

During an attack he worked continuously for thirty-six hours attending the wounded under heavy fire, and evacuated a large number of cases. It was due to his splendid energy that the evacuation of the wounded was so successfully carried out.

Captain John Millie Pringle, R.A.M.C.

He attended to the many casualties of two battalions, working in the open under heavy fire for thirty-six hours without rest. During ten days' hard fighting he was untiring in his efforts, and it was very largely due to his excellent organization in one locality that the wounded of two battalions were successfully evacuated. He set a splendid example.

Temporary Captain Daniel Falconer Riddell, R.A.M.C.

In tending to the wounded under trying conditions his skill and coolness under fire undoubtedly saved many lives.

Temporary Captain (acting Major) Gavin Stiell, R.A.M.C.

He went with a party of volunteers to an allied field artillery position which was being heavily shelled, the ammunition also of the dump in the vicinity exploding, as it was on fire, and supervised the dressing and removal of the casualties. He was quite regardless of his own safety, and worked with an energy and determination that undoubtedly enabled the rapid evacuation of the wounded to be completed. He was eventually wounded himself.

Temporary Captain Dennis Jeffcott Stokes, R.A.M.C.

After a shell had burst in his dug-out, killing or wounding all those present, he continued without any hesitation to dress the wounded, notwithstanding his exposed position and the enemy artillery fire. His cheerfulness and courage were instrumental in saving many lives.

Temporary Captain William Henry Sutcliffe, R.A.M.C.

When acting as ambulance bearer officer, he superintended the clearing of wounded under heavy fire, and successfully evacuated all casualties from the posts under very trying conditions. Though several of his stretcher-bearers were wounded, he kept in constant touch with the units in the line. His untiring devotion was a splendid example to the men.

Temporary Captain John Charles Wootton, R.A.M.C.

He attended to the wounded throughout the day, in spite of gas and heavy shell fire. On one occasion the roof of the aid post was blown in on the top of him. Later when his aid post was the furthest forward of any, he dealt with casualties under constant fire. His cheerfulness and confidence were an inspiring example to all.



# FOREIGN DECORATIONS.

A SPECIAL Supplement to the *London Gazette*, dated November 6th, contains a further list of awards conferred by the President of the French Republic for distinguished services rendered during the course of the campaign. The Légion d'Honneur, Croix de Chevalier, has been awarded to Lieut.-Colonel James Henry Hugo, D.S.O., I.M.S. The Croix de Guerre is conferred upon the following officers: Major-General James B. Wilson, C.B., C.M.G., A.M.S., Colonel Robert J. Blackham, C.M.G., C.I.E., D.S.O., A.M.S., Lieut.-Colonel (temporary Colonel) Alfred B. Soltan, C.M.G., A.M.S., Captain (temporary Colonel) S. Maynard Smith, C.B., A.M.S., Lieut.-Colonels Percy G. Brown, C.A.M.C., Ronald D. Campbell, D.S.O., A.A.M.C., Alexander B. Lyon, R.A.M.C., Alexander H. Marks, D.S.O., A.A.M.C., John Tobin, R.A.M.C., Majors (temporary Lieut.-Colonels) Reginald T. Collins, D.S.O., R.A.M.C., Valentine O. Stacy, A.A.M.C., Major (acting Lieut.-Colonel) Charles G. Thomson, D.S.O., R.A.M.C., Major Charles E. W. S. Fawcett, R.A.M.C., Captain (acting Lieut.-Colonel) Thomas B. Wolstenholme, R.A.M.C., Captains (acting Majors) John Dale, R.A.M.C., George S. Parkinson, D.S.O., R.A.M.C., Captains William P. Croker, R.A.M.C., William L. René Wood, M.C., R.A.M.C., temporary Captain (acting Major) Harold B. G. Russell, R.A.M.C., temporary Captain John L. Jackson, R.A.M.C., temporary Lieutenant (acting Major) Harold Goodman, R.A.M.C., Senior Assistant Surgeon and honorary Lieutenant Edwin V. Duckworth, I.S.M.D. The Médaille Militaire is awarded to 2nd Class Subassistant Surgeon Arjunlal Gagabhai Jotania, I.S.M.D.

The Sultan of Egypt has conferred the Order of the Nile, 2nd Class, upon Surgeon-General Sir James Maher, K.C.M.G., C.B., A.M.S., and that of the 3rd Class upon Lieut.-Colonel Hugh W. Thomson, R.A.M.C., for distinguished services rendered during the course of the campaign.

Major (temporary Lieut.-Colonel) Horace G. Pinches, R.A.M.C., has been awarded by the President of the Portuguese Republic the Red Cross Medal 2nd Class for distinguished services rendered during the campaign.

## England and Wales.

### CENTRAL LIQUOR CONTROL IN CARLISLE.

DR. HENRY BARNES, O.B.E. (Carlisle), writes:

In the *JOURNAL* for March 16th last (p. 327) I published some observations on the work of the Central Control Board (Liquor Traffic) in Carlisle, based mainly on the facts published in its annual report, but containing some particulars which had come under my own observation. Since that date many visitors interested in licensing reform have come to Carlisle to see for themselves the very promising results which have come about owing to the measures taken by the Board to control the evil effects of drink on the industrial population. In addition we have had visits from the editors of Canadian, American, Australian, South African, and Indian newspapers, who, under the auspices of the Ministry of Information, have been visiting the large munition factory recently established in the district, and at the same time availed themselves of the opportunity of personally investigating the steps taken by the Control Board to deal with the drink traffic. Sir Edgar Sanders, the General Manager of the Control Board at Carlisle, placed before these visitors a concise statement of what had been done in this country by means of the liquor restrictions. Much of what he said has already appeared in my previous communications to your columns, but the present seems a convenient opportunity of bringing the details of the work accomplished by the control of the liquor traffic up to date.

The general steps taken by the Board were to reduce the hours of sale of drink from seventeen or eighteen a day to five and a half, divided into a mid-day and evening opening. The mid-day opening was for two and a half hours, and the evening for three hours, subject to the limitation that spirits might be purchased for consumption off the premises only at the mid-day period on week days, excluding Saturdays. It was specially provided that licensed premises need not be closed for the sale of food and non-alcoholics during the pre-war opening hours.

Special conditions as to the distribution of intoxicants from vans and other vehicles were made, so as to ensure that delivery should only take place of what has been ordered and paid for beforehand. The practice of treating was prohibited, as also was the sale of drink on credit. The practice of giving the "long pull" was abolished. Compulsory dilution of spirits was provided for. Hitherto it had been permissible to reduce spirits to 25° under proof, subject to a further reduction to 50° under proof if a notice to that effect were displayed on the premises. At

first the dilution became compulsory to 25° and permissive to 35° without notice. This has now been extended to a compulsory dilution to 30° and permissive to 50°. These restrictions applied to clubs, hotels, and all other premises in which intoxicants were sold. In November, 1915, such an order was made for the Carlisle district, but an additional provision was inserted suppressing entirely the sale of intoxicants on Sundays.

These general restrictive measures have been followed by a reduction in the convictions for drunkenness in the scheduled area to less than one-third. The scenes of excess so prevalent at the commencement of the war have entirely disappeared. Few complaints arise from inefficiency of workers due to excessive drinking. This reduction in convictions applies both to males and females. There has also been a remarkable reduction in the deaths from diseases and causes usually associated with alcoholism.

It was in June, 1916, that it was determined directly to control and buy out all interests connected with the supply and sale of intoxicants in the Carlisle area. A special committee of the Control Board was formed to supervise the operations, and a local advisory committee of the magistrial and local government bodies with representatives, both male and female, of labour and other interests in the area was appointed to keep the Board advised on matters of local needs, feeling, and sentiment. Steps were taken to acquire the freehold of all the licensed premises (with the exception of one or two large residential hotels), the breweries, and business of the wine and spirit merchants, so that the whole of the ramifications of the trade might be vested in the Board.

Having obtained possession of the trade interests, the Board decided to prohibit the sale of spirits for "on" consumption on Saturday. Special provisions were made with regard to the sale of intoxicants to persons under 18. Grocers' licences were abolished. The pernicious practice of washing down neat spirits with beer was done away with. Advertisements regarding the sale of alcohol were suppressed. Special provision for the sale of food and non-intoxicants on licensed premises was made and a bonus given upon such sale. All private gain in connexion with the sale of intoxicants was entirely eliminated. The reduction of licences in the city was taken in hand, with the result that over 40 per cent. of those existing when direct control commenced have now been suppressed. Drunkenness and the offences and disorder arising from it have almost disappeared. Convictions for drunkenness have fallen from an average of thirty-three a week when the work began to less than two at the present time. The saving of the misery and degradation due to excessive drinking is generally acknowledged.

In addition to the restrictive measures enumerated above several public-houses have been converted into food taverns, where facilities exist for obtaining a properly cooked meal at a reasonable price. All classes of the community are catered for in these taverns, which are to be found in the poorest working-class district as well as in the best streets of the city.

In addition to the public-houses the Board have taken over the breweries. There were formerly four breweries in the city. Two have been closed, and are let for other purposes. One has been used as a centre for bottling beer, and equipped with modern plant. At the fourth all the beer required is brewed. In this way economical concentration has been possible. Similarly in the distribution and wholesale supply of spirits concentration has taken place by providing an up-to-date building adjacent to the bonded stores of the Board.

Within the last few days the accounts of the undertaking have been published and presented to Parliament, and they show that it has been possible to carry out these far-reaching reforms not only without financial loss, but with a considerable margin of profit to the State.

### LIVERPOOL MEDICAL INSTITUTION.

The eightieth session was opened on October 24th, when the President, Mr. Thelwall Thomas, delivered an inaugural address on the evolution of the voluntary hospital and its future, which is published at p. 547. The attendance of members was good, taking into consideration the numbers away on active service. There were also present medical officers of the United States army. The suggestive address was listened to with great attention



and its points appreciatively noted by the audience. Dr. Philip Nelson gave an interesting address on "stained glass," illustrated with lantern slides of cathedral windows. Afterwards the President entertained the members with a musical programme. Dr. Pethwick contributed a topical song which delighted his audience, as well as other items of vocal and instrumental music. To Dr. Livsey, who had the task of arranging the concert, a hearty vote of thanks was passed.

## Correspondence.

### VACCINES IN INFLUENZA.

SIR,—The question, Is Pfeiffer's bacillus the cause of influenza? is of far more than academic interest; it profoundly affects diagnosis, prevention, and treatment, and therefore is a very serious practical question.

My views are well considered and based upon a fairly careful practical inquiry extending over some years. I investigated many cases in two epidemics which had a superficial resemblance with striking differences, and according to my expectation I found Pfeiffer's bacillus in one epidemic and not in the other. In my experience a certain technique enables one to isolate Pfeiffer's bacillus with relative ease, if it be present. It is no more difficult than the isolation of diphtheria bacilli or Flexner's or Shiga's bacillus from material containing these organisms.

The constant presence of Pfeiffer's bacillus in typical influenza epidemics and its absence in the simple seasonal epidemics of catarrh, which rarely cause serious symptoms or sequelae, indicate an essential difference. When the bacillus is constantly present, either it is a cause or an effect; or both the bacillus and the disease are the effect of a third unknown cause.

In the present epidemic experts seem to express two views which are mutually destructive. Can the difference of opinion be due to a difference in technique? I suggest this explanation because I have been told that the isolation of Pfeiffer's bacillus is always a difficult business. My own experience tells me that this is not so if the bacillus is present. I am confident that I can pick out the influenza bacillus from hundreds of like colonies of streptococci and pneumococci, though I could not do this if I restricted myself to Pfeiffer's technique. In 1902, after spending some years in studying the influenza bacillus as a definite cause of mixed or secondary infections in pulmonary tuberculosis, I wrote:

Nevertheless, in very many cases, if one is ready for the opportunity, examination of the nasal or bronchial secretion may at once solve the difficulty (of diagnosis). Smear preparations may mislead all but the best experts; but the test by means of pure cultures on blood agar is of the greatest possible value. This is the simplest, most certain, and often the most delicate test of the real nature of influenza in the very early stages.

I demonstrated the method at the time. My scepticism is not lessened when I find that these experts, who doubt the part played by various organisms in the morbid process, have no scruples in recommending the use of so-called vaccines for protection and even for curative purposes. If there is some specific cause of unknown nature, whether a filter passer or other organism not yet identified, why suggest the use of dead cultures of influenza bacilli, pneumococci, or streptococci, or all of them in combination? Such practice is not consistent with scientific principles, and may discredit similar methods that do not offend these principles.

Let us first determine the essential cause of the disease, and till then let us keep our hands off vaccines. I know no certain evidence to justify the recommendation of any or several vaccines for the treatment of influenza, and the most that can be said of vaccines for protective purposes is that they are not likely to do any harm. For curative purposes I incline to the view that such vaccines would probably do more harm than good.

In any case, no knowledge we have at present justifies the use of the proposed vaccines in a general and indiscriminate way. Before this use of vaccines, even for prophylaxis, receives the approval of the profession, a definite experiment should be made under proper scientific control. This would involve a very laborious and prolonged investigation, and would probably show on other than

scientific grounds that the idea is sound neither in theory or practice. Indeed, in the public interest, it would be best that the Government should appoint a small commission to carry out such an important experiment under the strictest control. Thus we have further proof of the need of a Ministry of Health.—I am, etc.,

London, W., Nov. 11th.

W. CAMAC WILKINSON, M.D.

### MEDICAL LABOUR MEMBERS.

SIR,—You printed on October 19th an article of mine on the future of the medical profession; written from the point of view of a Labour candidate; and from various letters I have received I judge that it meets with considerable approval from the medical profession.

I now ask the hospitality of your columns to allow me to show why it would be wise for the medical profession to secure the return of at least one doctor Labour candidate in some one of the university seats where the doctors comprise a large proportion of the electorate.

University constituencies are quite special constituencies, with an electorate which is special among electorates in that the electors are mainly members of the learned professions. And it is entirely right and proper that in electing members for such constituencies, the legislative interests of these professions should be kept specially in view so far as these are not opposed to the interests of the community. In University elections, accordingly, medical politics must bulk largely.

Now, whatever our various political prejudices and sympathies may be, it would be wise for the medical profession to remember that the Labour party will have a great influence in shaping schemes which have a relation to the social welfare, whatever party is in power; and in the near future it is not unlikely that the influence of the Labour party may become dominant. The signs of the times almost point to this as a probable eventuality.

This being so, it is policy for the medical profession to endeavour to shape Labour medical politics from within. The views of the Labour party on medical politics are not yet determined. Its opinions on medical politics are as yet fluid. This condition, however, will not long continue, and a time will shortly come when a crystallization of its views will render its receptivity of the views of the profession less likely. The time to guide the Labour party is now. There is a distinct danger that this crystallization of its views may set in the direction of a crude "State medical service." There are influences at work tending in this direction.

Now, a doctor Labour member returned for a university constituency where the electorate is largely medical is in a commanding strategic position to guide the medical policy of the party he belongs to. My own and Dr. Dunlop's candidature for the Scottish universities offers this opportunity to the Scottish medical graduates.

If my own personality is not acceptable to the medical profession, I suggest the wisdom of their procuring the return of some other doctor Labour candidate at one of the university constituencies.

The Scottish universities afford the best chance, as the doctor electors comprise about 33 per cent. of the electorate; there are three seats, and the election is by proportional representation with the transferable vote, so that the doctor electorate could certainly return one candidate, and if they used their influence could do much towards securing the return of two.

So strong are my feelings on this matter, that did it seem clear that some other doctor Labour candidate would better unite the profession, I should be perfectly willing to give way to him; if this could be arranged, as apart from my views on medical politics I have no special parliamentary ambition.—I am, etc.,

Ouselea, York, Nov. 2nd.

PETER MACDONALD.

### THE INSURANCE ACT AND TUBERCULOSIS.

SIR,—I am sure that you will be fair to me and will therefore allow me to correct the false impression which your reference to my unpublished letter gives. You make me look on the recent rise in the tuberculous mortality as an isolated phenomenon. No one could guess from your note that I was appealing to history, and that I began by pointing out that 28,000 lives would have been saved in



1916 had the mortality continued to fall at the rate at which Gladstonian finance left it falling; that I have repeatedly—I fear *ad nauseam*—pressed the view that the rise from 1914 was but the culmination of a process beginning from 1897. In justice to me you will allow me to say that I have tried to view the phenomena as a connected whole from Sir Robert Peel's day onwards; and that I have laboured to trace the connexion between low prices—that is, high wages—and low death-rate.

The Local Government Board and the Registrar's Office both make what seems to me the mistake of viewing the rise as an isolated phenomenon. The former traces it to the prevalence of influenza, a theory which becomes untenable if the rise begins before its incidence and lasts after its subsidence. Dr. Stevenson's explanation is equally thin. A year is surely a short course for an ordinary case of phthisis, and yet we have him assigning as the cause of a 7 per cent. rise in 1915 a change in the conditions of life among women which can hardly have well begun early in the same year.

Neither report is, therefore, relevant to my point. I have urged, and in that letter did urge, that the absolute rise is but the climax to a relative rise, and that both are parallel to a fall in real wages, the momentum lasting some little time after the wage ceased to fall. There would be some relevance if they sought to discriminate between the rates for the rich and for the poor. As you will know, I have urged that the total death-rate, even if falling, may have concealed a tendency to rise among the poor. For example, in your own columns it was shown how the M.O.H. for Manchester deplored an increasing fatality among the poor in 1913, with a total rate not sensibly increased.

The question must be looked at whole, not in part. Any satisfactory explanation must account for the phenomenal drop in deaths following Peel's first free trade measures and the rapid fall under the Manchester school, equally with the slackened fall when Gladstonian finance became a myth, and the rise when it became a derision.

However, if the Research Committee investigates the economic side of the question, I am content. Two questions only fall to be considered: (1) Does poverty increase tuberculosis? and (2) Does the Act, like a hundred more of the same tendency, increase poverty among the poor? The notion that when a business man is required to add to his business expenses, say, £1,000 a year in insurance stamps, he is not entitled (or will refuse) to recoup himself for a necessary outlay, is so extravagant that I have little doubt of the result. If it turns out that all this paternalism is really killing off the poor, and that what is needed is that they should be allowed to spend their pittance for themselves, the Committee will have the chance of doing golden service to their country.—I am, etc.,

Raylei H, Nov. 12th.

B. G. M. BASKETT, M.B.

#### THE EARLY TREATMENT OF MENTAL DISORDER.

SIR,—Among the proposals for reconstruction which are to the fore is one for legalizing treatment of persons who are suffering from incipient mental disease. The Board of Control have devoted some space to the subject in their fourth annual report, recently issued, where they suggest (amongst other things) the amendment of the present law (i) to enable incipient cases of mental disorder to receive treatment in general or special hospitals, mental institutions, etc., for not more than six months without the necessity for certification under the Lunacy Acts, (ii) to permit the establishment at general hospitals of sections for both in- and out-patients for the early diagnosis and treatment of incipient cases, and (iii) to extend to public asylums the principle of voluntary admission which now obtains with respect to private asylums.

It does not appear to be generally known that the London County Council has already to some extent anticipated the first and third, at least, of these suggestions in connexion with its proposed use of the Maudsley Hospital at Denmark Hill. This hospital, originated by the late Dr. Henry Maudsley, towards the erection of which by the council he generously contributed the sum of £30,000, is designed for the early residential treatment of acute cases of mental disorder and for the provision of

advice and treatment for out-patients. It has not yet been used for the purpose intended, for it was taken over by the War Office before the building was completed, and is now being used for treatment of neurasthenic and shell-shock cases arising from military service. In anticipation of its use, however, upon the lines originally laid down, the London County Council, in its General Powers Act, 1915, obtained authority to receive and treat voluntary boarders at the hospital. The powers obtained were somewhat restricted, but they will permit the council, when the hospital reverts to the use for which it was designed, to receive as patients persons who desire *voluntarily* to submit themselves for treatment. It is the fervent hope of many who are associated with the care and treatment of mental cases that this power, together with the establishment of a clinic at the hospital, will afford means of early treatment which may avoid the necessity for subsequent certification in many cases, and will further help to spread a general knowledge of mental diseases which is often, for a variety of reasons, not found to-day.—I am, etc.,

R. J. COOPER,

Chairman of the Asylums and Mental Deficiency Committee of the London County Council.

London, S.W., Nov. 6th.

#### THE FUTURE OF THE MEDICAL PROFESSION.

SIR,—Writing from the standpoint of an onlooker, and yet of one who still has the welfare of the medical profession at heart, I wish briefly to call attention to the scheme of State medicine outlined by Dr. Mears in his letter published in your last issue. To my mind it is one of the best of the many plans for a national medical service recently suggested, and one which might be referred with advantage to a standing committee of the Association for consideration.—I am, etc.,

Hove, Nov. 11th.

W. AINSLIE HOLLS.

SIR,—The letter from "Lieut.-Colonel R.A.M.C.(T.F.)," November 2nd, p. 501, ought not to go unanswered. He speaks of the practices of those who are away on naval or military service as having been "absorbed by those remaining at home," and that the patriots who joined up have nothing to return to.

Let him be assured that in this particular town, though he would be, as I presume, quite unknown, he would very quickly find any amount of work. In fact, unless he proved himself a singularly objectionable colleague, we other men would be very glad to see him, as being likely to lighten our burdens a little. How can he really believe that we enjoy neglecting our own patients in order to look after his? For that is what many of us are doing. In fact, it is veritably a dog's life for most of us, and he is about as wide of the mark as he could possibly be when he says "we naturally desire that this state of affairs shall continue."

He is in rather a hurry also, is he not, to be bitter against us? Let him wait till he comes back, and then perhaps he will find that we have played the game after all. And we shall expect him to do likewise.—I am, etc.,

November 6th.

SLOGER.

SIR,—Your correspondent "Lieut.-Colonel R.A.M.C.(T.F.," has sounded a right and timely protest against any decision for or against a State Medical Service being come to until the voice of those serving in the army or navy has been heard. As it is impossible to get the opinion of those serving, and as the question is highly controversial the only fair way would be for both the Government and the profession to hold the matter in abeyance until demobilization is complete. It seems unjust that those who have been patriotic enough to join the services should be expected to accept any scheme in the forming of which they have had no voice.

The letter has rather a despondent note in it. The writer seems to take it for granted that the practices of those who have gone have been absorbed by those remaining at home and will not be delivered up. Every serving doctor expects his practice to be returned to him intact. If his expectations do not materialize then he will demand its surrender and will look to the British Medical Association to assist him in his demand.



There has been too much of this despondency shown both in conversation among us and in letters that have appeared from time to time, and I think that the time has arrived when those serving should formulate their terms of surrender.

Unconditional surrender, and nothing less, should be asked of those who have stayed at home and absorbed any man's practice. Disciplinary action should be meted out to any one refusing to do so.—I am, etc.,

November 4th.

LIEUT. R.A.F.M.S.

### THE MILEAGE FEE.

SIR,—The idea of extra remuneration for mileage in the case of rural practitioners is grotesque. I have just received the sum of 12s. 10d. for the year on account of between 80 and 100 patients living over three miles from the nearest practitioner, roughly about 1½d. a head per annum. Comment is needless. Unfortunately, the rural practitioner has no time to collect data as to his expenses, rate of remuneration, and work done.—I am, etc.,

November 7th.

RURAL M.D.

## Obituary.

LIEUT.-COLONEL E. F. HARRISON, C.M.G., R.E.,

Controller Chemical Warfare, Ministry of Munitions.

It has been said with truth that by the premature death, at the age of 49, of Lieut.-Colonel E. F. Harrison, C.M.G., R.E.—who having served for some time as deputy controller had, just before his death, been appointed Controller of Chemical Warfare in the Ministry of Munitions—not only the British army, but the whole army of the Allies has suffered a severe loss.

Harrison had worked his way before the war to the position of one of the leading scientific pharmacists in this country. For some years he practised in London as an analytical and consulting chemist, giving special attention to the analysis of drugs and medicinal substances. He had had a very distinguished career in the School of Pharmacy, taking two Bell scholarships and many medals and certificates. After passing his examinations in 1891 he entered the Pharmaceutical Society's Research Laboratory in Bloomsbury Square, and was in succession demonstrator in botany, assistant lecturer in chemistry and physics, and demonstrator in the Research Laboratory, where for three years he was engaged in research, chiefly on the alkaloids of aconite. He was an active member of the London Chemists' Association, of which he was first secretary and then president. Later he joined the staff of Messrs. Brady and Martin of Newcastle, and during his five years there took the degree of B.Sc.Lond.; afterwards, he was for six years head of the analytical department of Burroughs, Wellcome and Co., and in 1905 joined the Central School of Pharmacy. He was a member of the Board of Examiners of the Pharmaceutical Society, a vice-president of the Pharmaceutical Conference, and a valued member of the British Pharmaceutical Codex Revision Committee. Mr. Harrison had been for some years a Fellow of the Chemical Society and had become a Fellow also of the Institute of Chemistry when he commenced independent practice as an analytical chemist. It was during this time that he became associated with the *BRITISH MEDICAL JOURNAL* and undertook a series of analyses of proprietary articles, afterwards collected and published by the Association in the volumes *Secret Remedies* and *More Secret Remedies*. He also gave evidence for the Association before the Select Committee on Patent Medicines. Mr. Harrison's attainments in the special work to which he devoted himself were both wide and accurate. He was a man of high character and sound judgement, who never made a statement which he was not ready fully to substantiate. It was a privilege to work with him.

In May, 1915, about a month after the Germans made their first gas attack, Mr. Harrison, who was then 47 years of age, joined the Sportsmen's Battalion. When he called on the Editor to state his intention, which involved what he hoped would be only a suspension of his association with this *JOURNAL*, he confessed that he had been moved to enlist chiefly by the detestation he felt for the prostitution of chemical science by the enemy in the use of poison gas. He had no hesitation in coming to the conclusion

that the Allies must reply in kind, and he felt that his vast chemical knowledge should be placed at the service of the War Office. It is to the credit of that much-abused department that Harrison quickly found his place. After his period of training he transferred, in response to a call for chemists, to the Royal Engineers as a corporal. Shortly afterwards he was commissioned as a lieutenant on the General List. He worked first at the Royal Army Medical College, Millbank, where the problem of protecting our troops against gas was already being attacked with vigour, and his ability to contribute to the solution of the problem was soon recognized.

Entering into the work with heart and soul, and never sparing himself, he applied all his energies to providing adequate protection for the soldier in the field. Only those who worked at the R.A.M. College in the early days of gas warfare can tell of the strenuous nature of the work involved and the personal sacrifice it demanded. So extensive were the possibilities of this fiendish method of attack, that protection not against one gas, but against a large number, had to be sought for. Furthermore, it had to be found quickly. Colonel Harrison never spared himself in making personal trials of the many protective devices suggested against the various toxic gases which might be used. These tests involved the wearing of the protective device in an atmosphere of the gas as long as one could "stick it." Undoubtedly his health suffered greatly at one time as a result of these continual exposures, but this did not deter him, and right to the end of his career he was always eager and ready to make a practical trial with any new apparatus for protection, or to try the effect of some new gas by wearing the appliance in, or exposing himself to, an atmosphere containing the offensive substance. It was a decision that might have seemed obvious to the onlooker, but was nevertheless not always comfortable to make, that the first test of a respirator was whether one could wear it in the noxious gas and suffer no inconvenience, rather than that it should give satisfactory results by laboratory tests. This kind of test was initiated in these early days, and has been continued to the present time.

It was not long after Colonel Harrison's first association with the anti-gas department that he worked out the first practicable box respirator that was issued to the troops, and later this was replaced by the smaller but similar type of respirator now in use. Many academic problems in the design of respirators were largely untouched at that time, and Colonel Harrison had to rely on his judgement and intuition when experimental evidence was not available. Where some with a more academic turn of mind were often hesitant, he was courageous, and he was almost always right. The result was that a respirator was provided which gave excellent protection, did not seriously interfere with the fighting efficiency of the soldier, and could be produced quickly.

Concurrently with his direction of the research work involved in the perfection of appliances for gas defence, he was largely responsible for building up the immense organization of factories for their supply and inspection. In this he showed himself an organizer of first-rate ability, and on his death many letters of condolence from manufacturers with whom he came in contact testify to the high appreciation in which his services in this direction were held. In his time he was responsible for building up the organization which supplied nearly fifty million respirators to the British and certain of the Allied armies. This organization had to be constructed rapidly and factories improvised in all kinds of buildings, which ranged from a football pavilion to a chapel. His genius at improvisation was striking. The methods necessary to meet the demands for respirators successfully were always met. The provision of adequate protection against gases, and that rapidly, was a problem of the first order of urgency in a military sense, and history will show how great a part its solution has played in bringing the war to a successful end.

The excellence of Colonel Harrison's work soon found recognition. He was promoted to major in April, 1916, and to lieutenant-colonel in January, 1917. Only a short time before he died he became Controller of the Chemical Warfare Department. In July, 1917, he received the decoration of C.M.G., and recently our French allies showed the high value they placed on his achievements by making him Officer of the Legion of Honour.



Colonel Harrison leaves a widow and one son; his eldest son was killed on July 30th, 1916, in the battle of the Somme. The funeral took place with military honours at Brompton Cemetery on November 8th. Among those who attended were the chief officer Home Forces Anti Gas Department, the deputy director Chemical Warfare Department, the commandant of the R.A.M. College (Sir David Bruce), and the officer commanding Queen Alexandra Military Hospital, Millbank.

The Superintendent of the Anti Gas Department (Lieut.-Colonel H. S. RAFFER, R.E., D.Sc., M.B.) writes of Harrison: "His untimely death removes one who would certainly have come to take a very high place in the chemical world, and it is a great calamity that his services will not be available when the time for reconstruction comes. He was held in great personal esteem and affection by the officers and men under his command. To his consummate ability and readiness to give the benefit of his advice and assistance was joined a devotion to duty which was far above the ordinary. Those who served under him will always hold as a cherished memory his shining example."

Dr. ALFRED COX writes: The death of Colonel E. F. Harrison is a great blow to all who knew him. When he joined as a private we felt it was just the thing he would feel bound to do; but mingled with our admiration for his pluck was regret for the apparent waste of a good man. But when we found that the War Office had recognized his great gifts and put him in a position where he could use them, we rejoiced, for we knew he would "make good." It was a great pleasure to see his rapid advancement. He has gone at the moment of that victory which in his own sphere he did so much to secure, and mingled with our bitter regrets at his loss is a feeling that it is not an unfitting end for one so devoted to duty. Harrison was a man who without any effort impressed everyone he met, for his sterling character, his directness, his modesty, his knowledge of his speciality, above all his thoroughness, were obvious. I met him first nearly twenty years ago, when he was with a well known firm of chemists in the North of England, lost sight of him for a few years, and was delighted to renew our acquaintance when I came to London and found he was a successful man with a unique position in his own profession, and was doing the analytical work in connexion with the Association's *Secret Remedies*. I saw a good deal of him in connexion with our evidence before the Select Committee of the House of Commons on "Patent Medicines," where he was our chief witness, and it was manifest that the scientific scrupulousness with which he had prepared his case and the transparent honesty with which he presented it made a deep impression on the committee. As a witness he was cool, careful, candid, yet very acute, and, above all, master of his subject. He withstood most successfully a searching cross-examination, which extended over three sessions, and it was undoubtedly largely due to his evidence that the committee came to such definite conclusions, and issued such a strong report. He is a great loss to the Association and to his profession. I cannot refrain from adding a word of sympathy with the Pharmaceutical Society, of which in various capacities he was so distinguished a member. It must be a great consolation to them that they did not, as so frequently happens, wait until after his death to show how they valued him, but on many occasions gave evidence of their appreciation of a good man and sound scientist, always ready to serve the profession in which he was an outstanding figure.

PLANS and photographs of a surgical airplane designed by MM. Nemrowski and Tilmant were exhibited recently to the Paris Academy of Medicine by Dr. Walther, who said that the inventors had been guided in their researches by the late Professor Pozzi. The airplane can carry a surgical squad of three, a complete radiological installation comprising a table for operation under the x-ray, with sterilized apparatus, instruments, dressings, and blouses in sufficient quantity for the performance of eight urgent operations. The material for the first "aéro-chir" has been constructed, and the airplane for which it is intended—a modified bombardment machine—is ready. On the initiative of Dr. Stepinski, Director of the Polish Medical Service, a committee has been formed to offer the French army a first group of machines of the kind, to be called "The Pozzi squadron."

## Universities and Colleges.

### UNIVERSITY OF LONDON.

A MEETING of the Senate was held on October 23rd. The regulations for external students in the Faculty of Medicine were amended by fixing the fee to be paid by candidates for the M.D. degree at 25 guineas for the first entry in any one of the six branches of the examination, and at 10 guineas for the examination in any second branch.

Sir Bertrand E. Dawson, G.C.V.O., C.B., has been elected Dean of the Faculty of Medicine for 1918-20.

### SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

Surgery: \*M. Girgis, \*O. Halstead, W. H. Haupt, \*D. Menzies, \*T. E. Spero, \*T. C. Stephen.  
Medicine: \*M. Latham, \*T. A. Jordan.  
Forensic Medicine: \*A. G. Cole, \*I. R. Florence, H. B. Hyde, G. F. Smith, \*J. Stobden, J. L. Walker.  
Midwifery: \*J. M. B. Aven, C. R. Canfield, H. D. L. Jones, S. H. Robinson.

\*Section I. †Section II.

The diploma of the Society has been granted to Messrs. O. Halstead, W. H. Haupt, and T. C. Stephen.

## Medical News.

Those elected to the council of the Royal Society of Medicine at the university meeting were Colonel Sir W. D. Leishman, C.B., Dr. W. H. R. Rivers, and Professor E. H. Starling.

THE next quarterly meeting of the Medico-Psychological Association will be held at 11, Chandos Street, London, W., on November 26th. The report of the Finance Committee will be read and its adoption moved. A paper on the interdependence of the sympathetic and central nervous systems will be contributed by Dr. David Ogden, Lieut.-Colonel R. G. Rows, R.A.M.C.

IN a paper read on October 15th before the Swedish Medical Society, Dr. A. JOSEFSON, in charge of the dispensary and the organizer of the Stockholm anti-influenza dispensary system, outlined the measures he considered most essential for combating the epidemic of influenza. As illustrating the conditions obtaining in Stockholm he cited the case of a gas inspector who found in a working man's home father, mother, and one child dead in their beds and three other small children alive but terrified and helpless. Dr. Josefson's scheme was an elaborate dispensary system devoted solely to the epidemic. He would have all workers in it compulsorily insured against sickness without cost to themselves. To the dispensary as a centre cases requiring assistance would be referred by doctors and others, and at it a staff of doctors, nurses, and other workers would be available for attendance on the sick in their own homes. In the choice of workers preference should be given to persons who had previously had the disease. Sisters of Mercy and other voluntary workers could be enrolled, and funds provided to supply milk and the necessities of life to the destitute. An important function of the head of the dispensary would be instruction of his staff to avoid infection by the use of face masks and other measures.

A MEETING of the London Association of Medical Women was held at the Medical Society of London on November 5th, Lady Barrett, the President, being in the chair. The President introduced the subject for discussion—"The retention of 40 D and allied subjects"—and read the report of the subcommittee of the Federation of Medical Women which has been considering the subject. A discussion followed, in which Miss Aldrich-Blake, Dr. Thornehill-Johnson, Dr. Helen Chambers, Dr. Fairfield, Dr. Roberts, Dr. Rawlins, and others joined. The discussion was adjourned, the date to be fixed later.

LORD BURNHAM has accepted the post of trustee of the Royal Dental Hospital, Leicester Square, in conjunction with Lord Kinnaird and Mr. F. A. Bevan, in place of the late Mr. Richard Winch. The hospital has received a donation of £500 from Queen Alexandra's Special List.

A NEW grade of medical officer with the title of Surgeon-Major-General has been established in the Italian navy. It is equivalent to the rank of Rear-Admiral (Sottammiraglio). A corresponding rank with the title of Brigadier-General was recently established in the medical service of the army.



## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring replies of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR OF THE BRITISH MEDICAL JOURNAL, *Articulate, Westrand, London*; telephone, 2631, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Mediscera, Westrand, London*; telephone, 2631, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### LETTERS, NOTES, ETC.

#### IMMUNITY FROM INFLUENZA.

DR. R. A. LUNDIE writes from Edinburgh to say that very few indeed of those who suffered in the influenza outbreak in summer are being attacked by the present one. I understand, he continues, that some of our public institutions have had very remarkable experiences in this respect. One instance in my own practice is striking and characteristic. The household consists of two ladies and twelve schoolboy boarders. Five of these boys, then living elsewhere, had influenza in summer; there were then no cases in the household. Since October 18th all the household have suffered except these five boys, who were victims before. This is a strange contrast to "common experience" (see "Report" in last week's BRITISH MEDICAL JOURNAL, p. 509), and makes it stranger than ever to read that "few among the acute infective diseases have manifested, in their prevalence at all times and in all places, the stamp of uniformity so strongly in the aggregate of symptoms as influenza" (Hirsch, *Geog. and Histor. Pathology*, English trans., 1883, vol. i, p. 37).

#### CLINICAL FEATURES OF THE PRESENT EPIDEMIC OF INFLUENZA.

DR. T. REVELL ATKINSON (Chadwell Heath, Essex) sends some notes, in the course of which he makes the following observations:

The present epidemic is no doubt the worst we have had since 1890. In many respects it resembles that epidemic, especially in the suddenness with which the disease comes on and the shortness of the incubation period. Among the large number I noticed two types: One, a *sithenic* type with rapid rise of temperature to 104° or over, with quick pulse, severe pain, and collapse. The other, *asthenic*. Temperature rarely above 101°, generally below that; pulse often weak and often slow, in many cases not reaching 60 to the minute. This slow pulse I have noticed many and many a time and have considered it pathognomonic of the disease when combined with a rise of temperature. During the height of the disease epistaxis was quite common. I saw no case of haemoptysis or haematemesis. In one family every member suffered from ophthalmia. Vomiting was a fairly common symptom with those who would eat. One lady miscarried; this might have been a mere coincidence. Three patients were slightly jaundiced. I had no case of pneumonia, perhaps because as soon as I got into the bedrooms I opened the windows wide and insisted on their being kept so. I advised my patients to remain in bed, to eat nothing, to drink plenty of water, and for medicine (as they would have it) 5 to 10 grains of aspirin at the beginning if the pains were severe or the headache marked, and a mixture of half a grain of quinine in hydrobromic acid with a little syrup of tolu was all I ordered. Several patients had labial herpes such as one sees in pneumonia. Coryza was mostly absent.

#### THE TREATMENT OF PNEUMONIA.

MAJOR ELLIOT DICKSON, in his paper published on October 19th, p. 427, said that it was important in prescribing strophanthin to remember that the active principle readily undergoes decomposition when the tincture is diluted with water. In reply to inquiries, he states that the prescription he uses is as follows:

Tr. strophanthi ... .. m̄j  
Tr. capsici ... .. m̄ij  
Tr. card. co. ... .. ad ʒj

To be given, diluted with water, every four hours.

DR. ARTHUR J. MATHISON (Hornsey) writes: I first introduced the potassium iodide and creosote treatment of acute lobar pneumonia in your columns in 1907, one of my other contributions on the subject being the focus of a paper read at the meeting of the British Medical Association in 1920. For some weeks I have had the opportunity of observing the epidemic that has raged in North London, and have come to the deliberate conclusion that so far as the present epidemic is concerned, and perhaps at all times, every patient with influenza should be treated with an iodine and creosote pneumonia treatment I have so long advocated, but the mixture should be doubled in strength.

I join issue with Dr. Hope Grant on two points. First, his reference to "post-influenzal pneumonias of the present epidemic." I think it much safer to regard the pneumonia as contemporary with influenza, and not wait till the first physical signs of pneumonia appear, for this involves the loss of valuable time. Secondly, he states that he finds it hard to give smaller doses of both drugs to begin with. This is another way of saving the enemy time, and I strongly protest against such a method.

Many lives would be saved if every influenza patient were kept perfectly at rest in bed, given fluid diet, an efficient aperient, and the following prescription till the temperature fell to normal. Each dose should be followed by a draught of water to remove the taste.

R Potassii iodidi	...	...	...	5ʒ
Creosoti	...	...	...	ʒ
Spir. rectif.	...	...	...	ʒiv
Ext. glycyrrh. liq.	...	...	...	ʒvi
Aq.	...	...	...	ad ʒvi

Mi-co.

One tablespoonful to be taken in as much water regularly day and night every four hours.

With a pulse of 120 on a recent Sunday evening I watched for a rise of temperature, and when this was recorded I took 3 grains of calomel and just the twelfth part of the above mixture. It was, of course, unusual for the disease to be met so promptly as in this case, where doctor and patient were identical. Whether influenza or pneumonia I incline to the latter diagnosis; the disease was aborted, so that only the first dose of the mixture was taken and doses substituted when the temperature was found normal in the morning.

#### SEX RATIO AND SEX DETERMINATION.

DR. H. M. SPEIRS (Diss) writes: The following fact may be of interest in connexion with Dr. R. J. Ewart's letter in the BRITISH MEDICAL JOURNAL of September 23rd: 1915. I visited home for draft leave on August 8th, 1915 (owing to some official error he was only able to be at home that night). On May 11th, 1916, I delivered his wife of a female child—that is, 277 days of gestation. It would be interesting to know whether any other medical man has had the same experience during the past four years of war.

#### EASY CAR STARTING IN COLD WEATHER.

THERMOS writes: The application of an indiarubber bottle half full of hot water over the inlet pipe and carburettor is very helpful in these days of No. 3 petrol.

#### THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

*Subscriptions to the Second Appeal.*

The following subscriptions have been received up to Monday last, November 11th:

	£	s.	d.		£	s.	d.
Mr. W. H. Quarrell	1	0	0	Dr. James Hamilton	1	1	0
Mr. E. Spencer Evans	...	...	...	Dr. S. J. Broadfield Fox	2	2	0
(monthly)	0	10	0	Dr. Alex. Brown	1	1	0
North of England Branch	...	...	...	Dr. James Horn	1	1	0
B.M.A., per Dr. J.	...	...	...	Dr. J. Lawrence	1	1	0
Don., Hon. Sec.—	...	...	...	Dr. T. M. Knapster	2	2	0
Dr. H. P. Bennett	1	1	0	Hampshire Pharmacists	...	...	...
Dr. C. R. Smith and	1	1	0	Association (per Mr.	...	...	...
Dr. A. Bruce-Law	1	1	0	C. H. Baker)	5	0	0
Dr. D. Galloway	1	1	0	Dr. H. F. Staunton	1	1	0
Dr. A. MacKay	1	1	0	The Grocers' Company	50	0	0

Subscriptions to the Fund should be sent to the Treasurer, Dr. H. A. Des Vœux, at 14, Buckingham Gate, London, S.W.1, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited.

THE appointment of certifying factory surgeon at Dawley (Salop) is vacant.

#### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	...	...	0 6 0
Each additional line	...	...	0 0 9
Whole single column	...	...	4 0 0
Whole page	...	...	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *post-restante* letters addressed either in initials or numbers.



## THE EPIDEMIOLOGY OF INFLUENZA.\*

BY

M. GREENWOOD, CAPTAIN R.A.M.C.(T.F.),

LISTER INSTITUTE, AND MINISTRY OF MUNITIONS.

It is a fortunate circumstance that, in addition to the able monograph of Leichtenstern,<sup>1</sup> we have historical contributions to the study of influenza from the pens of such epidemiologists as Hirsch, Haeser, and Croighton. These authors, from concordant testimony extending over nearly seven hundred years, established the following propositions relative to influenza observed up to the modern statistical period.

1. Primary influenza is a uniform disease. In the emphatic words of Hirsch, "it has at all times and in all places borne a stamp of uniformity in its configuration and in its course such as almost no other infective disease has."

2. Primary influenza is independent of both climatic and meteorological conditions. Epidemics have occurred in literally every quarter of the globe, and have commenced at every period of the year, with high or low temperatures, steady or changeable weather, much or little atmospheric moisture.

Dissecting the notion of uniformity, we remark that primary epidemics have been regularly characterized by (a) a tendency to become pandemic; (b) a fatality which is far slighter than the severity of the symptoms would lead us to expect—a feature shared with dengue, which disease has often been confused with influenza, although now known to be entirely distinct from it; (c) a special incidence upon persons in the prime of life. The above described features are rarely missed in the historical accounts.

In contrast to the above, we find three questions which were discordantly answered.

I. The first was that of periodicity. Hirsch's denial of any periodicity sufficiently distinct to be revealed by a mere cursory examination of the records must be endorsed; but it is proper to remark that periodicity in the strict sense of the term can only be disclosed by a somewhat elaborate mathematical investigation carried out upon long series of numerical data; neither the technical method nor suitable statistics were at the disposal of our predecessors.

II. The second vexed question was whether influenza were a wind-borne infection. Hirsch remarked that the proven fact of pandemics progressing against the direction of prevailing winds was unfavourable to the hypothesis, and no recent evidence is opposed to his conclusion.

III. The last disputed point, namely, the contagiousness of influenza, is now decided, and in the opposite sense to that of Hirsch, who concluded his discussion of the matter with the words, "We shall find it hard to discover any reason for counting influenza among the contagious or communicable diseases."

The modern period opens with the pandemic of 1889-90, upon which Leichtenstern and Parsons<sup>2</sup> are excellent authorities.

I will very briefly refer to their non-numerical results, since I wish to direct attention more particularly to some statistical points. Parsons was able to bring together concordant testimonies as to the ordinary mode of development of the epidemic. His most significant result was to show that epidemic influenza does not really originate in a mass attack. A mass attack, indeed, forms an invariable link in the chain of events, but scattered individual cases are antecedent. This observation removed the most formidable objection to a belief that influenza is contagious, and it is easy to understand why we discover no confirmation in historical records. In such epidemic diseases as plague the preceding sporadic cases are recorded because their high fatality leads to inclusion in bills of mortality; but in consequence of the very low fatality of primary epidemic influenza early mortality records are wanting. The mass phenomenon strikes the imagination of the recorder and an illusion of suddenness and simultaneity is produced. Further evidence of contagion is afforded by the following observations:

1. The almost complete immunity of such segregated

groups as the Dogger fishermen and lighthouse keepers during 1889-90.

2. The relative immunity of prisoners and other inmates of institutions, particularly in comparison with the staff.

3. The tendency of the epidemic to begin in crowded centres, or, in any particular locality, to be dated from the holding of a public meeting.

No single one of these observations is logically decisive, but, like all epidemiological questions, this must be decided upon broad issues of greater or less probability. The general body of evidence creates a presumption in favour of the theory of contagion. Some assertions which, if true, would have demonstrated the inadequacy of the hypothesis have been disproved; such are the alleged simultaneous occurrence of a very large number of cases without previous exposure to possible sources of infection, or the suggestion that influenza extends uniformly in space with velocity greater than that of human transport.

It would be unscientific to discard the hypothesis of direct personal infection because particular instances, respecting which all the facts cannot be known, lend it no support.

I now pass to the numerical side of the epidemiology.

The fundamental characteristics of a primary epidemic of influenza—and by primary I understand an epidemic occurring in any locality after a succession of years nearly free from the disease—are a very high attack rate and an approximately symmetrical evolution in time. The number of cases increases rapidly to a maximum and then decreases to the endemic level at a rate but little slower than that of its increase; the graph of the epidemic is an almost symmetrical curve; the fatality is low, rarely more than 1 per cent. of cases. These extremely important features of rapid and symmetrical evolution can only be properly displayed when the number of cases, not merely deaths, has been recorded.

Diagram 1 exhibits such data of the 1889-90 epidemic, and is condensed from Leichtenstern's record of daily notifications in Munich. For the London epidemic we

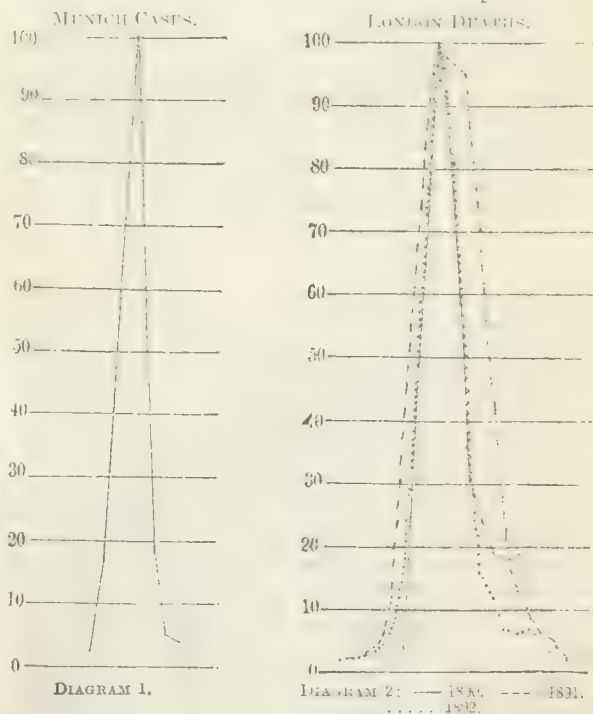


DIAGRAM 1.

DIAGRAM 2: — 1890, --- 1891, ..... 1892.

have only deaths, so that the symmetry is obscured, the tail of the curve lengthening out. Diagram 2 gives the influenza mortality in London for January, 1890, the primary epidemic, also the course of the succeeding epidemics in London, which culminated in the early summer of 1891 and the winter of 1891-92.

\* The most famous instance is the outbreak of influenza in January, 1890, in the remote and isolated parish of Badwell East, in Essex. The facts, as set out by the medical officer of health, will be found in Parsons's report (C. 6387, pp. 74-76), and were emphasized by my contributor to the Section of Hygiene and Preventive Medicine at the International Congress of Medicine, London, 1913 (see Sticker, Ueber die Bedingungen von den die Entstehung, etc., der Epidemien abhängen (Sitz. 18, Int. Cong. Med.).

\* Contribution to the discussion at the Royal Society of Medicine, November 15th, 1918.







Date.	Factor	Maximum in Incidence	Recovery Percentage	Duration in Weeks	Average Time lost for Weeks of Epidemic	Average Time lost in Abs.
1918.		1918.	1918.			
June 1	A. W.	June 6	11.78	4.42	7	7.42
	B. M.	June 27	12.86	5.09	8	9.10
	C. W.	June 27	22.66	9.90	8	17.33
June 7	B. W.	June 27	20.91	9.55	7	15.79
"	A. M.	June 27	7.40	4.80	6	5.43
"	D. W.	June 27	21.53	8.21	7	15.46
"	E. M.	June 27	14.26	5.03	7	8.27
"	F. W.	June 27	21.41	8.78	8	13.86
June 15	L. W.	June 27	16.27	8.27	5	14.06
"	D. M.	June 27	19.71	9.04	11	16.09
"	G. W.	June 27	22.06	10.08	6	17.42
"	C. M.	June 27	21.95	8.29	6	16.62
"	H. M.	June 27	15.91	8.80	6	13.12
"	I. M.	June 22	21.96	7.47	6	12.13
"	I. W.	June 22	32.95	4.95	5	17.30
"	J. W.	July 27	16.73	9.32	7	11.40
"	F. M.	July 6	15.51	11.53	7	13.64
"	K. M.	June 29	22.10	8.80	5	15.78
"	K. W.	July 6	18.43	3.96	6	13.66
"	L. W.	July 20	21.00	6.86	7	13.72
June 22	G. M.	June 29	17.63	5.23	5	11.42
"	H. W.	July 6	21.00	9.90	8	16.97
"	M. W.	June 29	25.37	5.64	6	12.74
"	M. M.	July 6	18.00	5.51	6	9.85
"	N. W.	July 20	10.40	2.41	5	5.90
June 27	O. M.	July 6	9.4	7.00	5	9.40
"	J. M.	July 2	16.1	4.82	5	10.01
"	P. M.	No work	July 27	5.43	4	5.18
July 4	Q. W.	Aug. 3	8.23	6.49	5	6.49
"	N. M.	July 20	19.79	0.35	4	10.15
"	P. W.	No work	June 27	5.43	3	6.99
July 20	R. W.	Aug. 3	20.87	4.48	7	16.86

\* These figures are affected in some cases by the disturbance due to holidays. † Figures affected by holidays. ‡ Incomplete for worst week. § No returns.

directly comparable. One sees at once that we are dealing with a quite different epidemiological picture. Let us begin for a moment the question of symmetry and consider that of concentration. As I have pointed out, the salient features of a primary epidemic are a rapid and quasi-symmetrical evolution. Consequently the frequency is very closely concentrated around the maximum.

To express this numerically, the summer epidemic of 1918 in the Royal Air Force included nearly 80 per cent. of the total incidence within the three weeks containing the maximum, and the Munich epidemic included just over 80 per cent. within the same limits. Now if the current epidemic has reached its maximum, not more than 65 per cent. of the incidence will probably be so concentrated, and the duration will therefore be longer than in the summer; if, as suggested by the ratio of the last two ordinates, the maximum is not yet attained, then the quota of the three worst weeks is likely to be still smaller and the complete duration still longer.

The diagram of factory sickness leads to the same inference, which is that, from the standpoint of prevalence, the present is a typical secondary epidemic congruent with that of 1891. But this way of looking at the facts leaves out of account the appreciably higher fatality we are experiencing. Here again part of the explanation is afforded by general epidemiological considerations.

If the view of the relations between primary and secondary epidemics of influenza just outlined be accepted, it follows that *paradoxically*, we have had ill luck in 1918 and had good luck in 1889. In 1889 the primary epidemic reached us in the winter, the secondary appeared in a more element seen in actually shipping a year; but since the epidemic constitution of a secondary influenza period is pneumonic—the old fashioned nomenclature is useful—we should anticipate a relatively low mortality in a summer secondary, and a relatively high mortality in a winter secondary; one remembers the extreme instance of plague, the change of constitution in the Great Death of 1348-49 between summer (bubonic) and winter (pneumonic). This general hypothesis goes some way to explain the situation, but we also have accessory factors peculiar to the war. I believe that gross overcrowding and malnutrition are of particular importance here. That food rationing has had anything to do with the epidemic seems to me improbable. The epidemiological indications of disease engendered by want of food are sufficiently distinct. Prior to an epidemic explosion there is always a slow but fairly steady increase of morbidity.<sup>4</sup> Examination of records which have been maintained in the Ministry of Munitions with the object of detecting any ill effect of rationing, has revealed none of the pathognomonic signs of scarcity (Diagrams 5 and 6).

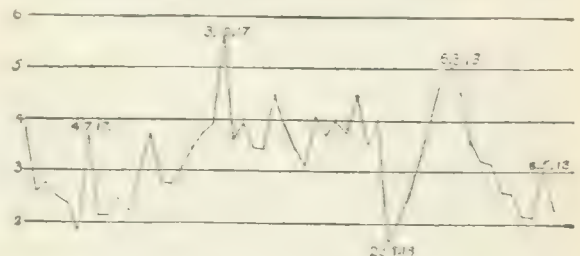


Diagram 5.—Min. of Mun. Influenza Statistics.

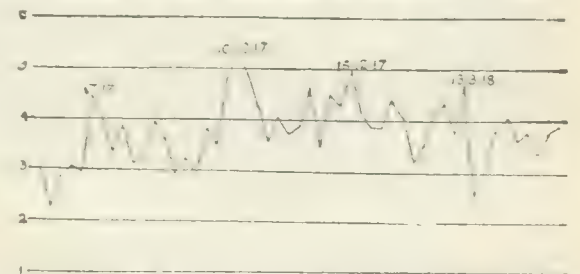


Diagram 6.—Min. of Mun. Influenza Statistics.

When to this is added the experience of influenza amongst our own adequately fed, and amongst other superabundantly nourished troops, we shall have little reason to regard food shortage as a probable factor.

It appears, then, that the origin of the summer epidemic must be explained upon such epidemiological principles as will account for the primary wave of 1889-90, that the current outbreak is in part identical with that of 1891, its excessive mortality being mainly due to the accident of season, aided by the special circumstances of overcrowding and fuel shortage which are due to the war. In a word, this is not essentially a war epidemic.

It has just been said and be worthy of explanation merely as a working hypothesis, some important conclusions follow:

It is unlikely that the present epidemic will be extinguished for some time, and it is likely that a recrudescence will be observed next year. Further epidemiological research is necessary to unravel the cause groups responsible for shaping the epidemic forms. I have used the terms symmetry, asymmetry, concentration, in a popular sense and have not introduced the analytical refinements of modern statistics. Such refinements could not be applied to the older mortality data with any hope of success, but it is otherwise with the material now in process of accumulation. A careful dissection of the epidemic frequency distributions should enable us to separate the epidemiological factors, work which, correlated with that of the bacteriologists must precede any



but a crudely empirical system of prophylaxis. The recent researches of Sir Ronald Ross and of Dr. Brownlee illustrate the importance of numerical epidemiology, and the final solution of the influenza problem will only be obtained by the harmonious co-operation of epidemiologists and bacteriologists.

## REFERENCES.

1. Notbaga's *Special Pathology*, Part IV, Title I, pp. 1-195.  
2. Local Government Board Reports, C. 137, 1911, and C. 751, 1915.  
3. Hargrett's *History of Epidemics in Britain*, Vol. II, p. 237. For the evidence summarized by Greenwood and Thompson, *Principles of Epidemiology and State Medicine*, Royal Society of Medicine, April, 1918.

## Preliminary Report

ON THE

INFLUENZA EPIDEMIC AT BRAMSHOTT IN  
SEPTEMBER-OCTOBER, 1918.

BY

C. E. COOPER COLE, B.A., M.B.Tor.,

LIEUT.-COLONEL C.A.M.C.,

OFFICER IN CHARGE MEDICAL DIVISION, No. 12 CANADIAN GENERAL  
HOSPITAL, BRAMSHOTT.

## INTRODUCTORY NOTE

BY

COLONEL R. D. RUDOLF, C.B.E., M.D., F.R.C.P.,

Consulting Physician to the Canadian Forces in England.

COLONEL COLE and his officers have had a most extensive experience of influenza in the recent epidemic. The notes of the complications of the disease are very valuable—for example, the frequent rupture of the recti abdominales muscles. I have not been as much struck as the writer was by the fetor in the disease.

The frequency of relapses has been very noticeable; these relapses have often occurred several days (in one case ten days) after the temperature had originally returned to normal. Such relapses occurred while the patients were still in bed, and hence were not due to any chill or exhaustion.

The mortality of the cases admitted to hospital works out at 7.25 per cent., and of all the cases reported in the camp 3.6 per cent., which is noticeably higher than in the original epidemic of the spring, but low as compared to some reports of recent ravages. Death was practically always due to respiratory complications.

## CHARACTER OF THE OUTBREAK.

After the outbreak of influenza in May and June our hospital had very occasional admissions of cases of this disease until the later part of September. On September 24th three cases reported, and on the succeeding days 9, 17, 24, 26, a maximum of 174 being reached on October 5th. Since then the epidemic has been abating, and on November 7th the total admissions for influenza were only 12.

In all, 2,247 cases have passed through hospital out of about 4,500 cases in the area; 163 cases had a fatal termination, the period of illness varying from five to twenty-seven days, and the pathological changes affecting the lungs or myocardium.

The usual history was of sudden onset of chilly feeling, headache, general aching, and weakness with dizziness; then cough and tightness in the chest, with glairy sputum, and very frequently epistaxis. Objectively an indescribable fetor was present in even the mildest cases, and in the very severe, was almost overwhelming. It disappeared before complete recovery of the patient. The febrile course of the disease varied from twenty-four hours to fifteen days' continuous fever, running as high as 106.6°, inclined to be remittent, and ending by lysis. The types might be considered as:

(a) Mild, temperature becoming normal within three to seven days without disturbance of pulse or respiration. Considerable weakness persisted, and renal irritation was usually present. Even these mild cases showed a tendency to tachycardia on slight exertion in convalescence.

(b) The next grade of severity ran a course of five to twelve days with high fever, marked cyanosis or livid pallor, and rapid respiration—all evidences of severe

toxaemia, with very few signs in the chest except of diffuse emphysema or of bronchitis down to the capillary tubes, with sputum moderate to copious, glairy to muco-purulent to yellow-green purulent, and becoming dirty sanguineo-purulent to dark clotted blood. In some cases bright red blood was expectorated, as much as 4 oz. at a time; one case, for which no other cause could be found, proved fatal from haemoptysis. A number of these cases proved fatal, and showed peribronchial induration or patchy central bronchopneumonia.

(c) The most severe types were either (1) primary marked bronchitis with profound toxaemia, rapidly becoming pneumonic, or (2) a primary toxic type as in (b) above, the temperature falling to normal or thereabouts for one to six days and then rising again to a secondary severe pneumonic course, with a frequently fatal issue.

## SPECIAL CLINICAL AND PATHOLOGICAL FEATURES.

Some peculiar clinical and pathological features were noticed in this series of cases. In the first place very marked fetor of the exhalations, so offensive in some cases as to render careful chest examination difficult, was pathognomonic.

*The Respiratory Tract.*

In the respiratory tract there was marked congestion from the nares to and through the pleura. The respiratory rate was frequently out of all proportion to pulse or temperature, fifty to the minute being often maintained for a week, with pulse not above 110. Rhinitis with epistaxis, often recurrent, was present in over one-third of the cases. Pharyngitis, tonsillitis, laryngitis, and tracheitis (often pseudo-membranous, causing dyspnoea, stridor, and inspiratory retraction of lower ribs), bronchitis, and bronchiolitis.

The cough was of several types—(1) explosive, (2) paroxysmal, closely resembling pertussis, and in a few cases was (3) "brassy." The bronchitis, at first dry, afterwards usually became moist with abundant muco-purulent sputum. The inflammatory condition extending deeper, lobular and pseudo-lobar pneumonia of variable extent developed. Fibrinous, sero-fibrinous and sero-purulent pleuritis occurred, 16 cases showing definite empyemata, streptococci more frequently than pneumococci on direct smear. Compensatory emphysema often developed out of proportion of areas of consolidation, and in 12 cases with severe chest signs interstitial emphysema developed in the mediastinum, and so extended up to the malar eminences and down over chest and abdomen. Only one such case recovered. Most of these cases showed definite small pulmonary abscesses either in continuity with the mediastinum or peritoneum. No cases of pneumothorax were observed. Areas of haemorrhage into the lung tissue were so often seen, in various stages from recent occurrence to liquefaction, that this condition might be considered almost pathognomonic of the disease. One very toxic case died from sudden onset of pulmonary oedema on the eighth day with very little consolidation. Several cases showed only "purulent bronchitis." Four cases showed activated pulmonary tuberculosis. Two of these became miliary, two miliary of the lungs, and one of the latter developed tuberculous basal meningitis.

*Circulatory Effects.*

The early cyanosis was toxic rather than asphyxial. The tongue itself was often of dark indigo and the whole body of a lilac tint for several days before death. Pulse usually relatively slow—for example, respirations 40, pulse 83, temperature 104°—and often dicrotic. The systolic blood pressure in previously healthy young adults often ran below 100 mm., and diastolic could hardly be estimated. In only one case was recent pericarditis found, and no recent endocarditis. The main change was myocardial, but rarely accompanied by right heart dilatation. The circulatory failure was often of very sudden onset, a pulse of 100 of good quality becoming 140 within two hours, and ceasing in less than four. The blood itself clots readily though purpuric eruptions were noted in some cases, as well as haemorrhages into the lungs and muscles. Phlebitis, brachial and saphenous, was not rare. There was usually a leucopenia, 2,400 to 9,000 white blood corpuscles per c.c.m. in purely toxic cases, and even in



extensive bronchopneumonia, but with pulmonary abscess formation, empyema, or other septic complications the count showed from 9,800 to 24,000. This leucocytosis or else the local reaction seemed to render the prognosis more favourable though not invariably so.

Blood cultures were negative, whether taken early or late.

The superficial and deep cervical and axillary lymph glands were almost constantly enlarged in severe cases. The peribronchial glands were much swollen, and occasionally almost broken down. The intestinal and mesenteric glands were not enlarged even in the cases with diarrhoeal symptoms. The spleen was rarely palpable, nor found enlarged *post mortem*.

#### *Digestive Manifestations.*

These were variable. There was the usual febrile mouth, with excess of slimy and most foul mucus. Anorexia, nausea, and vomiting were frequent, the latter usually exceedingly forcible, the vomitus consisting of large quantities of bright green fluid. Epigastric pain, with some rigidity, was a frequent complaint, and jaundice of considerable degree was usually of bad omen, fairly marked hepatic degeneration, and occasionally perihepatitis being found *post mortem*. Independent of purgation, several cases of profuse bloody diarrhoea and two of watery diarrhoea, with severe colic, occurred. Splenic and hepatic enlargement were rarely present. Abdominal distension was usually a late unfavourable sign. Lieut. Colonel J. G. W. Johnson had to operate on five cases of influenza complicated by appendicitis, and found one gangrenous, one perforated, with abdomen full of cloudy fluid, and three acute catarrhal, with terminal inch of the appendix much congested. At autopsy many appendices showed peculiar bulbous terminal inch, with marked congestion of surface veins. In one case a mild serous effusion, and in several enterospasm, with slight ascites, was observed. No lesions were observed in the gross in the bowel wall.

#### *Genito-urinary Signs.*

Pain across the lumbar region was a common complaint, and in almost all febrile cases a mild nephritis developed—albuminuria, red and white blood corpuscles, and granular and hyaline casts being observed. In several cases the urine was distinctly bloody and decreased in quantity. Retention occurred in several, but not suppression. No renal oedema was observed. *Post mortem* many kidneys were acutely haemorrhagic, resembling scarlatinal nephritis. In over half a dozen cases there was swelling of the testicle and its coverings. One fatal case showed the coverings principally involved and gangrenous, streptococci present on cultures. The others cleared up without supuration. There were over thirty cases of swelling of the parotid gland and capsule, occasionally bilateral, sometimes associated with the preceding. These were not clinically epidemic parotitis, but allowed free movement of the jaws, and the duct mouths showed little change. One case suppurated. This complication occurred in one patient who had had mumps before.

#### *Special Senses.*

Hearing was very commonly dulled, and Captain J. A. Atkinson reported frequent occurrence of haemorrhage into the tympanic membrane. This occurred in some cases without pain, but in about forty there developed acute otitis, and one quarter of these had mastoid involvement. Four cases of frontal and ten of maxillary sinusitis were observed. Loss of sense of smell with fetid purulent nasal discharge and copious repeated epistaxis were observed. In several cases over twelve ounces of blood were lost at one bleeding, and packing had to be resorted to.

There was peculiar puffiness as in whooping-cough, with conjunctival injection going on to pus formation, and occasionally blepharitis was present.

#### *Cuticular.*

Very frequently a marked military sudaminal rash was present, occasionally patchy purpura, punctate erythema, jaundice and cyanosis, either turgid, livid, or ashy. One case showed purpuric blebs. Some very delirious cases showed marked tache cérébrale. Interstitial emphysema

occurred as described. Erysipelas of the face and the trunk with various local abscesses in the scalp, axilla, epitrochlear gland and thigh occurred, complicating the disease.

#### *Joints and Muscles.*

No definite joint lesions were observed, but arthralgia in knees and shoulders was complained of, while a rheumatic fever, a gonorrhoeal and a rheumatoid arthritis were lit up by the influenzal attack.

Myalgia and muscular weakness were very common symptoms. Abscesses were found in some muscles, and marked degeneration was repeatedly noted in the rectus abdominis. The muscle looked grey, cooked, and readily flaked, three hours after death. Often there was marked haemorrhage, as much as two ounces, into the sheath of the rectus, and the muscles themselves were frequently found spontaneously ruptured as cleanly as though cut with a knife. The haemorrhage was sometimes present throughout the length of the sheath from the costal cartilages to the pubis, though usually only in the lower quarter. Myocardial degeneration was frequently very obvious at section.

#### *Nervous System.*

Frontal headache and retro-ocular pain were of moderate severity. No breakbone pains were encountered. Pupils were normal and reflexes normal except knee-jerk, which was often difficult to elicit. Paraesthesia mild, involving the right leg, was noted in one case and a transient Bell's palsy in another. Sleeplessness from toxæmia, not air hunger, was a trying symptom. In cases with fever, even of short duration, a low muttering delirium, with tremor, subsultus, and carphologia, and occasional loss of control of organic reflexes, was frequently observed. Quite a number were very noisy and active in their delirium. Convulsions with cervical rigidity, opisthotonos and tetanoid spasms of hands and feet, occurred in several cases; only one recovered. The spinal fluid was clear and culture negative. No increased cell count was noted, except in two complicating cases—(a) a hemiplegia due to tuberculous basal meningitis, confirmed *post mortem*, and (b) a case with marked stupor which is now apparently convalescing, but which has repeatedly shown an increased cell count on puncture with as much as 80 per cent. lymphocytes, and on film on one occasion showed acid-fast bacilli. The brains, with the exception of one of these cases, have shown no gross change.

The pathological work quoted above was in the main done by Captain A. Montgomery of this hospital.

#### *TREATMENT.*

For purposes of treatment our patients were divided into three groups under Major Pope, Major Shannon, and myself. All patients were put to bed in moderately cool rooms at the earliest moment available, usually the fifth or sixth day of disease, and were not allowed up until the temperature had been normal for at least three days. In spite of this precaution one very mild case, whose chest had been negative, after a few hours up developed a massive lobular pneumonia with evidence of myocardial degeneration and died within forty-eight hours. Posture in bed was used to allay cough and also to promote expectoration.

Fluids only, and very freely, composed the diet, on a basis of four pints and four eggs to each sick man.

The initial purgative was in most cases calomel and Epsom salts, the latter to be repeated as necessary, often with very marked effects in lessening toxæmia. Simple enemata were also used and turpentine for distension, effectually. Local binders, mustard leaves and plasters, poultices and cups, were all used with relief of chest pain. For various types of cough balsamic inhalations were used as required, sedative and stimulant expectorant mixtures as indicated.

In some cases venesection relieved the toxæmia, especially if combined with (1) saline or (2) glucose and saline interstitially, intravenously, or by the rectum. Oxygen alone or through alcohol was helpful in some purulent bronchitic cases, either continuously through a Haldane apparatus, or intermittently by the open method, or subcutaneously.

The preliminary headache, general aching, and chilly feeling were relieved by phenacetin, aspirin and Dover's



powder, with hot drinks, in small doses. Groups of cases were put on—

- |                        |                              |
|------------------------|------------------------------|
| 1. Urotropin,          | 5. Sodium salicylate,        |
| 2. Quinine sulphate,   | 6. Salicin,                  |
| 3. Salol,              | 7. Creosote and pot. iodide, |
| 4. Tr. quinin. ammon., | 8. Oil of cinnamon.          |

These were all used in varying doses, and none were found to exercise any specific effect. Carbolic acid was not used owing to frequent renal irritation.

Serums—anti-diphtherial, pneumococcic, streptococcic, staphylococcic (the last three being polyvalent), also normal horse serum—were used, and seemed in some cases to reinforce the patient's resistance, but not to exert a specific effect.

Eusol has been tried intravenously in doses up to 250 c.cm., so far with uncertain benefit.

To reduce temperature: (1) Sponges tepid to cold, or alcohol rub if above 104°; (2) cold pack to neck and chest; (3) purgation and enemata; (4) aspirin, 5 grains for single dose, if not responding to the above.

Stimulants: Fresh air and oxygen, brandy or whisky up to an ounce every two hours, strychnine and atropine, strophanthin, various digitalis preparations, camphor in oil, pituitrin, and adrenalin, were each used, as indicated. Intravenous saline with or without glucose 25 per cent. was also used.

Sedatives: Cool sponging, chloralamide, ammonium bromide and chloral, veronal, codeine, heroin, hyoscine, morphine and atropine, pulv. ipecac. co.

From the multitude of agents employed their comparative utility is obvious. The line to follow in treatment is "primum non nocere," and the more expectant and symptomatic the course, the more satisfactory will be the result. This becomes particularly plain on observing a very large series of cases such as the present epidemic has afforded us. The natural variations in the course of the disease are legion; our influence on them is problematical.

#### PROGNOSIS.

Early cyanosis, high fever, and rapid respiratory rate are usually unfavourable symptoms, all being evidence of severe toxæmia. Relatively slow pulse-rate is not necessarily favourable, though a high rate is always ominous. Development of local septic foci promises favourably; leucocytosis is usually favourable. The delirium may be intense early in the case and completely disappear, the patient becoming perfectly rational and conscious of a sense of well-being, although still intensely cyanotic, and so dyspnoeic that he can hardly answer questions; in fact, this condition may go on to within a few minutes of dissolution. Bronchopneumonia is always serious, and, judging from *post-mortem* findings, carnification and scarring of the lungs, with probable bronchiectasis, will be sequelae inevitable in a great many cases.

### POINTS IN THE TECHNIQUE EMPLOYED IN THE ISOLATION AND CULTIVATION OF ANAEROBIC BACTERIA.

BY

W. JAMES WILSON, M.D., D.Sc., D.P.H.,  
BRIEFET MAJOR R.A.M.C.(T.F.).

AND

SERGEANT P. STEER, R.A.M.C.(T.F.).

(From the Laboratory of No. — General Hospital, R.E.F.)

As the isolation and cultivation of the anaerobic bacteria occurring in wounds present considerable difficulties, especially under active service conditions, a description of some methods that we have found useful may be of assistance to bacteriologists who have not yet evolved a technique of their own and are called upon to undertake the bacteriological control of the effects of serum and other treatment of gas gangrene, etc.

#### Media.

For fluid cultures we have obtained excellent results from brain broth, and brain broth with 1 per cent. of glucose, lactose, or saccharose. The addition of the sugars promotes rapid growth of the saccharolytic group of micro-

organisms, but the acid produced leads later to their destruction. For preserving cultures which can be worked out at leisure the plain brain broth is preferable.

It is prepared by adding to a litre of normal saline solution about 200 grams of chopped up brain substance. The medium is autoclaved in a flask and afterwards in tubes, each of the latter containing about 20 c.cm. of the broth and brain substance. In tubing it is convenient to pour the contents of the flask into a sterile dish, and with a sterile teaspoon to add the solid brain matter to the tube, and later to pour in about an equal volume of the more fluid part. If sugars are employed, and fuchsin can be used as an indicator. These brain media can be kept indefinitely, and when inoculation is made deep down into the tube good growth of anaerobes will occur though the tubes have not been recently boiled, and though no attempt has been made to exclude air by the use of liquid paraffin. It is easy to remove material for film preparations, etc., by means of a long platinum wire, as there is no paraffin to necessitate the use of capillary pipettes.

Brain lactose broth is an excellent medium for the cultivation of streptococci. The effects of the growth products on the brain substance can be observed, *B. sporogenes* (Metchnikoff) causing a blackening, whilst *B. welchii* has no such effect. Von Hiber got as good results from the use of chopped up brain as he got from the use of chopped up muscle, but in this country the latter medium has been most extensively used.

For plate cultures we make most use of blood agar. We keep a stock bottle of sheep's blood always at hand.

The blood is preserved by the use of formalin and ether. A wide-mouthed bottle with a mark at the 1,000 c.cm. level has added to it 10 grams of sodium citrate dissolved in about 20 c.cm. of boiling distilled water. At the slaughter-house 1 litre of blood is received into the bottle, which is well shaken during the process. In the laboratory the uncoagulated blood is added through a sterile funnel to a bottle which has a tightly fitting cork. To 1 litre of blood 1½ c.cm. of formalin (40 per cent. formaldehyde) and 30 c.cm. of ether are added. The bottle is shaken, the stopper is tied in, and it is placed overnight in the incubator at 37° C. In making blood agar 3 c.cm. of the laked blood are added to every 100 c.cm. of melted agar, and the mixture is kept at 50° C. for half an hour to drive off the ether. The dilution annuls the antiseptic action of the trace of formaldehyde in the medium.

The blood agar prepared in this way is of a light brown shade and is fairly transparent. On being placed under anaerobic condition it becomes of a bright red hue. On this medium colonies of *B. welchii* are leaf-shaped; the centre of the colony is moist and more elevated than the flat, uneven margin. Colonies at the end of a week's incubation average 5 mm. in diameter. *B. sporogenes* (Metchnikoff) forms a spreading growth growing down into the medium, so that scraping the surface leaves the outline of the colony intact. *Vibrio septique* grows somewhat like *B. sporogenes* but does not invade the medium. *B. tetani* grows out from the main mass of the mixed growth as a very fine film with woolly margins. Tulloch has studied the effect of *B. sporogenes* in promoting the growth of *B. tetani* in fluid cultures. On the solid blood agar plate the cleavage products of *B. sporogenes* doubtless assist the growth of *B. tetani*, and as it spreads over the uninoculated part of the plate there is a fair chance of separating it from other anaerobes in the mixture.

If glucose is added to the blood agar the colonies of *B. welchii* are raised and opaque just like colonies of *Staphylococcus albus*. Litmus may be added as an indicator, but gets bleached under anaerobic conditions; on exposure to air the colour returns. We have found that *B. welchii*, *B. sporogenes*, etc., are able to grow on blood agar containing 1 per cent. of sodium taurocholate. This observation has facilitated the isolation of *B. welchii* from a mixture of other bacteria. The growth is not so luxuriant with as without the bile salt, but the presence of the bile salt tends to prevent confluence of the growth. Crystal violet in the proportion in which it is present in the Drigalski-Conradi medium, that is, 1 in 100,000, does not inhibit the growth of *B. sporogenes* on a lactose blood agar plate. The same plate heavily inoculated with *B. welchii* often yields only a very few colonies, but the colonies are large in size. There would appear to be a difference in their power to resist the antiseptic action of the dye, not only among different strains, but also among individuals of the same strain.

#### Symbiosis.

We have on several occasions isolated from wounds a Gram-negative cocco-bacillus which promotes the growth



of anaerobes in a most remarkable manner. This coccus in morphology resembles the meningococcus but is rather more uniform in size, and a few of those seen in a film may be ovate or rod-shaped. Its growth on agar resembles that of the *B. coli*, and it remains viable for months without subculture. It is an obligatory aerobe. As regards its fermentative activity, the only substances we found attacked by it were glucose and galactose, and with these substances it produced acid but no gas.

We have found that with lactose, lactulose, maltose, saccharose, salicin, mannite, dulcitol, sorbitol, erythritol, glycerol, raffinose, xylose, arabinose, rhamnose, mulin, adonitol and amygdalin no fermentation occurs. Gelatin is not liquefied. It tends to form a pellicle in peptone water and bouillon. Indol is not formed. It grows readily on MacConkey's bile salt plates. In ordinary bouillon or peptone water if this coccus is present, the anaerobes present in wounds grow freely in tubes exposed to the air, and if sugars are added the question of the fermentative activity of the anaerobes can readily be decided since the coccus cannot produce gas in any medium, and can produce acid only in glucose and galactose. The motility of the anaerobes can also be readily examined in a drop of the culture, as the cocci are non-motile and absorb oxygen from the fluid and thus allow the anaerobes to have the best conditions for their locomotor powers. When a rich growth of spore-bearing anaerobes has occurred in the mixture, pure cultures can be obtained by heating to 80° C. for twenty minutes to destroy the coccus, and then inoculating the surface of blood agar plates.

The presence or absence of proteolytic ferments can be determined by adding cubes of coagulated egg albumen or inspissated serum to broth tubes seeded with the anaerobic bacterium and coccobacillus.

The haemolytic activity of anaerobic bacteria is easily demonstrated in open broth culture containing a few drops of blood and the coccus, since the latter has no haemolytic action. The explanation of its favouring action on anaerobes would appear to be due partly to its rapid assimilation of the oxygen in the medium and partly to substances resulting from its autolysis and growth being added to the medium. As already mentioned, if a plate is inoculated from such a mixture and at once placed under anaerobic conditions only the anaerobes develop, the coccus failing to grow in the absence of oxygen.

*B. coli* and the enteric group of bacteria also act as symbionts for anaerobes, but their fermentative activity renders them unsuitable for the study of the enzymes of the anaerobes. Another most excellent micro-organism for this purpose is the *B. pyocyaneus*, which forms acid but no gas from glucose and fails to ferment the other usual test substances. Recently we have employed a coccobacillus which fails to ferment even glucose and galactose.

To examine the action of anaerobes on fermentable substances in association with our coccus, we recommend the following medium. Glucose-free broth is prepared in the usual way, and to it is added  $\frac{1}{2}$  or 1 per cent. of the substance being investigated. Durham's tubes are useful, but the gas produced causes so much frothing of the surface that they are not absolutely necessary. As an indicator acid fuchsin (which has been neutralized and decolorized by the addition of normal caustic soda) gives beautiful results—1 c.c.m. of a  $\frac{1}{2}$  per cent. solution being added to every 100 c.c.m. of the medium. Free gas formation and a bright cherry-red colour indicate a positive reaction. It must be remembered that the anaerobes, even *B. welchii*, are capable of forming gas from peptone water and bouillon. We have noticed this in the Durham tubes, both in the presence and absence of the symbiotic coccus. In the absence of the coccus the broth had been boiled and cooled just before its inoculation. This gas formation, however, is not attended with any change in the acid fuchsin indicator.

As a means of enrichment for the saccharolytic group a fermentable sugar is useful, whereas the proteolytic group tend to outgrow the saccharolytic in its absence. The fermentation results obtained by this method agreed with those obtained by the use of brain broth and those obtained by the use of blood in the medium. When 3 per cent. from our stock blood bottle is added to broth and incubated overnight, the medium has a yellowish-brown shade. *B. welchii* and *B. sporogenes* grown in such tubes produce a bright cherry-red appearance, and on spectroscopic examination the band of reduced haemoglobin is seen. This effect is no doubt due to the haemolytic action of the anaerobes on the partially laked blood.

When 3 per cent. of the blood is added to broth and the mixture autoclaved, and 1 per cent. of fermentable substances added and steamed, and then put into tubes each containing 20 c.c.m. and having coagulated blood clot at the bottom, a

suitable medium for the examination of the enzymic activity of the bacteria is at hand. It must be steamed just before use to drive off the dissolved oxygen, and the inoculation must be made into the blood clot. Substances which are split up by *B. welchii*—for example, glucose, lactose, saccharose—favour the growth of the organism enormously. The reaction can be tested by withdrawing drops and applying them to litmus paper. If the fermentable substance added is not capable of being used by the anaerobe in question, the amount of growth is scanty, and is mainly confined to the depth of the tube. Where acid and gas are produced the blood clot becomes a dirty yellowish-brown colour, and is carried by gas bubbles to the surface of the medium. In the absence of carbohydrates, *B. welchii* causes the clot to become bright red; *B. sporogenes* makes it black.

### Plate Cultures.

Plate cultures can be quickly obtained by the insertion of a perforated metal or glass disc between the two halves of a Petri dish as described by one of us in a former paper. We have found the enamelled metal lid of sputum cups exceedingly useful for this purpose.

The cover of the Petri dish is fastened to the under surface of the disc by means of plasticine overrun with melted paraffin wax. After pyrogallic acid and caustic soda solution have been introduced into the cover the plate with the medium that has been

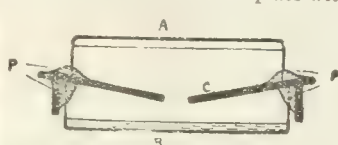


FIG. 1. A, Bottom of Petri dish containing inoculated medium. B, Inverted lid of Petri dish, containing solution of pyrogallic acid and caustic soda. C, Branched iron lid of sputum mug. P, Plasticine.

the same time. In most military hospitals each patient is provided with an enamelled iron soap dish and cover. This dish is of the shape and size shown in the diagram, and it can hold two Petri dishes. To use this utensil four little pellets of plasticine are placed on the ledge surrounding the bottom of the dish. The cover of the lower Petri dish is supported by

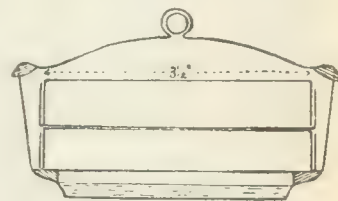


FIG. 2.

these pellets or by a horizontal bar of thick copper wire, and a space is left between the cover and the bottom of the dish, into which just before use two grams of pyrogallic acid and a few centimetres of strong caustic soda have been placed. When the inverted Petri dishes have been placed in position, the lid with a layer of plasticine around the under surface of its margin is applied and pressed firmly down. Care should be taken to have the covers of the Petri dishes dry, so as to prevent running together of the colonies. This can be readily effected by wiping the condensation moisture with sterile cotton-wool and holding the cover for a few seconds over a spirit lamp flame. To remove the cover a screwdriver is inserted, and the lid prized up. The same lids with the plasticine adherent to them can be used indefinitely, and the dish can be washed out in a few moments. In this method there need never be any staining of the finger with the pyrogallic soda mixture.

The sketch shows a section of the apparatus and its contained Petri dishes.

## THE FEMORAL ARTERY IN WAR SURGERY.

BY

JAMES H. NICOLL, M.B.,

RECENTLY PROFESSOR OF SURGERY, ANDERSON'S COLLEGE, GLASGOW; AND LECTURER ON CLINICAL SURGERY AND EXAMINER IN SURGERY IN THE UNIVERSITY, GLASGOW.

It is a commonplace amongst surgeons that those sections of our standard works on operative surgery which deal with amputations and with haemorrhage will have to be in large measure rewritten after the war. The exact measure remains to be seen, for there is a danger apparent at present of overlooking two facts—namely, that the muscular limb of a vigorous young man with fully-grown bones is surgically a thing very different from the limb of an emaciated subject of, say, articular tuberculosis, on the one hand, and the limb of a child on the other; and that the sepsis, actual or potential, which is universal in war wounds, is practically absent in civil practice. Much of the technique of the military wards and operating theatre



is out of place in the civilian clinic, and vice versa. A large measure of revision of our standard books, however, will be necessary in the light of the experience of the war.

As bearing alike on methods of amputation and the control of haemorrhage the femoral artery, the largest peripheral trunk in the body, presents some problems in operative surgery the interest of which has a wider range than the anatomical distribution of that artery. Amongst these problems the following are of constant recurrence:

#### *The Control of Haemorrhage during the Operation of Amputation at the Hip-joint.*

Amputation at the hip (transarticular, transcervical, transtrochanteric, or subtrochanteric) is one of the most common and one of the most critical of amputations. Haemorrhage is its chief risk. Our standard works contain descriptions of various methods of controlling it, each of which has its advocates. In the interesting work, *Amputation Stumps*, recently issued by G. Martin Huggins, the author, in discussing amputation at the hip, warmly advocates a variety of the operation well known as the "anterior racket" with ligature of the femoral vessels as the first step. Mr. Huggins, evidently in view of much of the teaching of the textbooks, describes his operation as "unorthodox." If it be so, one cannot but think that his heterodoxy will find support. Indeed, so far as the control of haemorrhage is concerned, some surgeons have long been converts to the method, and the experience of operating under war conditions is adding to their number. For years I have practised no other method, and in the printed notes on operative surgery issued to my classes have indicated its advantages.

Work during the war has confirmed the favourable opinion of the method. Initial ligation of the femoral vessels renders the surgeon independent of skilled assistants, and removes all risk of serious loss of blood, for the only other vessels severed in the operation are comparatively small branches of the sciatic and gluteal arteries. The method has had its supporters for years during peace times. Mr. Huggins, with exceptional experience of war surgery, commends it as the method of choice. In the light both of pre-war and war experience, many surgeons, of whom I am one, advocate it as the best method. It is evident that its adoption as such would necessitate the relegation of the textbook descriptions of not a few classic methods to the records of the past. Surgeons will watch with interest the decision finally arrived at, the more so that the principle involved in the initial ligation of the main vessels at the site of amputation is applicable to other amputations than that at the hip.

#### *The Control of Haemorrhage in Amputation of any Portion of the Lower Limb Below the Upper Third of the Thigh.*

In such amputations, and in operations for compound "smashed" bones, haemorrhage may be controlled by one or other of three methods—namely, the tourniquet, manual compression of the femoral artery, and temporary ligation of that vessel. The last mentioned, however useful it may be in a few cases in civil practice, has little field in war surgery, where the choice lies between the tourniquet on the thigh and digital compression of the femoral artery. The tourniquet is necessarily in universal use at present at the fighting fronts, where there is no substitute for it in certain circumstances. Its use also in operations is part of the stock teaching of our textbooks. But opinion is veering against its use. In the last issue (1918) of the official *Manual of Injuries and Diseases of War* it is stated that:

The systematic use of the elastic tourniquet cannot be too severely condemned. The employment of it, except as a temporary measure during an operation, usually indicates that the person employing it is quite ignorant both of how to stop bleeding properly and also of the danger to life and limb caused by the tourniquet.

And again:

Even if applied only for an hour it greatly interferes with the nutrition of the wounded tissues, and so favours the development of anaerobic organisms.

That and much of the teaching of our textbooks, however, still leaves the tourniquet, in spite of its dangers and disadvantages, apparently as the routine method of controlling haemorrhage during amputations and other opera-

tions on the limbs. Its disappearance from the operating theatre would involve considerable revision of sections of our textbooks. Opinion has not yet crystallized, but there are many surgeons who at present very rarely indeed use a tourniquet, and that only when amputating with no assistance, skilled or unskilled. I have not for many years used a tourniquet for any operation, and have found, in the lower limb, digital compression of the femoral artery against the pubic ramus quite efficient. A colleague requires no instruction, but an orderly, a sister, or a student, if acting for the first time, generally requires coaching on three points—namely, to stand on the outer side of the limb, to fix the thumbs for counter-pressure on the postero-external aspect of the ilium below the level of the anterior superior spine, and to press the fingers on the vessel just below Poupard's ligament. If the fingers are placed lower down the limb the artery is not caught firmly against the pubic ramus, and if the thumbs are placed against the trochanter instead of the ilium the hands are apt to be displaced during the operator's manipulations of the limb. Digital compression of the femoral is quite easily maintained by any hand of average size and strength in even the most muscular patient during the course of any amputation. During such operations as that for removal of smashed bone and damaged tissue or the excision of a tumour, compression is often not required at all, the compressor simply keeping his fingers on the femoral pulse ready to tighten his grasp instantly on request.

#### *Prevention of Secondary Haemorrhage in "Open" Amputation Stumps in the Thigh.*

Open stumps include guillotine stumps, flap stumps awaiting secondary suture, and stumps in which the sutures have cut out and the wound is gaping. The last is always, and the two first named ultimately often, suppurating and sloughing. Under such conditions secondary haemorrhage is a constant risk at any date after the first week, by which time the ligature is absorbed or dissolved in the pus. In all open septic stumps in the thigh which are a week or more old I make it a routine practice, as a preventive measure, to ligature the common femoral vessels. By the end of the first week after amputation the collateral circulation after ligature of the common femorals is ample for the needs of any stump down to the supracondylar level. For open stumps below that level, and certainly for those below the knee, ligature of the femoral in a septic limb carries a grave risk of resulting gangrene. Fortunately the need for it in such cases is less clamant than in thigh stumps. In the latter secondary haemorrhage constitutes too often a rapidly completed tragedy. In leg stumps the flow is much less copious (from one only of the three branches, anterior or posterior tibial or peroneal) and leaves time for the sister or orderly to apply the tourniquet or compress the femoral while the assistance of the surgeon is being got.

## THE CURSE OF IMMOBILIZATION.

BY

J. W. DOWDEN, M.B., C.M., F.R.C.S. EDIN.,

SURGEON TO THE ROYAL INFIRMARY, EDINBURGH.

THOUSANDS of our soldiers have been more or less disabled for life simply and solely on account of prolonged immobilization of injured limbs. Case after case could be cited as examples of the harm done, and I am sure many readers of this JOURNAL can endorse the statement.

I have had four years' experience of war surgery in this country, first in a Territorial general hospital for a year, and for the last three years in a war hospital where I had between two and three hundred beds under my charge; besides this I have seen many cases in the Edinburgh Royal Infirmary and in private practice. I may therefore claim to have some experience.

If asked as to the lessons learnt during those four years, I would emphatically say, first, that nature is the most wonderful surgeon, especially when encouraged; secondly, that septic wounds should be thoroughly drained; thirdly, that from the very beginning frequent passive and active movements should be carried out, steadily increasing the range; that splints should never be used except when



absolutely necessary, and then only for as short a time as possible, and should never interfere with passive and active movements. I am writing now mainly of the upper extremity, but I am not by any means excluding the lower. Massage is a most excellent adjunct—far and away the best—to active movement. I lay but little stress on electricity or baths.

In war surgery the future usefulness of the wounded must be borne in mind, and in that relation the order of importance is—muscles, joints, and bones; not bones, joints, muscles. If a demand is made upon nature without undue pain, and carefully advancing, nature will always respond. Disuse, active and passive, means malnutrition of the part. Muscles atrophy, bones atrophy, blood vessels atrophy, pus tends to track along the intermuscular planes; passive and active movement help to drive the pus out.

When passive or active movements are begun early, pain is the danger signal that shows harm is being done, and the movements should be modified temporarily. When after prolonged immobilization adhesions have formed, however, pain has to be endured while the adhesions are being stretched or broken. I am not at all surprised, therefore, that there has been an insistent demand for the services of bonesetters, who overcome the adhesions which have been brought about by well meaning surgeons. Take, for example, the case of a man shot through the biceps. His forearm was placed at a right angle and kept in that position for weeks; he was then unable to extend the arm, and after many long weeks of massage recovery was incomplete. In the case of wounds through the forearm where the bones and nerves have escaped, and treated with splints for prolonged periods, it is found that when movements of a passive and active nature are attempted the patient is unable to carry them out owing to the formation of fibrous tissue during the period of immobilization. The most marked results from muscles involved are found in the hamstring muscles and the calf. How familiar is the sight of convalescent soldiers limping about the streets with bent knees and on their toes! The majority of these will never straighten their legs again or dorsiflex the foot in walking, owing entirely to neglect of the muscles and joints, and constant straightening and correcting by active and passive movements. Injuries to joints, even though septic, are not a bar to movement; the joints should be gently moved and encouraged, short of pain, and it is wonderful what results will ultimately be obtained, provided attention is paid daily to movement (passive at first and later active and steadily increased).

As to pain, the attitude of most present-day surgeons is wrong. For the last twelve years I have treated all fractures of the scapula, clavicle, humerus, and many of the forearm, without splints. I have no hesitation in applying splints if I think they are needed, but after the third or fourth day patients are satisfied with the lie of their arms in a sling. The main point, however, is that every movement of all joints and muscles should be encouraged, first of all passively and as soon as possible actively, and this should be carried out frequently during the day. It is surprising to see a patient with a fractured humerus, with possibly overlapping, extending the arm, flexing it and lifting it from the side, in the course of a fortnight or three weeks; by the time the fracture has consolidated, all the movements of the joints are perfect, provided the damage has not been too great. In simple fractures the results are admirable; in septic compound fractures I can say the same; but watch must be kept for collections of pus about necrotic bone, and these must be opened and drained, but should never interfere with the passive and active movements of the part. I feel compelled to write this, because I have seen such bad results not only from hospitals abroad but from hospitals in England and Scotland. A few examples of many that have passed through my hands may perhaps help to impress my view.

(a) Through-and-through bullet wound of the hamstring, with flexion of the knee, kept in the position of flexion for several weeks before coming under my care. Twenty to thirty pounds pressure over the extended knee cannot overcome the contraction, and the man is a probable cripple for life, walking on his toes with bent knee.

(b) Patient with a wound of the outer side of the humerus, not completely fracturing the bone, kept in a right angle splint for eight weeks. Unable to flex and extend elbow, rigidity about the shoulder, unable to satisfactorily close the hand;

now, after four months of massage, unable to straighten the arm or flex it completely.

(c) Patient with a suppurating prepatella bursa kept for three weeks in a posterior splint and three weeks in a Thomas splint. Now scarcely any flexion of the knee.

(d) Patient with a suppurating and ankylosing knee-joint, several months in splints. No movement in the plantar flexed toes, plantar flexion of the foot, and no dorsiflexion of the foot possible.

Numerous fractures of the humerus kept three and four months in a right-angle splint, because there was a septic wound leading to bone. Practically no movement at shoulder, elbow, wrist, and, in some cases, fingers.

I could go on giving endless cases of a similar nature. This needless disablement of men is really the most disheartening thing I know in the war. Sir Auckland Geddes as a medical man, and certainly the Minister of Pensions, should look into the matter with care, for it is one which involves the man power of the nation. I feel absolutely certain that the future will see a great reaction from this most remarkable age of splints.

## VARIATIONS IN THE ACTIVITY OF THE CILIARY MUSCLES.

BY

MAJOR G. F. ALEXANDER, R.A.M.C.

THE activity of the ciliary muscles can be realized only by the routine practice of estimating the refraction when they have been completely paralysed, and again after they have recovered from the effects of the cycloplegic. Complete paralysis being hitherto only obtainable by the use of atropin, has been mainly restricted to children on account of the inconvenience of the prolonged paralysis of accommodation and the danger of inducing glaucoma in the elderly, and thus, as a 2 per cent. solution of homatropin and cocaine has in the case of young and vigorous adults frequently only a partial paralysing effect, variations in the activity of the ciliary muscles in adults have largely escaped observation. Early in the year, however, I found that cycloplegia as complete as that obtained by atropin could be obtained by a saturated solution of homatropin (16 per cent.); a large drop may be instilled in each eye without fear of toxæmia, and recovery is as rapid as after the use of the 2 per cent. solution—that is, in twenty-four to thirty-six hours—or if a drop of 1 per cent. eserine is instilled in two to three hours, and thus the benefit of atropin is obtained without the drawback of its prolonged paralysing effect. By the use of this solution in over 1,000 cases, supplemented by that of a special astigmatic chart, I have been able to observe some interesting variations in the activity of the ciliary muscles, which with those already familiar are briefly summarized as follows:

1. Both in hypermetropia and myopia the tonicity of the ciliary muscles varies from time to time: the difference in the vision recorded by different observers or the same observer on different days is thus accounted for, increase of activity necessarily lessening hypermetropia and increasing myopia, and relaxation the reverse.

2. In anisometropia unequal activity of the ciliary muscles frequently neutralizes more or less of the disparity.

3. Apart from anisometropia the ciliary muscles often show unequal tonicity, as is proved—(a) in either hypermetropia or myopia by difference in the corrections of the two eyes found on post-cycloplegic testing, although paralysis of the muscles showed that the eyes were equally ametropic; (b) in either hypermetropia or myopia, and even occasionally in emmetropia, by spasm of the accommodation taking place to an unequal degree in the two eyes, and even occasionally in one eye only.

4. Spasm of accommodation, apart from its commonest causes—namely, astigmatism and exophoria, the latter naturally acting chiefly in myopia—is frequent from over-use of the eyes for near work, especially if fine, under the electric light, or in insufficient light: though naturally most marked in hypermetropia it is found also in myopia and emmetropia; it is observed chiefly in young and neurotic subjects, but is found also in others, and even when they are well beyond the presbyopic age (I have notes of one case of spasm in an emmetrope aged 48 years).



5. While the contraction of the fibres of the ciliary sphincter in the states above noted takes place uniformly all round, establishing a degree of general tonicity, a contraction of some of the fibres or their relaxation from fatigue relatively to the rest may take place in segments of the sphincter, and this may be—

A. *Meridional*—that is, when the segments are at the opposite ends of a meridian of the lens, in which case contraction increases and relaxation diminishes the refractive power of the lens in this meridian only. Such variations in activity occurring in both hypermetropia or myopia may either—

(a) Correct regular astigmatism, contraction doing so when acting in the meridian of least curvature of the cornea and relaxation when acting in the meridian of greatest curvature of the cornea. In this way hypermetropic astigmatism may be corrected, and though this is stated by Ernest Clarke and others to be possible only up to 0.75 D, I have recorded numerous cases of 2 and 3 D, two of 4 D, and two of 5 D in this way fully corrected, an interesting feature of some of them being that this correction was unattended by any symptom of eyestrain, this applying to both cases of 4 D noted. As on post-cycloplegic testing the cylinders found to correct the astigmatism in the static refraction were in some cases rejected, in others accepted, and in still others weaker ones were accepted, it is evident that, just as in the case of hypermetropia, we have to consider manifest, latent, and total astigmatism, the amounts of which vary in different cases and are subject to variation in the same case. Auto-correction of a low degree of astigmatism is common long after the presbyopic age, and I have notes of the correction of simple hypermetropic astigmatism of 0.75 D at 58 years.

(b) Cause regular astigmatism, in which case the segments may vary from time to time, necessitating corresponding changes in the axis of the correcting cylinder.

B. *Non-meridional*—that is, not corresponding to one of the chief meridians of the lens, when its refraction is increased eccentrically so that, either in the existence of corneal astigmatism or apart from it, irregular astigmatism—that is, not correctable by glasses—results with occasionally monocular diplopia.

6. At times, from the above causes—and this I have found up to the age of 58—one or both of the ciliary muscles may pass into a phase of "irritability" from which regular astigmatism may be corrected or caused at intervals, and, if the latter, the meridian may be varied from day to day, while in either case the astigmatism may every now and then be rendered irregular, and then, if monocular diplopia is present, from variations in the segments the fainter object may appear displaced from the more distinct in different directions at different times. Naturally the above abnormalities in the activity of the ciliary muscles are a fertile source of asthenopia and are of special interest when found at an age at which they have been for the most part unsuspected.

7. As to treatment, it becomes imperative in all cases of asthenopia in which spasm or irritability of the ciliary muscles may be the possible cause, apart from lessening as much as possible the near work and doing it in a good light screened from the eyes by a green shade, etc., to paralyse the ciliary muscles as above and estimate the static refraction; and if the cylinders found necessary are not accepted and weaker ones accepted are still productive of asthenopia and we do not fear glaucoma, to keep the accommodation thoroughly paralysed by atropin for several weeks while the cylinders correcting the total astigmatism are worn and general and nervous tonic treatment carried out, when they will almost invariably be accepted—an alternative plan being to prescribe the cylinders correcting the total astigmatism for constant use, trusting to the corrective partial contraction of the ciliary muscles giving way in time.

ST. ANDREW'S COLLEGE, Toronto, is being converted into a military hospital, to serve as the chief demobilization centre for the whole of Canada. Twenty-five new buildings are to be erected, and when completed the institution will cover twenty-five acres of ground. Though not intended to be permanent, the hospital will be used for many years after the war for the treatment of invalided or incapacitated soldiers.

## BLOOD PRESSURE IN PULMONARY TUBERCULOSIS.

BY

RICHARD J. CYRIAX, M.D., B.Sc.,

M.R.C.S., D.P.H.,

ASSISTANT RESIDENT MEDICAL OFFICER, MOUNT VERNON HOSPITAL, NORTHWOOD.

IN the JOURNAL of August 10th appeared an article by Dr. E. F. Cyriax on blood pressure in unilateral war traumatisms, pointing out that the pressures in the two arms do not always coincide, and, furthermore, that the pressure may be higher in one arm than in the other on one day, and the exact opposite a few days later. He pointed out also that the actual readings were influenced neither by the arm from which the first reading was taken, nor by the interval between the two readings.

A somewhat similar phenomenon appears to occur in some cases of phthisis, whether unilateral or bilateral—namely, that the pressure in the two arms is by no means invariably the same, a source of serious error being thereby introduced into the whole question of blood pressure in this disease.

The following observations were made upon 19 cases under the care of Dr. T. N. Kelynaek at the Mount Vernon Hospital, Northwood. The readings were taken at one sitting, first on one arm and then upon the other, as rapidly as was compatible with accuracy, with a Riva-Rocci instrument, by the auscultation method combined with palpation of the radial pulse. Both systolic and diastolic readings were taken, but it is especially to the former that I wish to direct attention at present. Differences of 5 mm. or less have been disregarded in order to make every allowance for the rise induced by the constriction of the armlet.

Five patients, all males, were confined to bed, except where otherwise stated. Tubercle bacilli have been found in all their sputa. In two cases differences of more than 5 mm. in the systolic pressures were not found; two observations were made on each patient at intervals of some days. Both have lesions in both lungs.

### CASE III.

R. B., aged 18. Infiltration right upper and apex right lower lobe. Haemoptysis 6 ounces September 18th.  
September 27th. Blood pressure: R. 121.68; L. 119.68. (Systolic difference, R. + 2 = 0.)  
October 4th. R. 136.83; L. 132.84. (R. + 4 = 0.)  
Sodium nitrite, one grain, administered four times daily.  
October 9th. R. 115.79; L. 113.78. (R. + 2 = 0.)  
October 11th. R. (taken first) 118.94; L. 132.78. (R. - 14.)  
October 12th. R. 114.82; L. (taken first) 131.80. (R. - 17.)  
The systolic pressure is thus lowest at present upon the diseased side. Sodium nitrite is still being administered.

### CASE IV.

W. J. B., aged 41. Infiltration both upper lobes, principally on the left.  
September 27th. R. 124.84; L. 120.84. (L. - 4 = 0.)  
October 7th. Dr. Kelynaek considered that a fresh spread was probably taking place. October 9th. Dr. Kinton noticed that the principal activity was on the left side.  
October 10th. R. (taken first) 102.85; L. 116.80. (L. + 14.)  
October 12th. R. 124.85; L. (taken first) 136.90. (L. + 12.)  
The systolic pressure is thus higher upon the side which is most active at present.

### CASE V.

H. J. W., aged 47. Infiltration both upper lobes, principally upon the left, scattered foci throughout.  
October 2nd. R. 105.80; L. 101.80. (L. - 4 = 0.)  
October 4th, 5th, 6th. Patient rested up two hours.  
October 7th. Sputum stained. Rest in bed.  
October 10th. R. 128.84; L. (taken first) 114.82. (L. - 14.)  
October 12th. Patient rested up two hours. Two hours after return to bed, R. (taken first) 116.82; L. 109.83. (L. - 7.)  
All the above readings were taken while the patients were in bed.

In the remaining 14 cases, not confined to bed, differences in the systolic pressure of more than 5 mm. were found in 6. All six are cases of bilateral disease: tubercle bacilli have been found in all their sputa. The differences amounted, in the male patients, to 7, 8, and 13 mm. respectively; in the female patients to 14, 8, and 10 mm.

I am convinced that the differences cannot be due to the constriction of the armlet. If they were so due, the same relationship ought invariably to subsist between the reading taken from the first and that taken from the second arm. No such relationship has been found.



At present I refrain from suggesting an explanation, either of the phenomenon itself, or of the latter's clinical significance. It may nevertheless be stated, as far as the observations made up to the present time enable an opinion to be formed, that the systolic pressure in the arm appears to be lower, as a general rule, upon the diseased side in a unilateral, upon the most diseased or most active side in a bilateral, lesion. Further investigations are in active progress.

This possible source of fallacy in estimating the blood pressure in cases of pulmonary tuberculosis is too obvious to need further emphasis.

I am greatly indebted to Dr. Kelynaek for his kind permission to publish these preliminary observations, and to Dr. Kinton, Medical Superintendent, for his encouragement and assistance.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### PREVENTION OF INFLUENZA IN NAVAL AMBULANCE TRAINS.

In view of the many and varied suggestions put forward for the prevention of influenza, the following notes of the means taken to prevent infection in the case of the crews of four naval ambulance trains which were used to convey a number of cases of influenza in an acute stage on four different occasions, may be of interest:

On June 29th Naval Ambulance Train No. 1 proceeded to Dover from Chatham to entrain 104 cases of influenza for transport to the Royal Naval Hospital, Chatham. The train was at Dover for four hours and seven minutes, during which time the cases were collected from various ships, etc., and brought on board. The train left Dover at 12.30 p.m. and reached Gillingham for Royal Naval Hospital, Chatham, at 1.51 p.m. Some of the crew of this train were in contact with bad cases of influenza for nearly five hours. The crew of the train consists of 37 sick berth and sick berth reserve ratings and two medical officers, and all were given quinine bisulphate gr. 5, and used a gargle of eusol. All bedding was sterilized and the train was washed down inside with a weak solution of izal after the run. No case of influenza developed amongst the crew or officers of this train.

On July 10th Naval Ambulance Train No. 3 proceeded to Dover from Chatham to entrain 140 cases of influenza. This train arrived at Dover 2.23 p.m., left again at 5.20 p.m., and reached Gillingham at 6.47 p.m. Cases from various sources were being taken on board during the whole time the train lay at Dover. Rather less than half the cases would be described as very severe, with high temperature, etc. As in Naval Ambulance Train No. 1, the crew consisted of 37 sick berth and sick berth reserve ratings and two medical officers, and all were given quinine bisulphate gr. 5, and gargled with a weak solution of carbolic acid. Influenza did not attack any man or officer employed on this occasion.

On October 9th R.N. Ambulance Train No. 2 was dispatched to Gosport to convey 42 lascars, all of whom had a severe form of influenza, complicated in 6 cases with bronchopneumonia. The cases were entrained between 11.5 a.m. and 12.25 p.m., when the train left Gosport for Greenwich. At Greenwich the 42 cases of influenza were detrained between 4 and 4.30 p.m. In this train all the crew and the medical officers took quinine bisulphate gr. 5, and they also gargled with a solution of potassium chlorate and carbolic acid. The train was disinfected with a solution of izal when it returned to Chatham. In this train, as in the other two, no case of influenza occurred in any officer or rating.

On October 31st Naval Ambulance Train No. 5 made a journey from Edinburgh to Stobhill via Queensferry and took up and carried a total of 108 cases of influenza. Most of the cases of influenza were on board the train for about four hours, but some were as long as six. In this case the officers and crew took quinine gr. 5 and gargled with a solution of potassium permanganate 1 in 5,000. The inside of the train was afterwards sprayed with izal and then washed down with carbolicene. No case of influenza occurred in the personnel of this train after this journey.

In the naval ambulance trains officers and men live continually on board. In all these four instances 39 healthy individuals were in close contact for several hours with a larger number of actively infective cases of influenza, and certain precautions were taken in each case, and not one of the 39 became infected with the disease. Quinine has always been considered by many as a prophylactic in influenza, and, combined with gargling of the fauces, certainly appears to have been effective in the four instances cited. Doubtless the disinfection of the trains with

antiseptic solutions also tended to lessen the risk of infection.

Spraying of the nasopharynx or washing out the posterior nares with some mild antiseptic would doubtless be additional safeguards, but these measures are not very easily carried out, and in view of the immunity of the 156 persons mentioned above who used antiseptic gargles they are apparently not absolutely necessary.

K. H. JONES, M.B., Surgeon Commander R.N.,  
Naval Medical Transport Officer, Chatham.

#### FILARIASIS AMONGST AUSTRALIAN TROOPS.

In the article on filariasis amongst Australian troops, Captain Rimmer, R.A.M.C. (October 12th, p. 405), makes note of four cases amongst Queenslanders occurring at Havre. As I was born, bred, and practised in Queensland, some points which have come to my knowledge may be of interest to Captain Rimmer.

In Queensland generally, and particularly in the north, filariasis is extremely common. As a record of its frequency I may quote the instance of a pregnant woman with mastitis in whose blood the filarial embryos were found in great numbers. The inmates of that household numbered eight, and merely for the sake of interest my father and self examined the blood of these people, and in six out of the eight embryos were found without any trouble. The remaining two gave a negative result.

Filariasis, with its sequelae, is one of the most prevalent of Queensland diseases, and is one of those conditions which has always to be excluded in making a diagnosis. The percentage of the inhabitants who, although they have the nematode in their blood, show no outward or visible sign of their condition must be astounding. Often-times have we examined patients who have come to the consulting room for advice as to other diseases and found filarial embryos in the blood.

In these circumstances it can hardly be wondered that a number of Queensland soldiers of the A.I.F., even though they have been away from their own country for some length of time, are subject to acute exacerbations of filariasis.

The amount of literature on filaria in Queensland is fairly extensive; a great deal of it is to be found in past numbers of the *Australian Medical Journal*.

A. T. H. NISBET, Captain A.A.M.C.

It might be of interest to state that microfilaria were found in 10 per cent. of the patients admitted to the Brisbane General Hospital. These statistics were compiled some few years ago from patients admitted to hospital suffering from various complaints. That hospital receives patients from all over Queensland, but more especially from the southern part, from Bundaberg south to the New South Wales border. From the figures the occurrence of filariasis amongst Queensland troops is probably about 10 per cent. Filariasis is practically never heard of in New South Wales, Victoria, and South Australia.

France.

A. M. LILLEY, Captain A.A.M.C.

#### INTESTINAL OBSTRUCTION AND APPENDICITIS.

It is essential in cases of obstruction of the bowels to ask, "Have you ever had appendicitis?" and to remember that, irrespective of the time, weeks or years, which may have intervened between an attack of this malady and the onset of obstruction, a three-inch exploratory incision should be made in the right semilunar line low enough just to expose the region of ileo-caecal valve, as the obstruction—usually a kink with dense adhesions—will invariably be found in the last few inches of the ileum. Personal experience warrants the conclusion that the stereotyped textbook central incision in such cases is attended with disastrous results, as in the search for the lesion the distended paralysed intestines are needlessly exposed and handled, with consequent shock. The vital factors in the procedure are to get directly to the spot, avoid deadly protrusion of bowels, straighten out the kink, and secure one end of a large drainage tube in the site of adhesions, and then rapidly close rest of parietal wound with a few strong silkworm-gut sutures. With a funnel and long tube a rectal injection of a half bottle of champagne



should be given, and the patient put quickly back to a warm bed. Six hours later it is advisable to give an injection of pituitary extract, and follow this within one hour by a 6 oz. glycerin and water enema.

JOHN O'CONNOR, M.A., M.D., T.C.D.,  
Senior Medical Officer, British Hospital, Buenos Aires.

#### LOCAL APPLICATION OF GLUCOSE.

I was interested to read in the *JOURNAL* of June 15th the article by Mr. T. H. C. Benians, F.R.C.S., on the local application of glucose in the treatment of certain superficial bacterial infections. For some years I have been using glucose, 40 per cent. solution, as a surface dressing for ulcers, with extremely gratifying results. The effect of a solution of zinc sulphate (2 per cent.) and glucose (40 per cent.) in promoting rapid granulation is much more striking than when lotio rubra alone is used. For the last eighteen months now I have used glucose (40 per cent.) instead of paraffin in the formula for bipp, with beneficial result; it is equally efficacious as an antiseptic in primary suture of infected wounds, and has the advantage that the wound does not gape open on removal of stitches, as one sees not infrequently happen where bipp has been used.

Mesopotamia.

F. MCG. LOUGHNANE, F.R.C.S.

#### VARICELLA AND HERPES.

I HAVE always been sceptical in regard to the suggested relation between herpes zoster and varicella, but the following facts have shaken my belief.

The Royal Liverpool Country Hospital for Children has one closed indoor ward, the rest of the hospital wards being open air. In this closed ward a child developed well marked herpes zoster on October 20th; this ran the ordinary course, and on November 5th four cases of chicken-pox were found in this ward, and on November 6th one other appeared. No new cases were admitted between October 12th and 27th, except one who had had chicken-pox three months previously. There was no case in any other ward, and no cases have appeared amongst the staff. No visitors have been admitted to the hospital since October 12th, owing to the influenza epidemic; and no infection could thus have been incurred from outside.

Neston, Cheshire.

GEORGE GUNN, M.D., F.R.C.S.E.

## Reports of Societies.

### DISCUSSION ON INFLUENZA.

A MEETING of the Fellows of the Royal Society of Medicine was held on November 13th, the President, Sir HUMPHRY ROLLESTON, in the chair, when a discussion on influenza was opened from the epidemiological side by Sir ARTHUR NEWSHOLME (chief medical officer to the Local Government Board), who maintained that influenza during this year had followed a course never previously experienced. Until towards the end of June the London curve showed scant mortality from it, the number of weekly deaths between the eighteenth and twenty-fifth weeks varying from five to ten. There is evidence that prior to this influenza had been fairly widely prevalent, as it could not fail to be, inasmuch as during the spring of this year influenza prevailed seriously among both the allied and enemy troops, and in Spain the epidemic of influenza had got well ahead in May. In July influenza was widely prevalent, and was causing excessive mortality not only in England, but also all over Europe, in the United States, in the great cities of India, and elsewhere. I have not found another instance of a widespread epidemic culminating in the summer months (that is, after June 23rd). The London curves, with this single exception, show that since 1881 epidemic peaks have always occurred in winter or spring. In the epidemic culminating in July streptococcal infection had been noticed by various observers; and in accounts of outbreaks of influenza in camps and in the civilian population in America during both 1917 and 1918 there was this same preponderant occurrence of haemolytic streptococci in the lesions and secretions. During the spring and throughout the summer of each year the usual endemic influenza probably was being almost constantly

replenished by more virulent infection on a very large scale from overseas from both the American and European continents.

The further course of influenza this year in London showed that after an epidemic causing excessive deaths during some six weeks in July and August—weekly deaths from influenza, 10 (in the twenty-fifth week), 67, 218, 287, 192, 86, 38 (in the thirty first week)—there was a decrease, the deaths in each of the following weeks being 21, 20, 12, 12, 12, 14, 9, 17, 17. In the forty-first week occurred a sudden increase of deaths to 80, and in following weeks the deaths numbered 371, 1,256, 2,458, and 2,433. This experience is different from that in any preceding year. The interval between the peak of the July epidemic of 1918 and of the smaller epidemic in 1916-17 was eighty weeks; the corresponding interval between the July and the October to November epidemic peaks in this year was sixteen weeks. This last-named interval is less than half of the interval elapsing between any two previous epidemic peaks of influenza in the metropolis, the nearest approach being thirty-five weeks' interval between the epidemic peaks of 1891 and of 1892. Sir A. Newsholme then referred to the request of the Secretary of the Medical Research Committee, noted in the *BRITISH MEDICAL JOURNAL* of August 10th, to bacteriologists in this country to send results of their observations during the epidemic in order that the results gained here might be collected, with a view to the organization of such co-ordinated work as might be found possible for the study of the secondary waves of infection that were to be expected. This statement, he feared, had been overlooked by many bacteriologists as it was by himself. In some journals an attempt had been made to show that public health authorities, central and local, did not take all possible steps in anticipating and mitigating the present major epidemic of influenza. Further, in an answer to a parliamentary question, the above cautious statement had been asserted to include also a forecast that (a) the secondary waves would occur in the autumn, and (b) that they would be more severe in character than the "primary wave of last spring." No such forecast as (a) was made, and it would have been a foolishly wild guess, inasmuch as the present "secondary wave" occurred more than twice as early as any previous "secondary wave" recorded in the history of the metropolis, and he knew of no other place for which equally minute and accurate statistics were available. That this was so was shown further by the statement in the monthly *Medical Supplement* compiled by the Medical Research Committee (October 1st, 1918) that "it is unfortunately only too certain that a second and more severe wave of influenza will spread over Europe in a few months." No special foresight was needed to anticipate that influenza, if it recurred in winter, would be a more serious disease than in July; but when this last statement, which was inconsistent with other published statements, was made, the "secondary wave" already was well on its way to an unexampled maximum, having caused during September serious mortality in South Africa, the United States, India, and some parts of Europe. If the forecast in the last quotation was to be verified, it would mean a further epidemic of influenza which had not yet materialized. Warnings of possible "secondary waves" in the presence of much endemic influenza or immediately after a super-added epidemic had declined, would be useful if a prophylactic were available (none except one in the early experimental stage had been suggested), or if by issuing advice the progress of an epidemic could be stayed. But at present we were unable to prevent the spread of influenza by communal means, and the experience of every family invaded by influenza demonstrated the difficulty, amounting almost to impossibility, of preventing the domestic spread of infection.

He had, however, in his official capacity prepared in July last a memorandum for public use, but, on the balance of considerations, its distribution was not considered expedient at that time. There were national circumstances in which the major duty was to "carry on," even when risk to health and life was involved. This duty had arisen as regards influenza among the belligerent forces, milder cases being treated in the lines; it had arisen among munition workers and others engaged in work of urgent national importance; and on a gigantic scale in connexion with the transport during 1918 of many



hundreds of thousands of troops to this country and to France from overseas. In each instance some lives would have been saved and spread of infection diminished if the known sick could have been isolated from the healthy, if rigid exclusion of known sick and drastic increase of floor space for each person could have been enforced in factories, work-places, barracks, and ships, and if overcrowding could have been prohibited; but it was necessary to "carry on," and we needs justified incurring this risk of spreading infection, and the associated creation of a more virulent type of disease or of mixed diseases. Crowded trains, trams, and buses were doubtless prolific sources of infection; but the service could not immediately be increased, and meanwhile the vast army of workers must not be impeded by regulations as to overcrowding of vehicles in going to work and returning home, and he had had no hesitation in recommending the Local Government Board to advise police authorities to this effect. With regard to the preventability of influenza from the standpoint of possibilities in time of peace, the question was whether we were prepared to pay the heavy price in personal restrictions which its prevention—if even then possible—would imply until further means of prevention, so far undiscovered, become available.

The problem of preventing influenza was part of the wider problem of the prevention of the entire group of catarrhal diseases, with the added problem whether the occult causes of pandemicity of influenza could be discovered and their action averted. Medical science was unable to ensure us against acute nasopharyngeal catarrh or a "common cold." He did not overlook the occasional "hits" of autogenous inoculation, but the nearest approach to a general truth in regard to these colds was that life continuously in the open air secured relative immunity from attack. A practical difficulty in prevention was that the patient for several days might not fully recognize his condition, and it seemed likely that infection was chiefly spread during these earlier stages.

Numerous papers were then read, giving the results of investigations of the observers on the bacteriology of the epidemic. It was suggested that the *B. influenzae* was probably the causal organism, and that the pulmonary complications and septicaemia were due to secondary infection by the streptococcus or pneumococcus. After discussion of the morbid anatomy, the treatment—prophylactic and curative—came under review, and an account was given of vaccine treatment by Captain H. E. WHITTINGHAM, R.A.M.C., attached R.A.F., and Captain W. E. CARNEGIE DICKSON, R.A.M.C.

## Reviews.

### PHARMACOLOGY AND THERAPEUTICS.

PROFESSOR ARTHUR CUSHNY, who recently delivered his first lecture from the chair of materia medica and therapeutics in the University of Edinburgh, has now published a seventh edition of his *Textbook of Pharmacology and Therapeutics*.<sup>1</sup> There is no need here again to describe the scope and arrangement of this well known work, which is a storehouse of precise information conveyed in the clearest language, useful alike to the senior medical student and to the practitioner. The issue of the ninth revision of the *United States Pharmacopoeia* made it necessary to review the descriptions of many of the drugs, and the author has taken the opportunity to revise the whole volume, and to bring its contents up to date. Since the publication of the last edition three years ago, pharmacological research has slowed down somewhat, and as a consequence changes in the text are rather fewer than usual. The war has, however, emphasized the importance of certain drugs, such as the disinfectants, which were falling into an undeserved oblivion, and recent progress in this direction is reviewed in the chapter on antiseptics and disinfectants. The work of various investigators, among whom Dr. Dakin must be mentioned, has shown that the principles underlying the antiseptic action of the hypochlorites, for example, have wide applications

in practice. The amount of space given to the less important and less trustworthy drugs is further curtailed in the present edition, and many valueless preparations still to be found in pharmacopoeias are dismissed in a few words or ignored. A short section is devoted to the method of physiological assay by which the strength of a preparation is estimated from its effects on living animals or tissues; but, as Professor Cushny remarks, the details of this method are really insufficient without a complete practical course of work in the laboratory. The new edition will undoubtedly maintain the popularity of this excellent textbook.

### ASPECTS OF DEATH.

MAN alone among animals knows he must die, and civilized man alone among the races of men. In the world of our modern existence, with all the discoveries of science and all the complexities of our social system and all the wonders of past history crowding thick upon us, we ponder far less than our forefathers on the inevitable debt of all flesh.

To the doctor, indeed, death is something more than the personal thing that it is to other men, for it is his lot to follow many as far as its gates. To him are full familiar the lineaments of the covering that is cast over all peoples, and the veil that is spread over all nations. He, at least, does not need to be reminded of death, for all aspects of it, varied as the processes of life itself, form the special province of his study.

In this study the medical man will be much helped by Dr. F. PARKES WEBER's book, *Aspects of Death*, the third edition of which we gladly welcome.<sup>2</sup> With scholarly care and skill, and in a fine broad humane spirit, Dr. Weber guides us on from the classical conceptions of antiquity, through the sombre ideas of the ages of faith, past the doubting fame-greedy renaissance, to that more modern time when puzzled man turns to regard death as friend in its aspect of peace and rest. In the latest period a new aspect of death has emerged, or rather an old one has been revived. The mind, conscious of the reign of law everywhere and yet giddy with contemplation of the endless series of worlds, and of the countless numbers of generations that have passed and died since man first appeared upon the earth, gladly returns to something like the ancient stoic view. We seem to be parts of an infinite mechanism, and we become content and happy to regard ourselves and our lives as tiny factors in the grand scheme of universal solidarity.

In one sense at least death is the most creative thing there is. The knowledge that he must surely die has set man thinking, and thinking on this subject has done much to raise him. And in our own day, too, at least in normal times of peace, there is a correlative to the absolute certainty of death. It is the relative certainty of life. We may each of us form reasonable and approximate estimates of how long we have to live, and, apportioning the tasks we set ourselves to the time before us, so learn to number our days that we may get us a heart of wisdom, and thus find

The secret of the word that saith  
Service is sweet, for all true life is death.

### NOTES ON BOOKS.

A RECENT addition to the medical war manuals, authorized by the Secretary of War, and under the supervision of the Surgeon-General and the Council of National Defence, is a small book on *Laboratory Methods of the United States Army*.<sup>3</sup> It has been compiled by the Division of Infectious Diseases and Laboratories. It is a working handbook, containing formulae and technical methods for carrying out laboratory examinations. It has the further purpose of ensuring as far as possible uniformity of procedure in the army laboratories. The functions of the army laboratory are stated to consist chiefly in helping to safeguard the health of the troops, and the director of such a laboratory is reminded that it must combine the

<sup>1</sup> *A Textbook of Pharmacology and Therapeutics: or the Action of Drugs in Health and Disease.* By A. R. Cushny, M.A., M.D., LL.D., F.R.S. Seventh edition, thoroughly revised. London: J. and A. Churchill. 1918. (Med. 8vo, pp. 721; 71 figures. 18s.)

<sup>2</sup> *Aspects of Death and Correlated Aspects of Life in Art, Epigram and Poetry.* By Frederick Parkes Weber, M.A., M.D., F.R.C.P., F.S.A. Third edition, revised and much enlarged. London: T. Fisher Unwin, Ltd., and B. Quaritch, Ltd. 1918. (Demy 8vo, pp. xl + 784; 145 figures. 30s. net.)

<sup>3</sup> *Laboratory Methods of the United States Army.* Philadelphia and New York: Lea and Febiger. 1918. (4½ by 5½. Pp. 256, illustrated, 1.50 dols.)



functions of a health department laboratory with those of the diagnostic laboratory of a hospital. There is a long section on the sanitary examination of water and sewage, which contains a description of the various methods of sewage disposal. The book is a model of condensation, and is published in a very convenient portable form.

MR. F. W. WILE has written a small book, *Explaining the Britisher*,<sup>4</sup> for American soldiers and sailors. Malicious stories were spread in America to the effect that Great Britain was leaving other nations to fight for it and not doing its share. There was no systematic official contradiction of these stories, perhaps because we looked on them as too absurd to be believed. Mr. Wile, however, knows that many of his countrymen did believe them, and he has here told the facts in a few brief, racy chapters. But the work will interest and amuse the Britisher. Mr. Wile is the fay who gives us the gift of seeing ourselves as others see us. The book is as friendly and good humoured as heart can desire; but, in spite of the many years he has spent among us, the author seems only to have realized what oddities we are when he began to collect his thoughts to write this book. He knows, for instance, that cricket is a training in character, but he can understand how a game set down to last three days may puzzle men bred on baseball. Also he thinks it necessary to set down that a British boy does not wish to be kissed by his parents when they visit him at school.

<sup>4</sup> London: Heinemann. Autumn, 1918. Price 2s. 6d. net.

### ROYAL MEDICAL BENEVOLENT FUND.

At the last meeting of the Committee thirty cases were considered, and £249 15s. voted to twenty-four of the applicants. The following is a summary of some of the cases relieved:

Widow, aged 47, of L.R.C.P. and S.Edin., an annuitant of the fund who died in 1916. Applicant left entirely without means, and finds it difficult to obtain suitable employment. Relieved three times, £18. Voted £12 in twelve instalments.

M.R.C.S. Eng., aged 49, married. Suffering from disseminated sclerosis. Has no income beyond 10s. a week from friends and 5s. a week earned by his wife by making shell jewellery. Rent £6 a year. One son, aged 11, a foundation scholar at Eps m. Relieved twice, £44. Voted £26 in twelve instalments.

Widow, aged 43, of L.R.C.P. and S.Edin. who died in 1912. Applicant obtained a living by keeping a sweet shop, but owing to the war had to give it up. Now earns 10s. a week by sewing. Has three children aged 13 to 18. The eldest in the army, from whom she receives 3s. 6d. a week, and a daughter aged 16, who earns 12s. a week. Recommended by the Edinburgh branch of the Guild. Relieved twice, £25. Voted £15 in three instalments.

Daughter, aged 66, of L.F.P.S. Glasg. who died in 1863. Applicant has two pensions bringing in £40 a year, and has two unfurnished rooms rent free. Owing to the high cost of living unable to manage. Relieved five times, £5. Voted £5.

Widow, aged 55, of M.B.Aberd., who died in 1912. Owing to ill health unable to work. Sister-in-law allows 10s. a week. Rent 5s. a week. Relieved three times, £34. Voted £12 in twelve instalments.

Widow, aged 37, of L.R.C.P. Edin. who died in 1916. Applicant was left with very limited means with four children now aged 4 to 12 years. Tries to supplement her income by taking in boarders. Relieved twice, £27. Voted £15 in twelve instalments.

Widow, aged 81, of M.D.Lond. who died in 1895. Suffers from chronic rheumatism. Total income £44 a year. Relieved ten times, £65. Voted £10 in two instalments.

Widow, aged 55, of M.D.Edin. who died in 1896. Was left with one daughter, entirely unprovided for. Has recently fractured her leg, which has prevented her from working. Receives a little help from daughter. Relieved four times, £48. Voted £12 in twelve instalments.

Subscriptions may be sent to the Acting Honorary Treasurer, Dr. Samuel West, at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild is now called upon, as a result of the war, to deal with many widows and children who, in happier times, would not have thought of asking for assistance. It is glad to receive secondhand clothing and household linen. The class of clothes most wanted is that suitable for boys and girls working in offices, for women, and for old men. The gifts should be sent to the secretary of the Guild, 43, Bolsover Street, W.1.

ON the initiative of Dr. Luigi Veratti, assessor of the Milan department of health and sanitation, a section has been instituted in the Bureau of Hygiene of that city for a public service of gratuitous and voluntary antityphoid vaccination.

## MOTOR NOTES FOR MEDICAL MEN.

BY H. MASSAC BUIST.

### THE SITUATION ARISING FROM THE CESSATION OF HOSTILITIES.

THE conclusion of the fighting pending the fulfilment of the conditions of the armistice has been productive of an immediate effect on the motor situation in that the radius of action of each licensed user of petrol has been extended to thirty miles, without, however, any increase of ration. The present licence holders are, nevertheless, already assured that applications for further licences for greater quantities of petrol will be favourably considered. Medical men come first in this category. Nor is there any reason to anticipate that inadequate amounts will be granted them in face of the abnormal extent to which their numbers have been depleted through war service, and of the health situation of the country making equally abnormal demands on members of the profession at home.

### WHY WE SHALL NEVER RETURN TO UNRESTRICTED CAR LIGHTING.

THIS change comes about at a season of the year when it is essential for the average medical man to use his car to a very considerable extent during hours of darkness. One of the earliest announcements was that it was not possible to allow the lighting restrictions to be removed altogether—first, in coastal regions, because of the requests of the naval authorities, and secondly, because there are few conditions that lead to worse confusion than the partial lighting of a town or village where passing vehicles use unveiled headlights on the pre-war scale.

Those, however, who conclude from these announcements that it is only a matter of weeks before motorists throughout the length and breadth of the land will have leave to run their cars without any restriction are entirely in error. No official announcement has been made on the subject at the moment of going to press, but I have reason to forecast that never will utterly unrestricted lighting of motor vehicles be permitted in these islands. Few, if any, medical men will have any objection to this, since as a class they have not utilized the more extravagant and dazzling schemes which were being developed and employed before the war by certain classes of motorists. In those days every effort was being made to devise more and yet more powerful headlights, in some cases quite irrespective of their effect on other road users.

What we shall have will be regulations designed to furnish all the lighting necessary for quite safe and convenient driving on the part of individual motorists, but so limited that other road users, whether pedestrians, equestrians, or drivers of any sort of vehicle, will not be dazzled by the effect of such lights. The Home Office has all the necessary information and data from experiments. It is extremely unlikely that such limitations as it will be necessary to impose on the future lighting of cars will cause any alteration in the lights used by medical men, for they have not used dazzling or extremely powerful lighting schemes; they will, on the contrary, find that motoring at night will be considerably more agreeable because they will not encounter users of dazzling headlights, who, as a class, are not altogether free from scorching tendencies.

### THE CRITICAL PERIOD ON THE OPEN ROAD.

Once the release of petrol becomes general, as must happen early next year, large numbers of motorists will take the road again. Most of them will have had experience of motoring under war conditions, or in the air, and many will have no conception of desirable or undesirable driving according to our pre-war standards. It should be noted also that experience proves it dangerous to allow men and women who have suffered nervous overstrain to take charge of vehicles. The least excitement causes them to lose all sense of what they are about, and to take quite unnecessary risks while their minds are temporarily agitated.

Again, we must not overlook the fact that vast numbers of drivers have been accustomed to the French rule of the road; consequently, when an emergency arises, and the only way out is to do subconsciously the one right thing



among ninety-nine wrong ones, in numbers of cases undoubtedly the mental process will be to behave as though the individual driver were still on French roads. In other words, we must be fully prepared for a critical time in regard to motor driving in the first half of 1919.

#### PUTTING CARS INTO GOOD CONDITION.

Fortunately a large proportion of medical men have been using their cars throughout the period of the war. Consequently they are more or less in good condition as regards accessories, such as, notably, tyres; but medical men who have been abroad may, when they return, discover that tyres laid by for a matter of years become practically worthless, not from wear, but from a sort of process of disintegration.

The motor agents expect that the cessation of hostilities will mean not only a large business in the selling of new cars when such become available, but an even larger business in the matter of repairs, and, above all, in the replenishment of tyres; yet to-day it is not possible to secure a permit to buy a Dunlop tyre, though apparently any other make may be purchased. Obviously, however, it can be only a brief interval before Dunlop tyres shall become available to the public. The warning for the medical man is that if he is likely to need any particular make of tyre in the near future, and can come across examples of it locally, assuredly he should secure them to the extent of ensuring his ability to carry on pending the resumption of normal motoring conditions, which can only be achieved gradually.

There can be no sudden and absolute regrant of motoring facilities. The movements now taking place in carrying out the armistice conditions are equivalent to a vast rush forward by our armies. Consequently, fuel and tyre needs for transport at the front, far from being less by reason of the sudden stoppage of actual fighting, are, and will be, temporarily greater. The flying services, too, are putting in plenty of hours in the air, to the great consumption of petrol. That, however, will stop once Marshal Foch shall be in a position to report that the conditions of the armistice have been carried out. Then must begin a rapid and drastic economy of expenditure on motoring at the charges of the taxpayer.

#### THE SITUATION IN REGARD TO MAKING AND MARKETING NEW CARS.

As long as work remains "controlled" the Government has to share any losses incurred. The Government has fixed the price of wages for six months ahead, but itself does not want to share any loss resulting therefrom. Therefore, we find already that the name of the Ministry of Munitions, for example, is about to be altered to the Peace Ministry of Supply, thereby avoiding a sure loss and involving much elsewhere. At the moment the motor factories of the country do not know exactly where they stand. Some makers have their programmes fixed, but confusion arises from the cancellation of orders, not merely for new munitions, but also for spares. There appears to be no uniformity in the nature of contracts that have been made. What has to be adjusted is the entire proposition of who is responsible for what, and how much of what is under order must be completed, because preliminary processes in connexion with it have gone too far. For example, there are the partly machined castings, crankshafts, and so forth. These cannot be wasted. Thus, there is about four months' grace to finish aircraft engines in hand. Certainly the check was administered with admirable promptitude. If we begin with producers of raw materials, a minimum of time is being lost by them, their situation being much easier than that of the makers of finished products, such as motor vehicles. Nevertheless, some firms have post-war car models on the road already; certain actually started building chassis on the day work was resumed after the three days' holiday granted in celebration of the signing of the armistice with Germany.

The publication of details of post-war models that are really designs, and are not pre-war models in disguise, will be quite gradual. Some firms have what is styled their publicity matter already, but those are not necessarily the enterprises which have their vehicles nearest completion. Others are getting their car production programmes well in hand, but they have not yet found time to issue

descriptions of them. In this connexion it must be had in mind that quite a number of firms had produced, printed, and stowed away post-war catalogues six and more months ago.

#### CAR SCHEMES MORE DEFINITE THAN CAR PRICES.

As to the choice of motor vehicles to be put on the market here, evidently we may look for car schemes to be much more plentiful than definite statements as to car prices. Some firms are taking orders for vehicles at certain prices, or *less*. Scarcely any firm is taking orders for a vehicle at an absolutely set price. The reason is obvious. No firm is yet completely out of Government control. Moreover, when each is released, it will be only on the terms that it has to pay certain prices for wages, which represent about one-third of the cost of producing a car.

#### THE DESIGN OF NEW 1919 CARS.

Neither would-be car owners, nor members of the industry or trade, are wishful that motor shows should be held this year. More than all the cars that can be produced in the next nine months from the design of 1916, as distinct from those of 1914, will be sold without any such effort, which, on the contrary, would tend merely to hold back the placing of definite orders, and lead to further delay. Motor shows are not to be looked for until the autumn of 1919, though competitions, of course, will have to be conducted next summer to try still newer ideas.

Briefly, in the cars to be placed on the market in the course of the next month or two, it will be found that suspension, steering, accommodation, more effective incorporation of accessory details in the original designs of the vehicle, and certain American influences making for cheaper production without prejudice to the quality of the accommodation and riding provided, have been had in mind. Not all the schemes for incorporating the accessories in a motor vehicle can be commended. In one of them, for example, you shall find the accumulators in connexion with the mechanical engine starting and lighting gear accommodated alongside the silencer—certainly an undesirable practice. One of our largest firms will be found to have made a notable departure in frame construction with a view to providing a really inflexible base for a car body, thereby solving the problem of creaking with wear. These and such like matters, however, are best dealt with at a later date.

#### TRENCH FEVER.

THE Commission of the Medical Research Committee appointed by the American Red Cross has just issued its report on Trench Fever,\* which forms one of the most valuable contributions to war medicine hitherto published. The report has been edited by Major R. P. Stroug, who is in charge of the Subdivision of Infectious Diseases, A.E.F., and he, as well as all those associated with him, may be most heartily congratulated on the result.

It is a matter of general knowledge that trench fever has caused an immense amount of wastage in the British and allied armies, but, except by those actually dealing with cases in the mass, the importance of the problem from the point of view of man power has not been fully realized. The quotations from previous writings given in the report, such as that "it was at one time computed to form 40 per cent. of evacuations, and 60 per cent. of all cases of sickness in a certain formation," and that "its morbidity could only be equalled by such plagues as typhus, typhoid, and malaria," give some idea of its prevalence.

#### Specific Nature of Trench Fever.

Since 1915 much discussion has centred round the problem of the specificity of trench fever. Its first appearance on the Western front was soon followed, as movements of troops to other centres took place, by its being noted in Salonica. Mesopotamia and Italy and the German armies were also affected. Resemblances to dengue, "Colombo" fever, the low fevers prevalent in

\* *Trench Fever*. Report of the Commission, Medical Research Committee, American Red Cross. OXFORD: UNIVERSITY PRESS, 1918. (Pp. 312, with plates, charts, and tables.)



Flanders in previous campaigns, and to other epidemics were noticed, but the differential diagnosis as regards these diseases was soon established. The great clinical problem remaining to be determined was whether trench fever was merely a modified form of typhoid or paratyphoid, a view stoutly maintained by some up to the last. The first work of the Commission was therefore to solve this question, and the masterly exclusion of the enteric group is set out in convincing detail. To summarize the results it may be stated: (1) That no bacterial growth was obtained in 200 examinations of blood, stools, or urine, whereas in clinical cases of infection with the enteric group at least 20 per cent. of such examinations are positive. (2) That no bacterial substances affecting the growth of the organisms of the group were ever obtained from the blood of trench-fever patients. (3) That the agglutination titre, determined by Dreyer's method, never showed any constant or characteristic fluctuation in vaccinated men who developed trench fever. The conclusion is therefore drawn that trench fever is not an enteric group infection modified by inoculation. All other bacterial investigations also proved negative, and the final result arrived at was that trench fever is a specific infection, due to an unknown virus. Thus was clinical opinion strikingly confirmed bacteriologically, and a new disease definitely isolated from the mass of febrile affections.

#### Clinical Description.

Many published accounts have described the general symptomatology. After an incubation period of from fifteen to thirty days, during which prodromata are not frequent, the disease is ushered in with sudden onset—headache, dizziness, pains in the back and legs, lateral nystagmus, injected conjunctivae ("pink-eye"), enlarged spleen, an erythematous or papular rash on the trunk, and sharp fever. Subsequently various types develop. In the short form the whole illness is over in ten days. In the long or relapsing form, which predominates, characteristic relapses of fever, with a return of symptoms, may recur for several weeks. Less frequently the initial fever may be prolonged for weeks. Even after recovery from any one of these types, liability to recrudescence at remote periods up to eighteen months may exist. That all these varying types are only different manifestations of the same disease was shown by the Commission, for in experimental transmission the type appearing in the inoculated case did not necessarily conform to that of the original patient.

#### The Question of Blood Infection.

Having determined the specific nature of trench fever, the question of the infectious properties of the blood was next approached. This research was based on the historic work of McNee, Brunt, and Renshaw, who, in 1915, demonstrated on men that the disease could be conveyed by the injection of the whole blood, but not of the serum, and concluded that trench fever was a definite entity, the virus being contained within the red corpuscles. These experiments the Commission repeated on a large scale, and arrived at somewhat similar conclusions. Thirty-four men received blood injections from proved cases, of whom twenty-three contracted the disease within periods varying from five to twenty days. The blood was found to be most infective in the first two days of the disease and more infective in the first attack than in subsequent relapses. It was further determined that either whole blood or plasma could convey the disease, that serum and filtered plasma were not infective, and that washed corpuscles were at times infective, at others not. From this it was concluded that the virus is extra-corpuscular, existing in the plasma, and that at times it is carried down in the centrifuge with the corpuscles. Further, it was found that the urine of patients contains the virus, as also the excreta of infected lice. Experiments on filtration with these infected vehicles indicated that the virus is a filter passer. The virus resists heat, but is destroyed by exposure to a moist temperature of 70°C. for thirty minutes. The summarized result of these experiments is that trench fever is caused by a specific virus, which has high resistance, is filterable, and is contained in the plasma, the urine, and occasionally the saliva, of infected patients.

#### Methods of Transmission.

The final problem, and that the essential one from the military point of view, was the determination of how the disease spread. For three years speculation had been rife in the British armies, the possible rôle of mosquitos, rats, mice, etc., being considered. Gradually all agencies except that of the omnipresent louse had been eliminated, and clinical judgement had more and more leaned to the theory that here was the criminal. In fact, before the Commission began its work this view had been adopted as a working one, and strenuous efforts were being made to combat the widespread infestation from which the troops suffered. The final proof of the guilt of the louse adduced by the Commission came as a timely support to the conviction already arrived at on circumstantial evidence. Space prevents any detailed description of the methods employed, but the chapters devoted to this part of the work are fascinating reading. It is sufficient to state that 70 per cent. of the volunteers who were exposed to the bites of infected lice developed the disease, and, further, that the excreta of such lice when rubbed into an abraded skin area were also capable of conveying the virus. The general conclusion reached by the Commission was "that the disease is transmitted naturally by the louse *Pediculus humanus*, Linn., var. *corporis*, and that this is the important and common means of transmission. That the louse may transmit the disease by its bite alone, the usual method of infection, or the disease may be produced artificially by scarifying the skin, and rubbing in a small amount of the infected louse excrement."

The work of the Commission was thus brought to a triumphant conclusion, fortunately just before the commencement of the March offensive. It is a remarkable testimony to the value of "team work." It goes far to solve the problem which has proved the largest one in the medicine of the war. Carried out in a British hospital, based on the clinical and experimental observations of hundreds of British medical officers, it has placed on a scientific basis of proof the opinions which were largely held as a result of these observations, and has added another item to the debt we owe to our American colleagues. Whilst acknowledging that debt, let it not be forgotten that it was owing to the spirit of the eighty-two volunteers from the American army who willingly offered themselves as subjects for experiment, knowing the risks they ran, that the results obtained were possible.

Finally, most important of all, the means of prevention are placed in our hands, and the "battle cry" of one Corps in the army—"kill that louse"—may well be generally adopted as indicating a universal method of attacking the disease which has caused such great wastage in the manpower of our armies.

We venture to think that this report, issued by the Clarendon Press in admirable style, and containing full protocols of all experiments with a wealth of detail, will become a classic on the subject of trench fever, and to hope that it may be as widely read as it deserves.

A French Orthopaedic Society has recently been founded. The President is M. Kermisson; the Vice-Presidents MM. Broca and Denucé. The questions discussed at the first annual meeting, held in October at the same time as that of the Société de Chirurgie, were amputations in relation to prosthesis, spondylitis in war time, and the treatment of pseudo-arthroses.

Throughout the past four years the Lebanon Hospital for Mental Diseases, near Beyrout, Syria, has been allowed by the Turks to carry on its work under the charge of the British Director, Dr. Watson Smith. It was necessary, however, for the safety of the hospital that no publicity should be given to it during this time, and in consequence it has been difficult to keep up the funds needed for its maintenance. Nevertheless, this has been done through the kind offices of America. At one time the Turkish authorities wished to commandeer the institution for military purposes, but, learning of the good work it was doing amongst people of all races and creeds, they refrained; and at a time when food was very difficult to get, Ljmal Pasha presented 100 sacks of wheat. The hospital is the only one of its kind in the whole country. The committee now appeals from the central office, 35, Queen Victoria Street, London, E.C.4, for financial help to bring the hospital up to date, and so enable it to take its part in the coming reconstruction of Syria.



# British Medical Journal.

SATURDAY, NOVEMBER 23RD, 1918.

## PHYSIOLOGY AND MEDICINE.

THE report of the Medical Research Committee for the year ending September 30th, 1918,<sup>1</sup> contains within its modest bulk a record of an immense amount of valuable work, yet the Committee proclaims that it is fully aware of the important fields of medical study which it has been obliged for the present to leave almost uncultivated. The field is infinite, and it is well said that the best achievements of research in any given year must seem only to gain upon its margin at a few points. Urgently do we need better understanding and control of such widespread diseases as tuberculosis, pneumonia, measles, and influenza with its sequels, and further studies of the healthy body, of the early beginnings of organic disorder, and of the best means for maintaining individual, industrial, and social health. An instance of the way in which the Committee can turn its forces to some subject of pressing importance is to be found in a postscript, stating how the researches into influenza and its complications already instituted have recently been extended and brought within an organized scheme, which has been co-ordinated with the work being done in the same direction for the army and navy. The Committee's bacteriological department has been able to give assistance to the War Office in the preparation of vaccines for the protection of troops and in the classification of types of *B. influenzae* isolated at different centres. The present pandemic is exhibiting features closely similar to those of its predecessors which have visited Europe in cycles. Knowledge that the mode of communication is by short range aerial convection affords a sound basis for precautionary measures, but special efforts are being made to determine the best methods of prevention and treatment of the dangerous complications of the disease, especially the pneumonias of various kinds to which deaths are almost wholly due. Selected observers are also making experimental observations aiming at the discovery of the nature of the infective organism or virus itself by which the primary influenzal attack is caused.

The justification which the Committee offers for turning its attention to immediate military necessities seems unnecessary. All national effort has been diverted from its normal channels, and on no side has this been more inevitable than in the application of medical science to the prevention of the diseases and the diminution of the sufferings of war, but one result has been to turn competent investigators away from many of the subjects which would otherwise have had the earliest claims for investigation. The obligation is now nearly fulfilled, and attention can be turned to the mitigation of that volume of avoidable suffering and economic loss from disease in civilian life during peace which is measurable in terms of at least the same order of magnitude as that of the casualties and diseases of war. There are, however, few, if any, real boundaries between the fields of inquiry for civilian or military purposes, and much of the work done under the stimulus of the unusual necessities of war has produced results which

are of permanent value for all future efforts to prevent disease and wrong living. The Committee looks forward to utilizing in the future period of peace the services of very many who have worked for it, and not least those of the younger workers.

In the introduction to the report there are some observations on the relation of physiology to clinical medicine which are of wide and permanent interest. Physiology, the science of the healthy living organism and of its reactions to disturbance, has been more and more brought into practical service by the special needs revealed by the war. The Committee expresses the opinion that in England the work of the physiologist has been too much divorced from practical medicine, so that the British school of physiology, which by the admission of other nations stands second perhaps to none, has not been brought into due relation with the work of the physician and surgeon. This misfortune is attributed to defects in our system of education, which have allowed the physiologist to remain too much in academic retreat, and the clinician too far from the laboratory and its methods. We are inclined to think that the fault is due not so much to defects in the system of education as in the attitude of the professed physiologist to practical affairs. He used to live aloof, and took no trouble to conceal his contempt for the struggles of the clinician. But the stress of war on the individual machinery of man has made the physiologist and his methods indispensable; his response, ready and whole-hearted, has reflected honour on his patriotism, and has been attended with a degree of success which we hope may convince him that his former attitude was mistaken, and that he, too, has his part to play in the service of man. The work done has been various. "New studies have been needed of the changes in blood pressure and blood volume and in the qualities of the blood itself, new inquiries into the finer vessels of blood circulation and their relation to the nervous and other systems, and new analyses of the chemical mechanisms of the body and of the modes by which want of oxygen is met by adaptation, or leads to final damage." In these and other ways physiology has itself gained permanently, while giving aid in solving pressing problems of the moment. All will agree in the hope expressed by the Committee that "the active co-operation which has been established in more than one direction between the physiologist and the medical or surgical clinician during this time of war may long endure and bring lasting benefit both to the general cause of medical research and, by inevitable reflection, to that of medical education."

## A.M.S. AND S.M.S.

Two pronouncements have recently been published on the advantages and the disadvantages of a whole-time centrally controlled graded state medical service, the one by Colonel G. T. K. Maurice, C.M.G., in *The Hospital*,<sup>1</sup> and the other by Major-General Sir Wilmot Herringham, in *St. Bartholomew's Hospital Journal*.<sup>2</sup>

Colonel Maurice, who has spent twenty-three years in the Royal Army Medical Corps, is so convinced of the excellence of its work for the army that he would apply the same system *holus bolus* to the civil population. He would have a D.G. with his staff in London, a D.M.S. in each large county or county borough, with head quarters in the chief town, and D.D.M.S.'s or A.D.M.S.'s in districts or small country

<sup>1</sup> Fourth Annual Report of the Medical Research Committee, 1917-18. London: H.M. Stationery Office. 1918. 4d. net. (Cd. 8981.)

<sup>1</sup> November 9th and 16th.

<sup>2</sup> November.



towns. In each district there would be a hospital at which the D.D.M.S. would live, and there would be a kind of presbytery for the medical officers serving under him. The county D.M.S. would be the chief administrative medical officer of the county, and as such would be responsible for the proper and efficient employment of the members of the state medical service in his county. It would be his duty to give advice on all matters concerning health to the county council; he would inspect districts, hospitals, pathological institutes, convalescent homes, and so forth, and report on them both to the county council and to the D.G. in London. Colonel Maurice thinks that there are not too many doctors to fit in to such a scheme. The young man entering it would rise by seniority, and selection according to merit. The inducements would be the prospect of "a pleasant life, interesting work, a reasonable reward for his work, a certainty in his old age, and a fair prospect for his wife and family if death should take him before the fullness of days comes to him." The scheme is worked out at great length, but this may serve as a general outline of the conception contained in it.

One story is good until another is told. Sir Wilmot Herringham, a physician in civil practice until he was called to serve on the staff of the Director-General Medical Services in France some four years ago, takes an entirely different view. He knows both sides, and has no hesitation in saying that though the R.A.M.C. "is the only possible system for any army, and has done its work in an admirable way, it is the worst for civil life that can well be conceived." He admits that the army system secures to the medical officers certain desirable objects—an easy provision of substitutes to take the duty of an absentee, distribution of officers in proportion to needs, and regular pay and holidays, and, if wished, study leave. The prospect of a pension is not mentioned, but it is an important consideration to most men.

On the opposite side of the account we are told that the army system does not insure against waste of time. "These unfortunates of the R.A.M.C. serve tables if ever men did. If you want to know how much time and how much paper a system can waste, from the highest to the lowest rank, go to the office of an army, or indeed, of any Government department." Nor does it, he adds, render a man more independent. He is not in the army dependent upon his patients, but he is far from independent of the public or of his superior officers. "I once was told by an officer, 'Of course a word from you might ruin me.' As far as I was concerned, that was quite untrue, but it might have been true if I had been a Regular, and it seems to me horrible that a man should think such a thing. An official system does, in fact, prevent independence and discourage originality, not by the wish of any one, but because where a man's prospects depend upon the opinion of his superiors—well, it cramps his style. And yet it does not relieve him from the competitive struggle. This is keen and anxious in the R.A.M.C. as it is elsewhere."

One of the drawbacks Sir Wilmot Herringham finds in the proposed system is concerned with promotion. In every Government service the leading fact is seniority. The men, he says, "are so uniform, and have so little opportunity of being otherwise, that selection is extremely difficult. It is equally difficult to get rid of an incompetent. When selection is exercised it invariably gives rise to dissatisfaction." Another drawback he foresees is the bad effect upon a man's efforts which is exercised by the possession of very moderate prospects, which he can hardly be deprived of, but can hardly hope to improve. A great

deal of dull work must be done by the general practitioner, and what, it is asked, "will be the effect upon a man not naturally industrious (and how many of us are?) who, working out his attendances at an average of a few pence for each, thinks that he is paid too little, yet sees no prospect of getting more by working harder?" To turn the profession into a rigid organization, where the power of individual effort is reduced to a minimum, must, it is urged, have an injurious effect upon the general level of the profession.

Finally, as a practical man and a candidate for the representation of the University of London in Parliament, he turns to the political difficulties of putting so revolutionary a scheme into practice, and he concludes that the only grounds on which a Government would take it up would be a general desire for it on the part of the profession, and an obvious advantage to the public by improvement in practice. He thinks it would be resisted by the profession, and would not only not improve, but would greatly lower the standard of practice, and would therefore be to the disadvantage of the public.

The two articles seem to state the pros and cons fairly. Sir Wilmot Herringham has a stronger sense than Colonel Maurice of the objections the public affected might have to a state medical service modelled on the Army Medical Service, and we suspect that recent experience of military medical administration under the D.D.M.S.'s of Home Commands has not tended to diminish any prejudice in this respect which may previously have existed. We are aware that among the younger medical officers now serving temporarily in the R.A.M.C. are some prepared to welcome such a state medical service as Colonel Maurice outlines. We do not know what proportion of the whole they form; their opinions in any case are worthy of respect, but they have first of all to convert the profession to their way of thinking. The subject has been repeatedly discussed by the Representative Body of the British Medical Association at its annual meetings, and so far that body has not been convinced that such a scheme would be advantageous either to the profession or to the public. However this may be, we are bound to agree with Sir Wilmot Herringham that at the present time any such scheme does not seem to be within the range of practical politics, but we agree also that there is a very great probability of a considerable increase in the number of part-time appointments, and that this would not only be a public advantage, but would also, it may be hoped, provide some compensation to those who through military service have lost their practice, or lost several irrevocable years during which they might have started in civilian practice.

#### THE GENERAL ELECTION.

PARLIAMENT is to be dissolved on Monday next, the 25th instant, and it follows under Statute regulations that the nominations will take place on the ninth day afterwards, namely, on Wednesday, December 4th, and that pollings will be held throughout the United Kingdom simultaneously on the tenth day after that, namely, on Saturday, December 14th. The original scheme provided that votes should be counted on Saturday, December 21st, but a short amending Act passed last week provided that the interval between the polling and the counting of votes could be enlarged so as to give more time for the recording of votes through the post by soldiers and sailors who are abroad, and so the counting will be on Saturday, December 28th. The arrangements for absent voters have been fully set forth in the instructions issued by the Local



Government Board to returning officers. The addresses of officers of the Territorial Force and those of the rank and file of all the forces are supplied by the Record Office to the returning officers of each constituency, who send out the voting papers. It would have been better if the same provision had been made consistently throughout, but other officers in the army, including, of course, a large proportion of the medical men serving, have been left to communicate to the returning officers their addresses in cases where they are absent voters—that is, when voting by post. In a circular sent out by the Local Government Board on November 11th it was stated that up to that time comparatively few officers in the army had notified their addresses, but it was believed that when the election was announced notification of addresses would be received in considerable numbers. The returning officers were advised that where no address was thus furnished the service description might be regarded as the recorded address, and if the officer's unit and corps were thus available, the ballot paper could be sent to the army post office for transmission. If, however, the unit was not shown, it would not be possible for the army post office to make delivery. Thus it is of urgent importance that those who desire to exercise the franchise should communicate their addresses promptly. Several more or less formal orders have been issued by the Privy Council as to the regulations to govern university elections. By an order of October 23rd returning officers of universities are enabled to fix the day for the nomination. Under the Act it was laid down that it should not be necessary in the case of universities for absent voters' lists to be prepared, but the right to vote by proxy might be exercised by any person who would be entitled to exercise such right if his name were entered on an absent voters' list, so long as all other conditions enabling him to vote by proxy were fulfilled. As regards voters in France serving with the British army, elaborate provisions have been made for distribution of papers and collection of them through post offices which have been set up for the purpose. Even so, however, grave doubt exists, in view of the movement of so many troops to Germany, whether the scheme will serve. Those who have confidence in it refer to the success of the system which was employed for the voting by soldiers for the Canadian and Australian elections. It is pointed out, however, that the systems were different from our own, and that the Canadian and Australian troops were mostly stationary.

#### MEDICAL REPRESENTATION IN PARLIAMENT.

It will be remembered that a meeting of medical men was held at Steinway Hall on October 1st, under the chairmanship of Sir Henry Morris; a report of the proceedings was published in the *JOURNAL* of October 5th. As a result of that meeting a Medical Parliamentary Committee has been formed. Certain officers of the British Medical Association were invited to join it, but in deference to the views of the Council of the Association they have declined. We understand that the Committee has been at work, and by the courtesy of the Editor of the *Lancet* we are able to make some quotations from an article which will be published in that journal this week. The Committee, this article states, has "provided itself with the names of medical men 'who are already willing to place themselves at the immediate disposal of the Whips in the unforeseen event 'that between now and December 14th any one of these 'doctors may be adopted as an official candidate for a 'seat. It is, of course, extremely unlikely that this contingency should occur, as in those localities where elections are being fought the contesting parties have long ago chosen their champions. Moreover, it is easy to see that the names which the Medical Parliamentary Committee may be able to send in to the Whips must constitute a short list. . . . The work done by the

"Medical Parliamentary Committee must be considered 'merely preliminary, although the slight chance of some 'immediate accomplishment has been prepared for. . . . 'The medical profession agrees that it requires a louder 'and clearer parliamentary voice; it must also agree to 'obtain that voice in accordance with prevailing customs. 'No man will get into Parliament on his medical claims. 'But from our point of view the ideal medical man in Parliament should not represent medicine only; he should 'be the interpreter of medical thought and aims to his 'fellow legislators. This he can easily be while assenting 'to a general party creed, provided that in every word that 'he utters, and in every idea that he supports, the pre-dominant claims of national health are obvious. Such 'a legislator can conform to party politics and can keep 'his necessary pledges to his constituency and to his 'political organization, while remaining faithful to ideals 'outside and above such pledges; and his presence in 'Parliament upon such terms might be a great destroyer 'of the evil influence of party. . . . From a Medical Parliamentary Committee, such as could be formed if all 'medical men would help in its promotion, the medical 'advice would be of the highest worth. Now, to constitute 'a Medical Parliamentary Committee of this order will 'need the co-operation of all the medical profession, whose 'powers should be set in action from as many directions 'as possible. The Parliamentary Elections Committee of 'the British Medical Association will, we trust, be willing 'to join a movement whose main objectives must be 'identical with their own, and which by the elasticity of 'its constitution can enter into wide public relations while 'retaining the essential medical spirit."

#### THE MEDICAL RESEARCH COMMITTEE.

UNDER the regulations for the Medical Research Fund Major Waldorf Astor, M.P., Dr. A. K. Chalmers (M.O.H. Glasgow), and Dr. George Murray, professor of medicine in the University of Manchester, retired last August. Major Astor was reappointed Chairman, and Dr. Henry Head, F.R.S., physician to the London Hospital and to the Royal Air Force Central Hospital, and Dr. Noël Paton, F.R.S., regius professor of physiology in the University of Glasgow, were appointed members of the Committee. It now consists, in addition to Major Astor (Chairman), Viscount Goschen (Treasurer), and Sir Walter Fletcher M.D., F.R.S. (Secretary), of Dr. Addison M.P., Mr. C. J. Bond of Leicester, Professor William Bulloch, F.R.S., Professor F. G. Hopkins, F.R.S., of Cambridge, Colonel Sir William Leishman, K.C.M.G., F.R.S., Dr. Henry Head, and Professor Noël Paton. Reference is made elsewhere (p. 579) to some of the chief points in the annual report. We may note in addition the statement that the Committee has acted jointly with various Government departments or other bodies, either in appointment or in nomination, with a view to meeting particular administrative needs demanding research work. The Committee has in fact a number of special committees, including those on the incidence of phthisis in relation to occupation; on surgical shock and allied conditions, of which Professor Bayliss has become chairman; on the standardization of pathological methods, of which Professor Adami, F.R.S., is chairman; on salvarsan; on chemical warfare medical investigations; on anaerobic bacteria and infections, of which Professor Bulloch is chairman; on accessory food factors ("vitamines"), of which Professor Hopkins is chairman; on air medical investigations, of which Dr. Head is chairman; and on dysentery, of which Sir William Leishman is chairman. There is also an industrial fatigue research board, appointed last June by the Department of Scientific and Industrial Research jointly with the Medical Research Committee, to consider and investigate the relations of the hours of labour and of other conditions of employment, including methods of work, to the production of



figure, having regard both to industrial efficiency and to the preservation of health, among the workers. Of this committee Professor Sherrington is chairman. In the introduction to the annual report reference is made to the cordial co-operation received from the Advisory Council of Scientific and Industrial Research, established in 1915. The field of research in every pure science, not less than that of inquiry in industrial science, lies so close at very many points to the fields of medical research, that no boundary line can be drawn. The Committee looks forward to the progressive development in this co-operation with the Department of Scientific and Industrial Research, and finds new hope for the increasing effective organization of research work in all directions. "This," it is said, "should be an organization not imposed in any sense from above, but one derived from and inspired by the efforts of individual workers in the different fields of science, where the free university and other institutions of the country are pursuing together the common aims of the advancement of knowledge and the good of the State." In this connexion it may be recalled that the Ministry of Health Bill provides that "the duties heretofore performed by the Medical Research Committee shall, after the commencement of this Act, be carried on by or under the direction of a committee of the Privy Council appointed by His Majesty for that purpose." This would place the Medical Research Committee in a position analogous to that of the Advisory Council of Scientific and Industrial Research. Before taking leave of the annual report of the Medical Research Committee we would venture to pay a small tribute to the eminent services of its secretary. The task of organizing the work of the Committee would in any circumstances have been one of no little difficulty. The outbreak of war before the schemes sketched out could be put into practice greatly increased the difficulty of organization and the responsibilities of the secretary. We venture to congratulate Sir Walter Fletcher on the large share he has had in organizing the victories of the Committee.

#### FARM AND INDUSTRIAL COLONIES FOR TUBERCULOSIS.

ALL the schemes hitherto devised or put in practice for the cure of tuberculosis are admittedly incomplete. Much has been achieved, but much more remains to be done, in order that the patient who has been relieved and educated in the sanatorium may be enabled to resume remunerative work under favourable conditions. Experts are now agreed that the institution of farm and industrial colonies will offer the best means to that end, but their establishment can only be accomplished if local and central authorities can be brought into agreement as to means, and if Insurance Committees will consent to alter their rules so that a tuberculous person who may be capable of light work should not lose the whole of his grant by undertaking it. A carefully considered scheme was laid before the annual meeting of the National Association of Insurance Committees in October last by Mr. R. H. Mushens, Clerk to the Sunderland Insurance Committee, and met with general approval. In his paper, which has been reprinted and can doubtless be obtained through the Sunderland Insurance Committee, Mr. Mushens describes the proposed method of working such a colony, and shows in detail the probable cost and the general financial arrangements which would have to be made by the various bodies concerned in order to meet it. Colonies have already been started in the neighbourhood of Edinburgh and of Glasgow, as also in Cambridgeshire, and the experience gained in them is duly recorded. Combined action by the county authorities of Durham and Northumberland, and of Middlesbrough has been agreed upon, and their example may well be commended for imitation by county councils and insurance committees in all parts where tuberculosis has to be dealt with. Combined action

on a large scale may ultimately succeed in checking the progress of the scourge which during the last few years has shown little sign of abatement.

#### THE MEDICAL PROFESSION IN OLD FLANDERS.

FLANDERS has played a great part in the history of medicine, and a brief account of the evolution and organization of the profession may be of interest at the present time when the country is rising from its ashes. The chief source is a thesis by A. J. Faidherbe.<sup>1</sup> The oldest university in Flanders, Louvain, imperishably associated with the great name of Andreas Vesalius, was founded in 1425, the youngest, Douai, was created by Philip II of Spain in 1560. Three medical degrees were conferred—bachelor, licentiate, and doctor. The examinations at Louvain and Douai were very severe, and until the eighteenth century but few licentiates obtained the M.D. degree. In 1607 it was decreed that any one wishing to practise medicine in Belgium must obtain a licence from one or other of these universities or be approved by the special medical examiners of the realm. In 1631 the aldermen of Bruges established a course of anatomy for the instruction of apprentices, and surgery in Flanders then began to take its proper place. From the middle of the seventeenth century there was a school of surgery at Ghent where the programme of studies included courses in anatomy, surgery, midwifery, and materia medica. Surgery was also taught at the military hospitals of Lille and Gravelines and in the colleges of surgery at Dunkirk and Douai. In 1695 there were in French Flanders eighty-six physicians who were granted coats of arms in recognition of their services to the State. Physicians became royal councillors, members of the States General, counts and marquises. Penalties for malpraxis included heavy fines, indemnities to patients, and suspension. A practitioner who induced abortion or corrupted morals was whipped at the four corners of the city and banished for fifty years. In the thirteenth and fourteenth centuries Bruges, Lille, Ypres, Dunkirk, and other cities had "pensionary" physicians whose duty it was to attend the poor. There were such surgeons for various specialities such as hernia, stone, dislocations, fractures, and sprains, diseases of the eye, and syphilis. In 1757 Lille had a woman pensionary for the application of bandages to hernias. Surgeons were called in to inspect the bodies of those who had died in suspicious circumstances, and medico-legal questions were usually referred to the pensionary physician or surgeon, who had the right to make *post-mortem* examinations. Almost every city in Flanders had pensionary midwives; this service was organized in the thirteenth or fourteenth century. In 1486 the first examination of midwives took place, and regular diplomas were conferred on them. In cases of difficult labour they had to call a physician in consultation. They were forbidden to administer any drug unless it were prescribed by a physician; if the fetus was dead they had to perform embryotomy, and if the mother died during labour before the child was born they had to deliver by Caesarean section. Most of the medical organizations in Flanders were founded by the civic authorities. Every large city in Belgium had its collegium, or chamber of health, including in its membership not only physicians, surgeons, and pharmacists, but aldermen and other civic officials. It controlled practitioners, had charge of the health of the community, punished quacks, and countersigned the diplomas of recent graduates. A fraternity of St. Luke was founded at Bruges in 1662 by Van der Bergh; its rules prohibited the sale of drugs and the practice of surgery. The hospital of St. Jean de Bruges was founded about 1188. When the Germans invaded Flanders in 1914 it retained its mediaeval features but it had been greatly enlarged. There were 250 beds, and for over 700 years the sick were cared for by Augustinian brothers and sisters. The Spaniards

<sup>1</sup> Les médecins et les chirurgiens de Flandres avant 1879. Thèse de Paris, 1892.



seem to have done nothing in the way of founding hospitals in Flanders. In the seventeenth and eighteenth centuries, when the country was under the dominion of Louis XIV and Louis XV, a number of military and civil hospitals were established. Many medical institutions of Flanders perished amid the convulsions of the French Revolution.

### THE KING'S MESSAGE.

THE King's speech to the two Houses of Parliament and the representatives of the Dominions and of India, in the Royal Gallery of the Palace of Westminster, was in substance and diction worthy of an occasion "without parallel in our history and in the history of the world." It proclaimed that the doctrine that force shall rule the world has been disproved and destroyed, and appealed to us to enthrone the rule of justice and international right, to create a better Britain, bestow more care on the health and well-being of the people, and ameliorate further the conditions of labour. In the course of his speech he touched upon every aspect of the manifold activities of the British nations in the war, and made the following reference to the medical services: "Notable, too, has been the contribution made to the common welfare by those who volunteered as surgeons, physicians, chaplains, and nurses, fearlessly exposing themselves to danger in their tasks of mercy."

### BRITISH PRISONERS AND GERMAN DOCTORS.

It must have occurred to many members of the profession in this country to ask whether some steps should not be taken to express detestation of the inhumanity of German doctors towards British prisoners and their complicity in the worst cruelties inflicted on these unfortunate men. After all, these Germans are members of our profession, and medical education in Germany has even been suggested as a model for ourselves. The events of the last four years, and especially the treatment of prisoners, have proved that the German system leads to a low standard of competence, and a still lower standard of conduct. If we remain silent history will note that the substantiation by evidence which not only satisfied the legal experts appointed to weigh it, but excited their deep indignation, raised no protest from the doctors of this country. The report on the employment in coal and salt mines of British prisoners of war in Germany,<sup>1</sup> signed by Mr. Justice Younger on behalf of the Government Committee on the treatment by the enemy of the British prisoners of war, contains a story of abominable cruelty. As in the case of ordinary prisoners' camps, the lot of the men is said to have depended a great deal on the character of the "Kommandoführer," and the majority of these persons appear to have been cruel, cowardly, and incompetent. Unfortunately, in this report, as in so many others there is evidence that the German medical men were callous and ignorant. The report contains the following passage: "We come finally to one of the worst points, and at the same time one of the most universal, in the management of the mining camps. The provision made for medical attention in cases of sickness and accident is slight at best, although it might in these instances be considered sufficient if it were properly administered. Each camp is visited once or twice a week by a local civilian doctor, who is supposed to be responsible for the medical care of the Kommando. He is not called upon to treat serious cases, which are passed to the nearest regular hospital. But in all mining work, and more especially in the salt mines, constant vigilance is necessary to prevent even the lighter cases from developing serious consequences. Small accidents are common, the men are in no condition of health to be able to disregard them, and in the salt mines they suffer perpetually from eye trouble and from a distressing kind of abscess, both of which are liable to become dangerously infected in the conditions of their work. In many

places the doctor is clearly convicted of carelessness and perfunctory treatment." The Royal Colleges of Physicians and Surgeons in Great Britain might, we conceive, properly give formal expression to the indignation of the medical profession. Some time ago, as reported in our columns recently, the council of the Royal College of Surgeons of England decided to omit the names of universities in Germany and Austria from the list of hospitals and schools of medicine and surgery from which certificates of professional education would be received. This decision was brought to the notice of the Royal College of Physicians of London on October 31st, when it accepted the suggestion of the sister college, that the desirability of omitting those universities from the published lists of the Conjoint Examining Board should be brought to the notice of the Committee of Management. This may be taken as an indication of the sentiment of the Colleges, and we trust that a formal protest in the sense we suggest may be made.

### TOTAL BRITISH CASUALTIES.

PRELIMINARY statistics of total British casualties in the armies in all theatres during the prosecution of the war, given by the Parliamentary Secretary to the War Office, show that the total number of killed, including those who died from wounds or other causes, is 658,704 (officers 37,876, other ranks 620,828). The number of wounded is 2,032,142 (officers 92,664, other ranks 1,939,478); the number of missing, including prisoners, is 359,145 (officers 12,094, other ranks 347,051). Under missing are included 6,741 officers and 164,767 other ranks known to be prisoners of war, and also over 80,000 officers and other ranks whose deaths have been accepted for official purposes. In addition there have been 19,000 deaths from various causes amongst troops not forming part of any of the expeditionary forces. Among the wounded are included those who have been disabled on account of illness. Further, under this head, officers and men who have been wounded several times have been counted on as many occasions.

At a meeting of the Fellows of the Royal Society of Medicine, held on November 13th, when the President, Sir Humphry Rolleston, was in the chair, the diploma of Honorary Fellowship of the Society was presented to Sir Alfred Keogh, G.C.B., late Director-General Army Medical Services.

APART from the university constituencies the only medical men whose candidature at the general election we have seen announced are Dr. Christopher Addison, M.P. (Shoreditch), Dr. Clifford Brookes (High Peak), Captain Donald Campbell, R.A.M.C. (North Paddington), Dr. W. A. Chapple, M.P. (Glasgow and Eastern [Stirling]), Sir Wm. Collins, M.P. (Derby), Dr. J. S. Crone (Willesden, W.), Dr. R. Dunstan (Moseley, Birmingham), Dr. Farquharson (Leeds, North), Sir Thomas Flitcroft (Farnworth, Lancs.), Lieut.-Col. J. Kynaston (Bilston), Dr. Bouverie McDonald (Wallasey), Dr. Donald Murray (Western Isles), and Dr. Rutherford (Durham, Bishop Auckland). We shall be obliged to correspondents who will send information enabling us to publish a complete list in our next issue.

THE awards of the Royal Society medals for this year have been announced. The Copley medal goes to Professor H. A. Lorentz, late professor of physics in the University of Leyden, For. Mem. R.S., for his distinguished researches in mathematical physics; the Davy medal to Professor F. S. Kipping, F.R.S., professor of chemistry, University College, Nottingham, for his studies in the camphor group and among the organic derivatives of nitrogen and silicon; the Darwin medal to Dr. H. F. Osborn of New York, for his valuable researches on vertebrate morphology and palaeontology; and one of the Royal medals to Professor F. G. Hopkins, F.R.S., professor of bio-chemistry in the University of Cambridge, for his researches in chemical physiology.

<sup>1</sup> H.M. Stationery Office. Cd. 9150. Price 1d. net.



# THE WAR.

## ANTI-VENEREAL MEASURES IN THE AMERICAN ARMY.

DR. W. A. PUSEY, Chairman of the Committee on Venereal Disease appointed by the Surgeon-General of the United States Army, has recently published a detailed account of the manner in which the venereal disease problem is handled in that army.<sup>1</sup>

The venereal disease rate of the army previous to 1898 averaged about 80 to 85 per 1,000; had the present more rigorous conditions of recording syphilis then been in force, it is estimated that the rate for venereal diseases during that period would have been 110 per 1,000 or more. With the mobilization of new troops in the Spanish-American war in 1898 the rate suddenly doubled, going to 160 per 1,000. The high rate then produced persisted after the war for thirteen years, varying between 180 and 160 per 1,000 until 1911. Between 1909 and 1911 the medical department developed its present policy. Its most important features were regulations which provided for less of pay for disability from venereal diseases, periodical physical inspections, and venereal prophylaxis. The result of this policy was shown by the rapid and continuous decline in venereal diseases. From a rate of 164 per 1,000 in 1911 it dropped to 116 in 1912 and to 86 in 1913. The measures taken are first, social and educational, and secondly, prophylactic and medical. Social measures include the repression of prostitution and of the liquor traffic, which it is held go together, and the provision of proper social surroundings and of opportunities for recreation and diversion. Alcoholic liquor is a factor in the diffusion of venereal diseases, owing to its weakening effects upon those inhibitory influences that under ordinary conditions prevent man's giving way to his impulses.

The control of the liquor traffic and of prostitution has called for co-operation between federal and local authorities. Inside cantonments and other Government reservations the federal authorities are supreme, but in addition a district has been provided by law, consisting of a zone, at present designated by the Secretary of War to be five miles, around each of the cantonments. In those zones the federal authorities are in a position to control completely the liquor traffic and the various conditions which encourage prostitution. Outside the zones the Federal Government can still exert great influence. But for the most part reliance has been placed in great measure on the local civil authorities, and, owing to the awakened public conscience, they have, almost without exception, realized their responsibility in these matters, and responded as well as the most sanguine could have asked in their efforts to improve them. The scheme does not include the segregation of prostitutes, nor their examination or certification, but every endeavour is made to stimulate activity in caring for venereal disease among the civil population, with the aim, among others, of reducing the number of "carriers."

For the army itself the first part of prophylaxis is the prevention of infection after exposure. The regulations with regard to this are of universal application, and care is taken to see that it is thoroughly carried out. Venereal prophylaxis is a part of the duty of every regimental infirmary and of every other infirmary that has in its care the health of a unit of soldiers. The regimental infirmaries do most of this work and everything for giving prophylactic treatment is always accessible in every one of these. The medical officers are responsible for it, but it is carried out by specially trained non-commissioned officers, one of whom is constantly on duty, so that the returning soldier can get prophylactic treatment at any time in the twenty-four hours that he applies for it. As far as possible prophylactic treatment is carried out seriously, without allowing an atmosphere of levity or obscenity to creep in. The necessity for medical prophylaxis is instilled into the soldiers' minds. They are told that it is not a sure preventive of infection; that the sooner it is applied the more likely it is to succeed; and that after eight hours it is likely to be ineffective. The taking of it, if exposed, is a matter of army regulation. If a man contracts venereal disease, he is not punished

beyond losing his pay while the disease disables him for duty, provided he had prophylaxis after exposure. But if he contracts a venereal disease and has not, according to regulations, had prophylactic treatment, he is court-martialled for disobedience of orders, and, if convicted, is punished. Since 1912 there have also been fortnightly physical inspections.

In the planning of the base hospital of each cantonment full provision has been made for venereal diseases. It is a part of the scheme that men suffering from acute venereal disease shall be confined to the hospital until the acute infectious stages are past; this applies to all cases of acute gonorrhoea and all cases of syphilis which have early active lesions. It has sometimes been found difficult to get this policy carried out. One of the arguments for it is the great advantage it affords in gonorrhoea for curing quickly and preventing its spread to the posterior urethra; another is the assurance it gives of thorough early treatment of syphilis, and the rapidity with which the infectious stage is passed; a third, and a very great advantage, is the reduction in the danger of non-venereal spread of these diseases.

Each base hospital is provided with a general laboratory in which Wassermann tests are made, and it is intended that each venereal service in the base hospital shall have its own small laboratory, equipped for examination for spirochaetes and bacteria and for the examination of urine.

The conduct of medical affairs in the cantonments depends to a very large extent on the attitude of those in supreme authority—that is, (1) the commanding general in a cantonment; (2) the division surgeon; and (3) the commanding officer of the base hospital.

The place where patients with chronic gonorrhoea and syphilis are likely to fail to get expert care is in the division as distinguished from the base hospital. The regimental surgeon must be a general practitioner while he is in that position. Adequate care of syphilis and of the chronic complications of gonorrhoea eminently demand expert training, and this is no more to be expected of the regimental surgeon than is special training in all the other specialities. Moreover he is not provided with the special equipment necessary for it. It follows, therefore, that gonorrhoea and syphilis should, as far as possible, be taken out of the care of the general medical officers. The policy is to send them to hospital as freely as practicable, and everything is done to encourage the return of ambulatory cases to the hospital for such treatment as they need. It is also the policy to have a qualified officer detailed for the special duty of supervising all venereal matters, including the treatment of venereal cases throughout the cantonment. But in spite of this the fact remains that the weak point in the care of the soldier's venereal diseases is the care he receives when he is on duty. He is allowed to stay on duty often when it would ultimately be better for him and for the service if he were nominally as well as actually sick, and under expert care. This is often due to the attitude of the commanding line officer. He wants his men or he does not want them, and he has no use for the soldier who is taking half-days off to go to the hospital for treatment. There is room for much education here, and for the development of considerably more co-operation.

The results of the policy have been satisfactory. Between 1897 and 1900, a period that covered the Spanish-American war, the venereal rate went up from an average of 80 per 1,000 to 160. Since 1913 the rate has remained under 90, excepting during 1916. In 1916, when there was a rapid increase of the army and mobilization on the Mexican border, the rate went to 91.4. Dr. Pusey takes the rate of 90 as the mean average to be striven for in the present crisis, although the rate of 91 in 1916 would certainly be fairly justifiable as the standard. The rate for the regular army from September, 1917, to May, 1918, averaged a little better than 90. With the second week of mobilization the venereal rate for the National Army shot up to 367 per 1,000. The National Guard at this time showed a rate of 150. The rate of the Regular Army at this date was 80. The very high rate in the National Army is to be accounted for by the fact that when venereal disease is discovered for the first time in a soldier it is counted as a new case, although it may be an old infection; four weeks had to elapse before the incidence of venereal disease in a body of troops could be determined. The rate for the National Army for the first four weeks after

<sup>1</sup> *Journ. Amer. Med. Assoc.*, September 28th, 1918.



mobilization was twice that of the National Guard. This would appear to suggest that the prevalence of venereal disease is greater in the civil population than in the army. On December 1st, 1917, the rate of the National Army fell below 90, and the rates for the army in France were lower.

## CASUALTIES IN THE MEDICAL SERVICES.

### ROYAL NAVY.

#### *Lest at Sea.*

**SURGEON LIEUTENANT D. S. MacKNIGHT, R.N.**

H.M.S. *Britannia*, a battleship of 16,350 tons, was torpedoed and sunk by a German submarine in the western entrance of the Straits of Gibraltar on the morning of November 9th. Two officers and about 40 men were lost, 39 officers and 693 men saved. One of the two officers lost was Surgeon Lieutenant Dundas Simpson MacKnight. He was educated at Edinburgh University, where he graduated M.B. and Ch.B. in 1900, afterwards taking the Liverpool D.T.M. in 1911. He served as a civil surgeon in the South African war in 1901-2, receiving the medal; and afterwards as medical officer of the British South Africa Company. He joined the navy as a temporary surgeon in 1915. He was the second son of the late Rev. John MacKnight of Whithorn.

#### *Wounded.*

**Surgeon D. L. Baxter, R.N.**

### ARMY.

#### *Killed in Action.*

**CAPTAIN R. CLARK, R.A.M.C.**

Captain Robert Clark, killed on November 7th, was the last surviving son of Inspector Clark, police office, Burnbank, Hamilton. He was educated at Hamilton Academy and Glasgow University, graduating M.B., Ch.B. at the latter in 1914. For a short time he acted as house-surgeon at the Glasgow Royal Infirmary and took a temporary commission in the R.A.M.C. in July, 1915. At the time of his death he was attached to the 20th Hussars. His two brothers, one of whom was an officer in the R.A.M.C., had already fallen in action.

#### *Died of Wounds.*

**MAJOR H. BEAL, U.S.M.C.**

Major Howard Beal, United States Medical Corps, of Waterlane Farm, Shrewsbury, Massachusetts, died at Neuilly, near Paris, on July 20th, aged 49, of wounds received at Roy St. Nicholas, near Pierrefonds, on July 18th. He was chief surgeon to the American Women's Hospital at Paignton, Torquay, during 1914-15.

**CAPTAIN H. DUNLOP, C.A.M.C.**

Captain Harry Dunlop, C.A.M.C., was born at Kingston, Ontario, on October 21st, 1883, and graduated in medicine at Queen's University, Kingston, Ontario. He came to England in September, 1916, and served as M.O. in units in England until November, 1917, when he went to France and served with the 102nd Battalion, to which unit he was attached when he received the wounds of which he died on November 2nd.

**CAPTAIN H. P. WHITWORTH, R.A.M.C.(S.R.).**

Captain Henry Parkes Whitworth, R.A.M.C.(S.R.), was reported as having died of wounds, in the casualty list published on November 12th, having previously been returned as wounded in that of October 31st. He was educated at Guy's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1914. He took a commission as lieutenant in the Special Reserve of the R.A.M.C. on December 18th, 1914; joined for service on January 4th, 1915; and was promoted to captain six months later. He was attached to the King's Own Scottish Borderers (25th Foot).

**LIEUTENANT P. R. SHANNON, R.A.M.C.**

Lieutenant P. R. Shannon, R.A.M.C., was reported as having died of wounds, in the casualty list published on November 15th. He had only recently qualified and taken a temporary commission in the R.A.M.C.

#### *Died on Service.*

**LIEUT.-COLONEL J. E. HODGSON, R.A.M.C.**

Lieut.-Colonel John Edward Hodgson, R.A.M.C., died at Salonica on November 5th, aged 44, of pneumonia following influenza. He was born on August 31st, 1874, the son of the late Caleb Hodgson of Carlisle, and educated at Owens College, Manchester, taking the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1898, and the D.P.H. of the London Colleges in 1913. After acting as resident clinical assistant at the Barnes Convalescent Hospital, Cheadle, Manchester, he entered the R.A.M.C. as lieutenant on January 28th, 1899, becoming captain on January 28th, 1902, major on October 28th, 1910, and lieutenant-colonel on March 1st, 1915.

**LIEUT.-COLONEL J. T. McENTIRE, R.A.M.C.**

Lieut.-Colonel John Thomas McEntire, R.A.M.C., was reported as having died on service, in the casualty list published on November 12th. He was born on January 20th, 1880, and educated at Trinity College, Dublin, where he graduated as M.B., B.Ch., and B.A.O. in 1903. He joined the R.A.M.C. as lieutenant on August 31st, 1903, became captain on January 31st, 1907, and major on February 28th, 1915, and had since been promoted to lieutenant-colonel.

**CAPTAIN P. S. GREEN, R.A.M.C.**

Captain Philip Sydney Green, R.A.M.C., died at Wimereux, near Boulogne, on November 13th, aged 33. He was the fourth son of the late John Green, J.P., of Newton-le-Willows, Lancashire, and was educated at the Victoria University, Manchester, where he graduated M.B. and Ch.B. in 1911. He joined the R.A.M.C. as a temporary lieutenant early in 1916, and was promoted to captain after a year's service.

**CAPTAIN L. T. McCLINTOCK, R.A.M.C.(V.).**

Captain Lawson Tait McClintock, R.A.M.C.(V.), died at Loddon, Norfolk, on November 11th, of pneumonia following influenza. He was educated at Edinburgh University, where he graduated M.B. and Ch.B. in 1901. After acting as assistant house surgeon of Salop Infirmary he went into practice at Loddon, where he was medical officer of the workhouse, and of No. 2 district of Loddon and Clavering Union, also medical officer of health of Loddon and Clavering districts. He held a commission as captain in the R.A.M.C. Volunteers, was medical officer in charge of the Red Cross hospitals at Loddon and Hedenham Hall, and civil medical practitioner in charge of troops at Loddon.

**CAPTAIN A. B. ROBERTSON, R.A.M.C.(S.R.).**

Captain Angus Burns Robertson, R.A.M.C.(S.R.), died on November 8th at Dundee War Hospital, of pneumonia following influenza. He was the only son of Captain Angus Robertson, R.A.M.C., and was educated at Edinburgh University, where he graduated M.B. and Ch.B. in 1911, after which he went into practice at Loanhead, Midlothian. He joined the Special Reserve of the R.A.M.C. as lieutenant in 1917, had served in Egypt and Palestine, and was under orders for France at the time of his death.

The following officers of the C.A.M.C. died at sea on the voyage from Canada to England on the dates indicated:

Captain C. D. Hamilton (October 9th).

Lieutenant R. H. Lalande (October 6th).

Lieutenant W. McLeod (October 10th).

#### *Wounded.*

Major W. H. Morrison, R.A.M.C. (T.F.).

Captain E. T. Curran, Canadian A.M.C.

Captain A. R. Hagerman, Canadian A.M.C.

Captain A. Hunter, R.A.M.C.

Captain I. W. Jones, R.A.M.C. (temporary).

Captain P. G. Leeman, R.A.M.C. (temporary).

Captain J. Manuel, M.C., R.A.M.C. (temporary).

Captain A. U. Millar, R.A.M.C. (temporary).

Captain C. H. G. Prance, R.A.M.C. (temporary).

Captain R. Rodger, R.A.M.C. (S.R.).

Captain J. Rowland, R.A.M.C. (S.R.).

Captain W. G. Shakespeare, R.A.M.C.

Captain M. W. Thomas, Canadian A.M.C.



## DEATHS AMONG SONS OF MEDICAL MEN.

Adam, Walter, Lieutenant Yeomanry, attached Machine Gun Corps, third son of the late Dr. James Adam and Mrs. Adam, of Quarry Down, Hythe, died at Grantham Military Hospital, November 3rd, of pneumonia after influenza. He got his first commission in the Royal East Kent Yeomanry on March 31st, 1915.

Barker, Thomas Chesman, Second Lieutenant R.E., killed in action on November 4th, aged 20, was the son of Dr. Chesman Barker of Finchley. He obtained a war degree B.Sc. Eng. at the Indian University in 1917, entered the Military Academy at Woolwich in 1916, having taken there the King's medal, and was sent to France in September, 1918.

Brooklehurst, Evelyn Pierrepont, Private Royal Fusiliers (City of London Regiment, 7th Foot), fifth son of the late T. H. Brooklehurst, surgeon, died of wounds at a casualty clearing station on September 28th, aged 25.

Dickey, R. G. A., Captain 5th Battalion Manchester Regiment, attached to R.E., died at Greystones Hospital, Blackpool, on November 14th from gassed pneumonia and nephritis contracted on April 9th, 1918. Son of Dr. Dickey, M.B.E., J.P., of Higgin House, Colne, he joined the army in August, 1914, from Manchester University O.T.C., and was gazetted second lieutenant 5th Battalion, Manchester Regiment. He was wounded in the Dardanelles, August, 1915, then went to Egypt for a year, and had served in France from January, 1917.

Dickson, G. Murray, Second Lieutenant Black Watch (Royal Highlanders, 42nd Foot), younger son of the late Dr. G. Cecil Dickson, medical officer of health Carnoustie, killed October 26th, aged 27. He was in the jute industry in Calcutta, and a member of the Calcutta Scottish Volunteers, and came to Europe to enlist early in 1917.

Hammond, Thomas Hill, Second Lieutenant Machine Gun Corps, son of the late Dr. Hammond, of H.M. Prison Service, killed October 31st, aged 21. He enlisted in the 10th (Scottish Territorial) Battalion of the King's Liverpool Regiment (8th Foot) in July, 1916, afterwards transferred to the M.G.C., got his commission in July, 1918, and returned to the front only a week before his death.

Helm, Henry Paul Dundas, Captain Royal Air Force, late Border Regiment, eldest son of Dr. R. Dundas Helm of Carlisle, died at Carlisle on November 6th, aged 24. Before the war he was a medical student at Edinburgh, and had passed his first M.B. examination.

Leigh, Henry Godfrey Thomas, Second Lieutenant (Labour Corps), second son of Dr. W. W. Leigh of Glyn Bargoed, Trebarris, Glam., died in France of pneumonia following influenza on November 11th in his 34th year. He was educated at Sherborne and the Agricultural College, Downton. He went to South Africa some twelve years ago, and took up farming in Zululand. In 1915 he joined the S. African Artillery, and took part in the West African campaign under General Botha. He returned to England in 1917 and joined an officers' training corps at Cambridge, eventually obtaining a commission in the Labour Corps, after which he was stationed at Sutton, and only left for France last month.

Lyle, Hayden Stratton, M.C., Captain Canadian Mounted Rifles, third son of the late Dr. R. C. Lyle of Dunmow, killed November 6th.

Macaulay, James, Second Lieutenant Rifle Brigade, elder son of the late Dr. Macaulay of Perth, killed in France, November 4th, aged 20.

MacVicker, John Everard Churchill, Lieutenant Royal Air Force, eldest son of Dr. C. G. MacVicker of Street, Somerset, reported missing on July 22nd, now presumed killed on that date, aged 20. He was born at Isleham, Cambridgeshire, in 1897, educated at Aldenham School (Paul's), where he was in the cricket and football teams, and joined the London University O.P.C. In October, 1916, he transferred to a cadet corps for the R.E.C., got his commission in February, 1917, and went overseas in May, 1918.

Moore, Harold Thomas Pelham, M.C., Lieutenant Royal Field Artillery, only son of Lieut.-Colonel E. J. Moore, R.A.M.C., of Blackheath, killed November 4th, aged 21. He got his commission on October 30th, 1914.

Morse, Eric Victor, M.C., Captain the Buffs (East Kent Regiment, 3rd Foot), second son of Mr. Thomas H. Morse, F.R.C.S., of Deal, killed October 23rd, aged 26. He was born at Norwich in 1892, and was educated at Haileybury and at Pembroke College, Cambridge, where he graduated in 1913. He enlisted in the Buffs on August 11th, 1914, got a commission in the following month, and went to France in 1915. He received the Military Cross last September for gallantry in the German offensive last spring.

Priehard-Evans, Evan Lindsay, Lieutenant Royal Artillery, youngest son of the late Dr. Richard Evans of Mountain Ash, died November 7th, of pneumonia, at Hillingdon Hall Auxiliary Hospital, King's Lynn.

Rowland, John Walter Bruce, Second Lieutenant Royal Field Artillery, only son of Dr. E. D. Rowland, I.S.O., medical service, British West Indies, killed November 1st, aged 19.

Semple, R. E. W., Captain Royal Field Artillery, second son of Sir David Semple, of Royston, Herts, died in hospital abroad on November 5th of wounds received on October 22nd, aged 22. He was attached to a trench mortar battery, Guards Division.

## REPATRIATED OFFICERS.

ON November 12th was published a list of officers repatriated from Germany, where they had been prisoners of war, most of them taken in the German advance in March and April last. Out of a total of 97, no less than 61 were medical officers. One, Captain Tickle, has died since his return to England. Captain Griffin was originally reported as killed. The names (all R.A.M.C.) are:

Colonel A. Milne Thompson,† C.M.G., M.C.  
Lieut.-Colonels: A. C. H. Gray, H. B. Kelly, D.S.O.  
Majors: J. Kennedy,† J. S. McConnachie,† M.C.  
Captains: W. Arnott,† M. T. Ascoug,† M.C., A. G. Bisset,\* M.C., T. Blackwood,\* attached R.F.A., H. Crassweller,\* attached Royal Sussex Regiment, C. R. Crowther,† S. J. Darke,\* M.C., attached Queen's Royal West Surrey Regiment, W. F. Dunlop,\* J. G. Elder,\* M. S. Ester,\* attached Middlesex Regiment, C. W. Fowler,\* M.C., attached Royal Berkshire Regiment, D. Gillespie,\* attached R.I.R., L. S. H. Glanville,\* attached Royal Irish Rifles, P. H. Green,† E. H. Grinn,\* D.S.O., M.C., R. M. Handfield Jones,\* M.C., W. G. Harnett,\* G. P. P. Heathcote,\* M.C., attached East Lancashire Regiment, A. C. Heppburn,\* R. W. Hodgson Jones,\* attached Royal Inniskilling Fusiliers, C. E. P. Husband,\* attached Northumberland Fusiliers, W. J. Isbister,\* M.C., attached Border Regiment, G. L. Jones,\* attached Scottish Rifles, J. M. Mackenzie,\* M.C., attached Northumberland Fusiliers, D. Macnair,\* H. C. Martin,\* W. T. P. Meade-King,† C. A. Meaden,\* attached Middlesex Regiment, C. Mearns,† attached Sherwood Foresters, J. C. Muir,\* attached Durham Light Infantry, F. C. Nicholls,\* M.C., attached South Staffordshire Regiment, W. O'Brien,\* attached Lancashire Fusiliers, R. W. Pearson,\* M.C., attached Durham Light Infantry, S. V. P. Pill,\* attached Wilts Regiment, W. A. Rees,\* J. Ross,\* M.C., attached Royal Scots, A. B. Simpson,\* F. P. Smith,\* R. M. Soames,\* attached Norfolk Regiment, J. Sullivan,\* J. Tate,\* attached East Lancashire Regiment, F. R. Tickle,\* attached Rifle Brigade, G. Torrance,\* M.C., W. Warburton,\* attached Royal Dublin Fusiliers, D. A. Wilson,\* C. Witta,\* M.C.  
Lieutenants: A. Boyle,\* J. W. Jones,\* attached Rifle Brigade, A. M. McCormick,\* attached Lincoln Regiment, O. Le F. Milburn,\* attached Royal Dublin Fusiliers, F. B. O'Dowd,\* attached West Yorkshire Regiment, E. S. Phillips,\* attached Royal Fusiliers, F. J. Power,\* attached Royal Inniskilling Fusiliers, D. Robertson,\* attached Royal Scots, W. H. Rowden,\* Lieutenant and Quartermaster P. W. B. Carter.

The following medical officers have arrived at Alexandria from captivity in Turkey:

Lieut.-Colonels: E. E. E. Baines, I.M.S., E. Bennett, R.A.M.C.  
Majors: S. G. S. Haughton, I.M.S., W. M. Pearson, I.M.S.  
Captains: L. A. P. Anderson, I.M.S., E. G. S. Cane, R.A.M.C., C. Newcomb, I.M.S., T. B. Osmond, R.A.M.C., M. L. Purl, I.M.S., J. S. Startin, R.A.M.C.

\* = Temporary. † = Territorial Force. ‡ = Special Reserve.

## HONOURS.

## ORDER OF THE BRITISH EMPIRE.

A SPECIAL Supplement to the *London Gazette*, dated November 18th, contained a list of appointments to the Most Excellent Order of the British Empire conferred for distinguished service in connexion with military operations. The following medical officers are included in the list:

## To be O.B.E.

In *France and Flanders*.—Captain David Hamman Fraser, R.A.M.C., for an act of gallantry not in the presence of the enemy.

In *Mesopotamia*.—Majors Samuel R. Christophers, C.I.D., I.M.S., Frederick P. Mackie, I.M.S.; Captain William Danlop, R.A.M.C.(S.R.); temporary Captains David F. Borrie, R.A.M.C., Edward N. Glover, R.A.M.C.

In *East Africa*.—Lieut.-Colonel Ernest R. Rost, I.M.S., temporary Lieut.-Colonel Donald Macaulay, R.A.M.C.; Majors George D. Maynard, S.A.M.C., Eustace L. Scott, M.C., I.M.S., Charles E. Southon, I.M.S.; Captain (acting Major) William D. Miller, S.A.M.C.

In *Italy*.—Major Edward Gibson, R.A.M.C.

## To be M.B.E.

In *East Africa*.—Captains Raymond Burg, Nyasaland Medical Service, William H. Elliott, R.A.M.C.(S.R.), Geoffrey B. Fleming, R.A.M.C.(T.F.), William H. Kauntz, E.A.M.S.; temporary Captains Geoffrey D. H. Carpenter, Uganda Medical Service, Donald McIntyre, R.A.M.C.

A Eugene Society has been founded at Sao Paulo, Brazil, with Dr. Arnaldo Vieira de Carvalho, Director of the Faculty of Medicine and Surgery of the University, as President.

THE University of Toronto recently received an endowment from a citizen of Toronto for the establishment of chairs in pediatrics, gynaecology, probably in orthopaedics, and in some special branch of medicine to be decided upon later. The amount of these endowments will be from half a million to three million dollars.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]



## Scotland.

### NOVEMBER 11TH IN EDINBURGH.

In Edinburgh, after a week of tempestuous weather and heavy rain and sleet, the air was still at 11 o'clock on Monday morning, November 11th, as the first flags were shaken out in Princes Street, and the faces of the people on that historic highway had a radiance not entirely due to the wintry sun. A few minutes later there arose a strange and continued humming, not altogether unmusical, which was presently realized to be due to the great fleet in the Firth of Forth blowing off steam, literally and metaphorically, in acclaim of the great thing which had come to pass. Ere long the bells of the city churches were ringing glad peals, but with a restrained force and volume which may have been due to want of practice or to respect for the many whose hearts were still too sore for full and unlimited joy-making. The students of the university celebrated the armistice by a torchlight procession on Friday evening. Seen dimly through a fog the high-spirited processionists were perceived to include many of the familiar characters of student revelry, such as cooks, nurses, policemen, and pierrots. The Black Watch pipe band and the Heriot School band set the step, and great crowds of spectators preceded and followed the procession; from the quadrangle of the old university down the bridges along Princes Street to Moray Place, where the principal, Sir Alfred Ewing, and Lady Ewing, acknowledged the cheering from a balcony. Thereafter the procession returned to Princes Street, and found its way to Bruntsfield Links by way of Lothian Road and Leven Street.

### MEDICAL STUDENTS IN GLASGOW.

The medical faculty of the University of Glasgow is embarrassed by the number of medical students. At a recent meeting of the University Court the Principal, Sir Donald MacAlister, gave figures showing that there had been a steady increase in the number of new medical students since 1911. In 1916, following on the Military Service Act, there was a decrease, but the numbers jumped up from 177 in 1916 to 262 in the summer session of this year. Even though there were no increase next year, the effect of the jump this year would, he said, be felt for four or five years. Professor Noël Paton stated that in addition there had been an increase in women students; the total number of new medical students had risen from 142 in 1912 to 393 in the present year. The accommodation was planned for a much smaller number. After discussion, the Court instructed the medical faculty to make practical suggestions. The medical faculty was requested also to make plans for post-graduation courses for medical graduates who had been on service.

## England and Wales.

### KING EDWARD'S HOSPITAL FUND FOR LONDON.

We have received from King Edward's Hospital Fund for London the fifteenth annual statistical report, prepared from the published accounts of 108 London hospitals, and from reports made to the Fund.<sup>1</sup> These institutions, together with St. Bartholomew's and the Cancer Hospitals, had 11,729 beds in average daily occupation in 1917, and the number of in-patients admitted was 147,593, including 28,013 naval and military patients who accounted for 31 per cent. of the total average occupied beds. While there has been an increase of 1,997 in the beds provided since 1913, the number available for civilian patients has been reduced by 1,659. The ordinary expenditure in 1917 amounted to £1,719,030, which was 27.36 per cent. greater than in 1913. Changes in the number of occupied beds due to the provision for wounded soldiers affected hospitals very unequally, and often in a manner quite outside the control of the hospital management. Thus much of the statistical material which is useful in ordinary times is useless under war conditions, and for this reason calculations based on comparisons with average costs have again

been omitted from the report. The heavy additional burden already thrown upon the voluntary hospitals by the great rise in the prices of food, drugs, and all other requisites was more than doubled during the year.

### ROYAL ALBERT INSTITUTION, LANCASTER.

The fifty-fourth annual report was recently submitted to the annual meeting of subscribers held at Lancaster in place of the tenth quinquennial festival, which, had it not been for the war, would have been celebrated this autumn. From a table printed in the report of the central committee we learn that at the first such festival, held in 1873, the number of patients in the institution was 141, and its income £5,523, and that in September, 1918, the patients resident had increased to 732, and the annual income to £35,790. Altogether during the last fifty years the subscribers had elected 2,158 inmates, in addition to 19 retained for a further term. These had been trained and maintained at little or no cost to their relatives. In addition a large number of cases had been received from local authorities and boards of guardians, the charge to whom had recently been increased owing to war exigencies. But the committee had constantly kept in mind "that the Royal Albert was in origin and essence a charitable foundation," depending on the charitable contributions of the public, and they had been careful not to increase the charge for patients admitted at reduced rates of payment borne by necessitous parents, and any profits made by the reception of more wealthy cases went to the relief of those who were poorer. The report of the medical superintendent (Dr. W. H. Coupland) shows 734 patients (483 males, 251 females) resident on June 30th, 1918, with 59 admissions, 39 discharges, and 19 deaths (8 from tuberculous diseases) during the preceding twelve months. The reports of the visiting commissioners record satisfactory progress, especially in the improved arrangements made for the training of low-grade defectives. Much has been done in the way of introduction of new industrial occupations, such as the making of toys, soft slippers, and nets; and an improved school classification has been carried out. Sixty additional acres of farm land have been secured, and will enhance the existing facilities for training the patients in outdoor work. The general health is stated to have been on the whole satisfactory, though, owing to food rationing difficulties, "individual patients have lost weight and have needed special observation for this reason."

The central committee contemplate an "ambitious scheme" of extension after the war, and look forward to the generous confidence and liberal support of the benevolent public of the northern counties in their effort still further to provide for the needs of their mental defectives.

## Correspondence.

### THE MENINGOCOCCUS OF WEICHSELBAUM.

SIR,—Dr. Hort, in his letter to the *BRITISH MEDICAL JOURNAL* of September 7th, replies to certain criticisms I ventured to make last year on a paper he published with the above title. As one is separated both in time and in space from home it seems very unprofitable to continue the correspondence. I would, however, make certain observations on Dr. Hort's letter.

Far from being uninterested in the account of the "giant meningococcus," I took the trouble to consider it both from the view of observation and interpretation. Not having seen the structures I could not suggest mal-observation, though I did point out the insufficiency and incompleteness of the published observations. There has been either malobservation or misinterpretation.

Every microscopist is aware of the difficulty of observation in such conditions as described by Dr. Hort. Would not a little simple staining do much to enable the observer to arrive at greater certainty as to the structures of which impressions were obtained in the living organism?

Dr. Hort, I am afraid, has been very much misled as to the present knowledge of the Hemiascomycetes. Nothing would be gained by entering into a discussion of this. Suffice it to say that the statement that all the members of this group "have, so far as studied, proved to belong

<sup>1</sup> London: Spottiswoode, Ballantyne, and Co. Price 1s. net.



definitely to" Phycomycetes or Ascomycetes is one to which not only mycologists of European reputation, but mycologists with any reputation at all would now subscribe. So much so, that many modern mycologists interested in the phylogeny of Ascomycetes have been driven to consider Florideae (Red Algae) as the probable ancestral group of these Fungi.

From the context of his letter I should imagine that Dr. Hort has been making more use of a certain elementary textbook of mycology published in 1906, and even then out of date, than was warranted either by its age or quality. I trust he will excuse my saying that his letter shows more clearly than did his original article that he will have to alter his mycological conceptions somewhat radically before he will be in a position to carry conviction. Dr. Hort admits that he is not a watchmaker. By this he probably means that when necessary he consults a watchmaker.—I am, etc.,

Central Laboratory, Salonica, Oct. 12th.

J. RAMSBOTTOM.

### THE FUTURE OF THE MEDICAL PROFESSION.

SIR,—Two letters in your issue of November 9th refer to an article of mine on the "Future of the medical profession."

With one of them, that by Dr. Tomkins, there will be found few members of the profession to disagree. I am in special sympathy with his views on the genesis of the "specialist." I am convinced that the principal factors in the making of a specialist are (1) opportunity, (2) practice, and that it would be to the advantage of the profession and of the community were opportunities to specialize offered to as many of the profession as cared to take advantage of them.

With Dr. Mears's letter, advocating a whole-time State service, there will, I believe, be found few to agree, except as to his contention that overwork is bad for the profession and bad for medicine. It must be remembered, however, that the overwork which undeniably now exists and will exist when the war is over is due to a shortage of medical men and women relative to the need for their work and not to the form of organization under which they give their services. Overwork could and would remain with a State medical service, even if modelled on the Army Medical Service (*absit omen*) with the alternative of leisure to the doctor at the cost of the work needed by the community which would, I am convinced, soon lead the community to give short shrift to a State service.

It will be for the professional associations and unions to see to it—

1. That the conditions of medical service shall be such as to attract sufficient numbers into the profession of the right sort of men and women.

2. That the emoluments received by the medical man and woman shall be such as to enable him or her to earn a reasonable living without overwork.

This these professional bodies can do if the individual men and women will (1) devote some personal energy to the work of the associations; (2) put their hands into their pockets to promote and extend the work of the organizations.

Perhaps we ultimately want the same thing, but it is in very different ways. I personally should not care, and I am confident that my patients would not care, for the tie between them and myself to be a record card, however well and fully kept, by which I should pick up a relation to my patient when I came on duty and hand it over to some one else when he came on duty in his turn. These are not the present day relations of doctor and patient, except in the army.

At the risk of being considered old fashioned and conservative I profess my preference for the present personal relations, and I believe them to be best for the community.—I am, etc.,

York, Nov. 9th.

PETER MACDONALD, M.D.

SIR,—In the JOURNAL of November 9th, 1918, Dr. F. C. Mears writes an interesting letter on the constitution of a proposed State medical service, and suggests that every practitioner under 50 should be allowed to join the State medical service by relinquishing his private practice. Apparently men over 50 are to be left to starve on the dregs of such private practice as may remain after the establishment of a State medical service.

I hold an excellent degree, and have been in the constant practice of my profession for twenty-six years; but, owing to the expenses of a family, have not achieved independence. I am nearly 51, but physically am younger than the average man of my years. I have served for the last two and a half years in the R.A.M.C., and am at present serving overseas. There must be hundreds of men in like case with me, but apparently we are to be left out of a State service, although it might be argued that a doctor of 50 was not necessarily less efficient than a doctor of 40 or even 30 years of age.—I am, etc.,

November 18th.

OVERSEAS.

### THE CAPITATION FEE AND THE PANEL CONFERENCE.

SIR,—The deliberations in regard to a demand for an increased capitation fee at the recent conference of Panel Committees, as reported in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of November 2nd, give an impression of impotence which must be disquieting to those of us whose purses (and honour) are directly affected. Speaker after speaker endorsed, amplified, and supported the motion of Sunderland (requesting the Insurance Acts Committee to take immediate and active steps to secure an increase of capitation fee), and the remarks of Dr. Modlin, who proposed it; not a single dissentient voice was heard; the reader begins to thrill with pride in the noble unanimity of the representatives of his profession, who with boldness and with irrefutable logic drive home their moderate and just demand; when, hey presto! Dr. Brackenbury arises; he makes certain statements and the storm subsides. A few bolder spirits still raise their heads in protest; the Chairman, speaking as a representative, makes a further statement, and the conference votes by a substantial majority against the Sunderland motion, and against the views expressed by practically all the speakers.

And what are these statements which produced this remarkable effect? Those of Dr. Brackenbury (Chairman, and one may fairly add chief representative, of the Insurance Acts Committee) amount to two:

1. That the motion was a vote of censure on the Insurance Acts Committee.

2. That it meant, if carried, the suspension of medical benefit.

The Chairman's statement was to the effect that not one per cent. of Scottish insurance practitioners would support a strike. With the latter statement I am not concerned—Scotsmen should be able to look after themselves, and the Insurance Commissioners of England are my taskmasters. Neither am I in any way interested in the question of a vote of censure on the Insurance Acts Committee, though I note that any such reading of the motion was, by the ruling of the Chairman and with the acceptance of Dr. Brackenbury, decided to be in the Pickwickian sense only.

I cannot believe that either of these considerations was a deciding factor in producing the docile submission of nearly two-thirds of the delegates voting.

I am therefore left with the threatened suspension of medical benefit as the cause of their *volle face*, and with this I am very much concerned indeed. And yet can it be that these delegates are so blind to the condition of affairs in the panel profession that they do not know that the relative value of panel to private practice has so gone down, and the irksomeness and the annoyances of it have so gone up, that a big proportion of panel practitioners would regard such a suspension as a perfect godsend? The risk of permanent suspension of medical benefit is *nil*; the threat of a temporary suspension holds no terrors for me. My own experience and inquiries of my neighbours lead me to believe that the risk of a financial loss would be small, the burden of work would be less, and a source of constant irritation would be eliminated. With the present rate of wages a temporary suspension, long enough to bring the Commissioners to their senses, would entail no serious hardship upon insured persons.

And then no more badgering by ignorant society agents; no more skimping of drugs with one eye on the patient and one on the surcharges; no more inflations and discounts, and insolent letters from bureaucratic Commissioners. Are we indeed fallen so low that we cannot take the risk of a small loss with so great a gain in view? For we must remember that victory in the matter of this



remuneration would mean power—power to curb or remove many of the pernicious and most irritating lesser evils with which, in addition to our miserable rate of pay, we are afflicted.

I refuse to believe it. The profession can and will strike, and strike soon and hard. But it will not be with Dr. Brackenbury either as figurehead or helmsman, nor under the banner of any body which lacks the power and cohesion to force an issue when the profession stands in its present splendid strategic position.—I am, etc.,

Leffworth, York, Nov. 14th.

J. C. LYTH.

#### THE CRUSADE AGAINST TUBERCULOSIS.

SIR.—Sir Malcolm Morris's address (BRITISH MEDICAL JOURNAL, November 16th, p. 533) is both interesting, is not encouraging. Its atmosphere, however, seems suitable to the style of work at present being done. An examination of 5,000 cases in dispensary work during the last four years—with tuberculosis definitely diagnosed in about one-third—leads me to conclude that heredity, infection, and environment are responsible in the order named, the last being a poor third, and its action general rather than specific.

Rest in hospital and routine treatment in sanatorium have each produced excellent results, which have quickly been nullified, in most instances, by return to family life.

Strict preventive legislation is required in several directions. If compulsory segregation of infective cases is not possible, then homes for the dying can have but a sentimental interest. During the last year, in one family, the mother died (at home) of chronic pulmonary tuberculosis, and four children have become infected. Sanatorium treatment was refused in the first two seen with early signs; and one of these, a girl aged 16 years, died of gangrene, and the boy, aged 17, is a chronic case refusing treatment. One other daughter, aged 18, developed rapid and extensive signs and accepted hospital treatment, which was very successful, but will soon be nullified, as she was compelled by the father to return home when her temperature had been normal for three weeks. An elder sister is at present doing well in sanatorium, and it is hard to think of this patient returning to such a home, which she probably will have to do.

Much is hoped and expected from a Ministry of Health, and a good start can be made in tuberculosis.—I am, etc.,

Newport (Mon.), Nov. 16th.

J. LEWIS-THOMAS.

#### THE MINISTRY OF HEALTH.

SIR.—Various trade unions have made claims, which have obtained the approval and support of the Labour party, to exercise a very considerable influence upon the conditions under which each craft should work; the method in which the result of their labours should be made available; and the appointment, promotion, and discipline of their members. A long step in this direction has been taken by the formation of councils in various crafts in accordance with the Whitley Report.

I suggest that it would be advisable for the Council of the Association to refer the "scheme for a Ministry of Health," approved on January 23rd, 1918, back to a committee with instructions to strengthen their recommendations so as to secure similar advantages for medical practitioners, who have had quite enough of bureaucratic government, and are generally desirous of working under more democratic conditions.

I consider that the main point to which attention should be directed is the formation of a strong statutory medical council as part of the machinery of the Ministry. It should be so constituted as to become the supreme medical authority, with power to regulate its own sittings and agenda; communicate on health matters with any authority, including the Houses of Parliament; and be the channel of communication for, and the official superior of, the statutory medical committee to which reference is made in para. 10 of the scheme. It should have power to nominate suitable persons to the Minister for all professional appointments in his patronage; although it might be required to nominate two or even three for each appointment. In any case no appointments, promotions, or punishments of medical men by the Ministry should be possible without the approval of the council. It should nominate suitable medical men for all advisory committees for the General Medical Council (which should become one

of its subcommittees), and even medical members of a reformed Upper House should such an eventuality ever arise.

The council could be constituted on the following lines:

(a) *Nominated Members*.—As at present for the General Medical Council; the members of which should *ex officio* become the first nominated members.

(b) *Elected Members*.—To represent the Local Statutory Medical Committees. It might be necessary to group small committees, or give two or more members to large ones. The elected members should constitute a substantial majority.

(c) *Ex Officio Members*.—Power might be taken to co-opt distinguished specialists.

(d) *Official Members*. The heads of the Army, Naval, Air Force, and Colonial Medical Services, and the departmental chiefs (medical) of the Ministry.

The local statutory medical committees should be given precisely similar powers in relation to their own authorities and medical employees, who should have a right to appeal to the council.

The amount of medical emoluments should be fixed by the Treasury in consultation with the Minister, advised by the medical council. The manner of distribution should be left to the local authority acting with the advice and consent of the local medical committee, subject to the approval of the medical council and the Ministry.

Speaking as a panel practitioner and member of a Panel and Local Medical Committee, I consider that a scheme on such lines would receive the approval of the vast majority of the profession, although it might appear to some to be too utopian for practical politics. As a Labour candidate, I believe it would inevitably obtain the support of the Labour party in Parliament, particularly if put forward with the authority of the British Medical Association.

Dr. Addison, in introducing his bill, proposed to limit the powers of his Advisory Council to giving the Minister advice. This is merely an example of the bureaucratic control to which objection should be taken. The Minister is in any case responsible to Parliament, but at present members have no independent means of ascertaining whether the Minister is, or is not, acting upon the advice of the experts.—I am, etc.,

JOHN KYNASTON,

Bilston, Nov. 9th.

Lieut.-Colonel R.A.M.C. (ret.).

## Universities and Colleges.

#### UNIVERSITY OF GLASGOW.

THE degree of M.D. has been conferred upon W. G. Davidson (with commendation), T. Inglis and J. L. Brownlie (with high commendation).

#### ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

At the annual meeting of the Royal Faculty of Physicians and Surgeons the following officers were elected:

President, Dr. A. Freeland Fergus; visitor, Dr. W. G. Dun; treasurer, Mr. George McIntyre; honorary librarian, Dr. Alexander Napier; representative to General Medical Council, Mr. David N. Knox.

The council consists of: Dr. John Barlow, Dr. W. R. Jack, Dr. J. Wallace Anderson, Mr. J. Forbes Webster, Dr. Ebenezer Duncan, and Mr. R. M. Buchanan, together with the *ex officio* members—namely, the president, visitor, treasurer, honorary librarian, and representative to the General Medical Council.

#### CONJOINT BOARD IN ENGLAND.

THE diplomas of L.R.C.P. and M.R.C.S. have been conferred upon the following candidates who have passed the final examination:

J. B. Barnett, L. H. Bartram, F. J. Bennett, W. L. Berry, M. Z. Boonchek, J. C. Brown, J. M. Brydson, H. C. H. Bull, F. T. Burkill, C. B. Cade, D. Campbell, W. M. Casper, C. B. Clarke, C. G. Coombs, E. A. Crook, W. Davies, Mary Day, C. C. B. Downing, Clarence F. Emmonson, D. W. Evans, J. H. Ewen, P. Faraci, D. C. Farquharson, G. A. Fisher, Lilian M. Fisher, J. F. T. Forbes, R. Gansboren, H. G. A. Gooden, L. B. Graham, C. Grantham Hill, D. P. Guilfoyle, A. W. Holgate, E. T. Holden, A. St. G. J. McC. Huggitt, C. McC. Jones, R. D. Jones, E. G. Joseph, Florence M. K. Krasnik, J. Kyle, V. J. F. Lack, L. J. M. Laurent, H. S. Le Marchand, A. W. Lewis, G. S. Lewis, S. S. Lindsay, T. D. Lewellyn, G. L. Lyon Smith, H. C. McAlister, Kathleen McC. McKewen, D. G. Macpherson, W. E. Masters, G. Millar, R. S. Millar, A. R. Needles, W. Oates, E. Palmer, W. H. Palmer, W. A. W. Parkes, R. H. Parry, P. N. Parsons, E. A. Pearson, E. A. I. Phillips, M. O. Polhill, T. D. Pratt, H. L. Pridham, R. S. Ralph, F. W. Reits, T. E. Roberts, R. H. O. R. Robinson, Joan M. Ross, C. C. Rowland, Elizabeth O. Russell, J. H. Sheldon, Hilda N. Shuffelbotham, A. H. J. Stuart, F. R. Snel, Frances M. Spickett, J. Spira, F. H. Sturteford, G. McK. Thomas, E. B. Toogood, Norah E. Trouton, R. H. Turner, M. B. M. Tweed, J. L. de V. van der Merwe, D. Wallace, H. P. Warren, T. D. Wheeler, Alice White, Ethel White, J. M. Wainwright, G. Wainwright, E. Wolf, S. C. Woodhouse.



## THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

A MEETING of the Executive Committee of the Fund was held at the offices of the *Lancet* on November 18th, when the position of the Fund was considered, having regard to the gradual reclamation of Belgium from the German occupation.

Sir RICKMAN GODLEE, the Chairman of the Fund, said that after inquiry he found that no definite announcement could yet be made as to when prompt communication between the Committee of the Fund and the committee sitting in Brussels could be established. It was decided to take steps to obtain through the Commission for Relief in Belgium a statement from the Comité Mixte, representing the medical and pharmaceutical professions in Belgium, as to the present position. The Committee noted with pleasure that the subscriptions to the second appeal of the Fund were still coming in, the North of England Branch of the British Medical Association, through Dr. J. Don, the honorary secretary of the Branch, having been notably generous. Relying on two things—namely, the subsidy until the end of the year of £200 a month from the American Red Cross, and the recurring generosity of the medical profession—it was decided to resume the mensuality of £800 per month.

The Committee formally expressed deep regret at the death of Mr. Meredith Townsend, who had been an active and assiduous member of their body, and through whose instrumentality a varied and valuable assortment of medical instruments had been distributed from the Apothecaries' Hall, London, to Belgian doctors, both in this country and in the Belgian army.

### SUBSCRIPTIONS TO THE SECOND APPEAL.

The following subscriptions have been received up to Monday last, November 18th:

	£ s. d.		£ s. d.
North of England Branch		Dr. A. Livingstone ...	5 5 0
B.M.A. (per Dr. J. Don, Hon. Sec.)		Dr. A. C. Burnell	5 5 0
Dr. James Hudson	5 5 0	Dr. Alfred Cox (monthly)	1 1 0
Dr. J. Wishart	1 1 0	Dr. J. Herbert Sanders (per Sir Rickman Godlee)	1 10 10
Dr. J. H. R. Garson	1 1 0	Dr. R. H. Western	20 0 0
Dr. J. McDonald	2 2 0	H. L. ...	5 0 0
Dr. T. G. Ainsley	5 5 0	Sydenham District Medical Society (per Dr. F. G. Swayne)	7 7 0
Dr. C. Basan	1 1 0		
Dr. F. Horsman	1 0 0		
Dr. James Don	5 5 0		

Subscriptions to the Fund should be sent to the treasurer, Dr. H. A. Des Vœux, at 14, Buckingham Gate, London, S.W.1, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited.

## Obituary.

SIR HERMANN WEBER, M.D., F.R.C.P.,  
London.

SIR HERMANN WEBER died at his residence in London on November 11th in his 95th year. He retired from practice at the age of 80, but had continued to enjoy a vigorous old age, following out the principles laid down in his essay on *Prolongation of Life*, originally delivered as a lecture before the Royal College of Physicians of London. We published in our columns last February an interesting note by him on the influence of muscular exercise on longevity, in which he himself attributed a great share of his vigour at so advanced an age to his practice of keeping up the muscular system, spending daily two or three hours in the open air, walking as a rule thirty, or frequently forty or fifty miles a week, enjoying, as he characteristically added, the beauties of nature. During the last few weeks he had been rapidly losing strength, as he himself knew, but the end came suddenly and peacefully—a kind of faint as he was getting up in the morning. His mind, especially his thoughtfulness for others, remained the same to the last.

Sir Hermann Weber was born on December 30th, 1823, the son of a German father and an Italian mother. His early years were spent on the farms successively held by his father in Bavaria and Hesse-Cassel. He went to school at Fulda, and received his medical education first at Marburg and afterwards at Bonn, where he graduated M.D. in

1848. While at Bonn he became acquainted with some Englishmen who greatly influenced his future: they were Sir Peregrine Maitland, a Waterloo veteran, Sir Henry Havelock, and Sir James Simpson, who was paying a visit to Germany; at Marburg he had made the acquaintance of Carlyle, and never forgot the walks and talks he had with that philosopher. His desire to read Shakespeare in the original had already led him to study the English language, and he was therefore prepared to accept the post of house physician at the German Hospital, Dalston, to which he afterwards became physician and consulting physician. His disposition to remain in England was confirmed by his marriage with an English lady in 1854.

He determined to practise as a physician in London, and after a period of study at Guy's Hospital he became a Member of the Royal College of Physicians in 1855. The position he had already obtained is shown by the fact that he was elected a Fellow four years later. He was the oldest surviving Fellow of the College, Dr. William Odling, F.R.S., who was elected in the same year, being six years his junior in age. Soon after his arrival in England he became a member of the Society for Clinical Observation, which included nearly all the rising physicians of that day. In later life he would refer to the interest attaching to its meetings and discussions, and the pleasure he derived from his acquaintance with its members. Much of his success, both as a physician and as a member of the profession in London, was due to his extraordinary charm of manner; no one could be in his company for even a few minutes without coming under the spell. Among his friends in the early days in London were Addison, Edmund Parkes, Wilson Fox, and Hilton Fagge. His affection and admiration for Parkes led him in 1895 to present to the College a sum of £3,000 to found a prize to be awarded every third year to the author of the best essay upon some subject connected with the etiology, prevention, pathology or treatment of tuberculosis. The prize, appropriately named the Weber-Parkes Prize, has been awarded on five occasions.

Hermann Weber was from the first specially interested in the treatment of consumption, and he was among the first to advise patients to go to Switzerland for the winter. He was in the habit of spending his holidays in the Swiss, Tyrolean, and Italian Alps; he was a member of the Alpine Club, made many early ascents of difficult mountains; in his 68th year climbed the Wetterhorn and Jungfrau, when 73 crossed the Capuchin from Pontresina to Sils, and in his 80th year crossed the Diablerets. In 1885 he gave the Croonian Lectures before the Royal College of Physicians on the hygienic and climatic treatment of phthisis, and contributed several articles on related subjects to *Quain's Dictionary* and Allbutt and Rolleston's *System of Medicine*. He placed his knowledge of health resorts at the disposal of the profession in a volume entitled *The Mineral Waters and Health Resorts of Europe*, afterwards replaced by a volume entitled *Climatotherapy and Balneotherapy*, written in association with his son, Dr. F. Parkes Weber; a third edition, edited by the latter, was published in 1907. Hermann Weber received the honour of knighthood in 1899. He was a censor of the College of Physicians in 1879-80; he was consulting physician to the Royal National Hospital for Consumption at Ventnor, to the North London Consumption Hospital, to the German Hospital, and a member of the consulting committee of King Edward VII Sanatorium; he was also an honorary or corresponding member of a large number of learned societies.

DR. FREDERIC HAMILTON LAZENBY, of Alderley Edge, Cheshire, died there, aged 52, on October 30th, as the result of a fall down stairs in the dark on October 21st, which caused fracture of the spine. He was the third son of the late Rev. M. Lazenby of Doddington, Northumberland, and was educated at the Newcastle-on-Tyne School of Medicine, taking the Scottish triple qualification in 1890. He was an honorary surgeon to the St. John Ambulance Association, and since the beginning of the war had been almost constantly employed in examining recruits. When the recruiting medical boards were formed in January, 1916, he was appointed a member of Manchester No. 1 Board, and held that post till the work was handed over to the National Service Board in the autumn of 1917, after which he acquired a practice at Alderley Edge.



WE regret to announce the death on November 2nd of Mr. RICHARD FAVELL, surgeon to the Jessop Hospital for Women, Sheffield, who was for many years one of the leading members of the medical profession in Sheffield and district. His father, Mr. William Favell, was also one of Sheffield's best known surgeons in his day. Richard Favell studied medicine at St. Bartholomew's Hospital, and obtained the diploma of L.S.A. in 1874, and that of M.R.C.S. in 1880; in 1908 he received the Ch.M. degree of the University of Sheffield. In former days he took a deep interest in the work of the old Sheffield medical school; he was professor of obstetrics at University College, Sheffield, and subsequently Emeritus Professor. In the North of England Obstetrical and Gynaecological Society he had held the posts of president and treasurer, and in 1894 he was president of the Sheffield Medico-Chirurgical Society. His chief public work was done in the Jessop Hospital, with which he was associated as honorary medical officer for nearly forty years. He married in 1880, and his eldest son, Captain R. V. Favell, M.R.C.S., who was in practice at Sheffield before the war, is at present serving with the R.F.A. His younger son was killed in action in 1916. Mr. Richard Favell had been ill for some time past.

HUGH JOHN McCaw, M.D., F.R.C.S.E., died on October 26th from influenzal pneumonia, at Lambeth Infirmary, London. The second son of Hugh McCaw, M.B., Invercargill, New Zealand, he was educated at the Otago Boys' High School and Edinburgh University, where he took the degrees M.B., Ch.B. in 1911. He served as temporary surgeon in the Royal Navy, and was in several engagements on the Belgian coast during the first two years of the war. On leaving the navy he became assistant medical officer to the Lambeth Infirmary. Dr. McCaw was an able and keen worker, and was respected by all with whom he came in contact, and his many friends are deeply grieved by his untimely death at the age of 32.

THE REV. DANIEL McNEILL, M.D., of Orkney, whose death occurred on October 15th, was born in Drumlemble, Argyllshire, seventy-eight years ago. Educated at the University of Glasgow, he combined the studies of medicine and divinity with a view to entering the foreign mission field, but on a chance visit to the Orkneys he decided, at the earnest request of the people, to settle on these remote islands, and here for half a century he devoted himself to the care of body and soul. Since the outbreak of war he had been living in nominal retirement in Edinburgh, but up to the end had been doing as much medical and clerical work as his years allowed. Dr. McNeill was a man of many gifts—too versatile, indeed, to make a notable success in any one line; but his life was as useful as it was full and varied, and his humour, kindness, and abounding sympathy endeared him to the people to whom his life was dedicated. Of his family of six sons and six daughters, four sons and three daughters are graduates or alumni of the University of Glasgow. Two sons gave their lives in the war, one is serving with the R.A.M.C., and a daughter, Dr. Mary McNeill, is with the Scottish Women's Hospital at Salonika.

DR. CHARLES A. LUTHERSON RING died on October 29th of pneumonia following influenza, aged 39. He was the son of Captain Ring, R.N., of Sea View, and commenced his medical education at Guy's Hospital. It was interrupted by service under General Plumer in the South African war, where he gained the South African medal and five clasps. On the termination of hostilities he resumed his medical studies and took the Scottish triple qualification in 1905 and the F.R.C.S. Edin. in 1908. After practising at Hatherleigh, Devon, he removed to Brinklow, near Rugby, where he remained until the outbreak of the war, when he volunteered for service. He had served for two years in Macedonia and France. He subsequently resumed his practice at home. He leaves a widow and three children.

SIR ANTHONY GYSBERT VILJOEN, M.B., M.Ch. Edin., died in Cape Town at the end of October. He was born in the Caledon district of Cape Colony, and after receiving his

preliminary education at the South African College, Cape Town, entered as a student at St. Bartholomew's Hospital, London, and afterwards proceeded to the University of Edinburgh. On his return to South Africa he became district surgeon first of Caledon, Cape Colony, and then of Krugersdorp in the Transvaal. He retired from practice in 1897 and took to farming in the Caledon district. During the Jameson raid, however, he acted as chief medical officer to the South African Republican Forces, and served throughout the Boer war with these forces from 1899 to 1902. He entered the Cape House of Assembly as a representative of the South-Western District of Cape Province in 1904, and was re-elected in 1908. After the union he was elected a senator in 1910. He was a member of several important commissions, including the Guano Tariff Commission, 1907, and the Industries and Commerce Commission, 1911-12. Though he had long retired from practice, he maintained an active interest in the affairs of the profession to the last, and was able to represent its views in Parliament. He served during the German South-West campaign as a major in the South African Medical Corps.

DR. E. P. LACHAPPELLE, Dean of the Medical Faculty of Laval University, died in the Mayo Hospital, Rochester, Minn., on August 1st, in his 74th year. A descendant of some of the earliest French settlers in Canada, Emmanuel Persillier Lachapelle was born at Sault au Recollet, near Montreal. He was a graduate of Laval University, and soon after obtaining his degree was appointed professor of hygiene in that university. Dr. Lachapelle, through his insistence upon the importance of vaccination, greatly aided in suppressing the small-pox epidemic in Montreal in 1885. Shortly afterwards, when the Board of Health of the Province of Quebec was established, he became its first president. In 1878 he was elected a governor of the Quebec College of Physicians and Surgeons and was for many years its president. Always interested in the public welfare, Dr. Lachapelle gave great assistance to Sir Thomas Roddick in framing the Canadian Medical Act, and at the time of his death was president of the Medical Council of Canada. Dr. Lachapelle combined a delightful personality with a wide knowledge, generous vision, and much tact, and will long be remembered for his ability and kindly sympathy. He was a member of the *Légion d'Honneur*.

DEPUTY INSPECTOR-GENERAL JOHN WILLIAM SINCLAIR MEIKLEJOHN, R.N.(ret.), died in London on October 31st, aged 89. He was educated at Edinburgh University, where he graduated M.D. in 1851, and also took the L.R.C.S. Edin. in 1860. Soon after graduating he entered the Medical Department of the Navy as assistant surgeon, attained the rank of fleet surgeon on January 26th, 1875, and retired with a step of honorary rank on October 16th, 1884. During the Crimean war he served in the Baltic, in 1855-56, in H.M.S. *Harrier*, and received the Baltic medal.

DR. SAFE TALMA, one of the leading clinicians of Holland, whose name is well known in connexion with an operation for the relief of cirrhosis of the liver, died in June of the present year. He was born in 1847 and studied at the University of Utrecht, where he was appointed to the chair of pathological anatomy in 1876. Some years later he was called to the chair of internal medicine.

It is said that between 20 and 25 per cent. of the boys examined for the Students' Army Training Corps in the universities and colleges of the United States failed to come up to the physical standards for soldiers, owing mainly to underdevelopment and deficiency in weight.

THE Corporation of McGill University, Montreal, has given its formal approval to a recommendation made by the medical faculty that women should be admitted to the study of medicine. Admission is to be subject to the conditions that candidates shall have completed the first and second years of the arts course at McGill, or have obtained a degree in arts from a recognized university, or are prepared to take a double course of B.A. and M.D., or B.Sc. and M.D. at McGill. Women are now admitted to the medical faculties of Toronto, Queen's, and the Western universities.



## Medical News.

Dr. E. MELLANBY, acting superintendent of the Brown Institution, is giving a course of five lectures at the Royal College of Surgeons of England. The first two lectures dealt with alcohol. In the third, fourth, and fifth, to be given on November 27th, December 4th, and December 11th, the etiology of rickets will be discussed. The lectures are given at 5.30 p.m.

At a meeting in Dublin on November 8th, after the delivery of the Montgomery Lecture by Dr. Euphan Maxwell, an Irish Ophthalmological Society was established, and the following officers elected:—President: Mr. A. W. Sandford (Cork). Council: Messrs. J. B. Story, L. Werner, J. A. Craig, H. C. Mooney, F. H. Crawley. Honorary Secretary and Treasurer: Lieut.-Colonel T. H. Delany, I.M.S.(ret.), 29, Upper Fitzwilliam Street, Dublin. Mr. J. A. Craig (Belfast) was in the chair. Mr. Werner exhibited lantern slides of a case of cysticercus, already published, and Mr. Story charts of fields of vision in glaucoma. On the following day patients were shown at the Royal Victoria Eye and Ear Hospital.

A CONTRIBUTION of 500,000 dols. has been made by the American Red Cross to the Canadian Red Cross for the relief of Canadian soldiers.

A PSYCHOPATHIC institute is to be built in Winnipeg for the care and treatment of soldiers belonging to the province of Manitoba who return from the war suffering from mental disorders.

DR. DOMENICO ALBANO of Pignola, Potenza, a district infested with mosquitos, states that protection may be obtained by anointing the exposed parts of the skin once a day, or even every two days, with vaseline. Some essence may be added to the vaseline.

BRAZIL has sent a medical mission to France. It consists of fifty doctors, with a number of students. They are to be attached to the Brazilian Hospital already established.

Bombay University Calendar, 1917-18, consists of two volumes. The first gives the acts and regulations of the university, with lists of its recognized colleges and other such matters. The second contains many hundreds of the examination papers set in the year 1916.

## Letters, Notes, and Answers.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telephone addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology*, Westminster, London; telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westminster, London; telephone, 2030, Gerrard.
3. MEDICAL SECRETARY, *Mediscera*, Westminster, London; telephone, 2631, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### LETTERS, NOTES, ETC.

#### QUININE AND INFLUENZA.

DR. HOWARD GLADSTONE (Sydenham, S.E.) writes in connexion with the statement in the Memorandum of the Royal College of Physicians, November 16th, p. 546 that no drug has been proved to have any specific influence as a preventive nor any curative effect in influenza, to recall the late Dr. Burney Yeo's recommendation of quinine for both purposes. "My own experience in this epidemic and previously," Dr. Gladstone writes, "coincides with the remarks of Dr. Burney Yeo. I find that uncomplicated cases with a high temperature become almost well in thirty-six hours if given quinine in 2 gr. doses every hour for six hours, and then every

two hours. If it does not prevent the onset of pneumonia, I find that cases well treated from the onset with quinine which develop pneumonia on the fourth day have it in a mild way. In several cases the respirations were under 20 to the minute. It is in my opinion necessary to increase the dose of quinine in accordance with the severity of the type of the epidemic, and since I have given the above doses instead of 2 grains every four hours I have seen uncomplicated cases clear up most rapidly—fewer complications, milder course of such complications as occur, and more rapid convalescence. I feel it is opportune to bring these opinions before the profession, not with the idea that there is anything new or original in them, but with the object of pressing the claims of an old well-tried medicine, which, with some, seems to have been regarded less than its due share of credit as an ally.

#### COAL FOR INVALIDS.

We have received the following notification from the Coal Control Office: It has been reported to the Coal Controller that local fuel overseers are being inundated with medical certificates authorizing additional coal rations to householders on account of illness in the family. Many of these medical certificates have been given, perhaps unwittingly, without the amount of careful consideration which is necessary in view of the present serious coal shortage. The Controller therefore draws the attention of medical men to the undesirability of granting these certificates except in cases of real hardship. Otherwise the Controller will be compelled to ignore them altogether. The only condition under which a medical certificate for an extra coal ration on account of illness should be given is where the patient is to remain in bed and where a fire in the bedroom is necessary for the recovery of the invalid; 1 cwt. to 1½ cwt. a week can be allowed for bedroom fires in these circumstances, and only for the time the patient remains in bed.

#### INCREASED INTRASPINAL PRESSURE IN PNEUMONIA.

MR. H. V. DREW, F.R.C.S. (Broadstairs), writes to recall that a short note by him was published on May 5th, 1917, on pneumonia, in which he suggested the possibility that intraspinal pressure often exercises a great influence in producing a fatal result, and that reduction of this by tapping might greatly reduce the mortality, as it might safely be assumed that such pressure must depress the vital powers by injuring the medullary centres. He concluded by observing that it is known that intraspinal pressure is frequently, if not always, increased in acute pneumonia, and that meningitis is found in a very large percentage of fatal cases. He now writes: "I have known cases of pneumonia mistaken for cerebro-spinal fever and tappe l, nervous symptoms being very marked and greatly increased pressure being noted, but in which on examination no evidence of cerebro-spinal fever was found, yet the cases were greatly benefited by the tapping. I wish that some of the able and energetic junior physicians on the staffs of some of the large hospitals would investigate this matter, as I feel sure that there is truth in my suggestion."

#### BACTERIAL DIAGNOSIS OF DIPHTHERIA.

DR. ROBERT A. LYSTER, M.D., B.Sc., D.P.H. (County Medical Officer Hampshire), writes: I have read with great interest Lieut.-Colonel Warrack's article on the differential diagnosis of scarlet fever, measles, and rubella (BRITISH MEDICAL JOURNAL, November 2nd, p. 486), but there are two statements in it which one cannot allow to pass without comment, because such statements are calculated to undo the results of the persistent modern teaching of medical officers of health. I refer to the references to diphtheria. Colonel Warrack says: "If there is any suggestion that there is a membrane a swab should be taken for bacteriological examination," and in another place he states that "where there is a membrane or sloughing a throat swab should be taken." It cannot be too often impressed upon medical practitioners that if swabs are only taken from throats exhibiting membrane or sloughing a very considerable number of genuine cases of diphtheria will be missed, and these missed cases will probably constitute foci for the further spread of the disease. The routine practice should be to take a swab for all morbid conditions of the throat.

THE appointments of certifying factory surgeons at Biggar (Lanark), Pontymister (Monmouth), Witney (Oxford), are vacant.

#### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	...	...	0 6 0
Each additional line	...	...	0 0 9
Whole single column	...	...	4 0 0
Whole page	...	...	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *post* restante letters addressed either in initials or numbers.



# SPOLIA OPIMA.

BEING THE PRESIDENTIAL ADDRESS TO THE SURGICAL SECTION, ROYAL SOCIETY OF MEDICINE.

BY

SIR JOHN BLAND-SUTTON, F.R.C.S.

On an idle day, in a fit of curiosity, a friend of mine took a Babylonian tablet of baked clay, beset with arrow-headed, or cuneiform, characters, to the British Museum and asked for a translation. The inscription proved to be a contract for the sale of grain, about 2000 B.C. The air of London had a bad effect on the tablet, for it cracked and disclosed another within—a compact tablet with an inscription in Sumerian, the early language of Babylonia. Professor Leonard W. King deciphered this as recording a receipt of grain, the inscription on the case being a shorter version of the deed.

I propose to set before you some examples of characters written by disease on the tissues of men that are as obvious to the eye as cuneiform writing, but more difficult to decipher. The first is a tumour in the shaft of the humerus which was brought before this Section in 1912

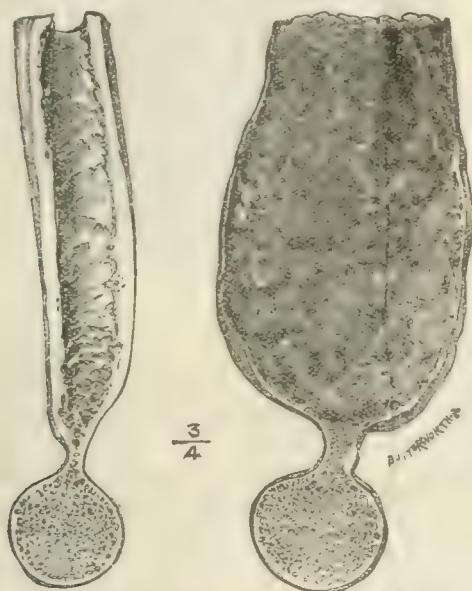


FIG. 1.—Lower portion of a humerus in longitudinal section; it contains a central tumour. The figure on the left shows the corresponding section of a normal humerus. (From *Tumours*.)

I am able now to give the complete clinical history of what appears to me to be a remarkable tumour.

## A REMARKABLE TUMOUR.

### General Adrenal Malignancy.

It is part of the duty of the doctor on a fashionable liner to look after the amusement as well as the health of the passengers. Dr. C., aged 45, had been a ship's doctor for many years. One evening, in the Red Sea, he was dancing with a fat woman, and, as so often happens on board ship, drawing-room lancers became kitchen lancers, and whilst swinging round his heavy partner he felt a sudden pain in the right elbow. A year later he noticed a swelling at the lower end of the humerus and a radiograph indicated the presence of a central tumour. On September 23rd, 1912, I excised the lower half of the humerus, for it was occupied with a red and extremely vascular tumour presenting the naked-eye appearances of a myeloma (Fig. 1). The microscopic characters of the tumour, however, were undecipherable, and I contented myself with a provisional label and styled it an endothelioma, as this name seemed to fit in best with its minute structure (Fig. 2). After all, the essential use of a name is to serve as a label. The patient recovered with a useful hand in spite of the removal of such a long piece of the humerus. With the help of an elastic bandage he could fix the forearm to the arm, and this enabled him to write letters and legible prescriptions, see patients, pocket fees, light a pipe, button his clothes, and, among other things, apply midwifery forceps success-

fully, and thus get a living. Indeed, the hand was more useful than any cunning contrivance made by man. Dr. C. led an active and useful life till 1918, when he was attacked by pains in the lower limbs, which he thought were due to secondary deposits in the spine. I was not satisfied about this and kept him under observation in the hospital. Some improvement followed, and I could find no evidence of recurrence or dissemination. A few days after admission the patient died suddenly.

The *post-mortem* examination revealed an extraordinary state of things. Both adrenals were converted into plum-coloured masses as big as fists (Fig. 3). The lower half of the right kidney was converted into a plum-coloured tumour. The abdominal lymph nodes were as big as ripe grapes and dull red. The heart was much larger than normal and the walls of the left ventricle were double the normal thickness. A nodule, in shape and size like a nut, projected from the interventricular wall among the cords of the mitral valve. The spinal cord was free from pressure and the spine from deposits. The lungs were free from nodules. The microscopic structure of the visceral tumours has been carefully investigated. The tumours in the adrenals and kidney exhibit the same peculiar structure as that in the humerus. Each consists of an enormous number of thin-walled blood vessels, and resembles a cavernous naevus. The nodule from the heart



FIG. 2.—Microscopic features of the central tumour of the humerus represented in Fig. 1. (From *Tumours*.)

throws much light on the nature of the case; for it has the same structure as the zona fasciculata of the normal adrenal, and is, in fact, a hypernephroma.

With the complete history of the case before us I venture to think that it may be read in this way: the primary tumour arose in the adrenal, and the central tumour in the humerus was secondary, the remarkable feature in the case was its chronicity. It is worth while pointing out that the pathological features presented by it are similar to those that characterize the rare condition known as general thyroid malignancy in which a moderate, and apparently benign, enlargement of the thyroid gland is associated with multiple tumours, especially in bones. The structure of such deposits is indistinguishable from that of normal thyroid tissue. I submit that it is a fair estimate of the case now presented to regard it as an example of general adrenal malignancy.

Perhaps the publication of this case may induce members to bring before the Section like or similar specimens. Moreover, I do not know of any published case in which the lower half of the humerus has been successfully excised for a central tumour.

### A RARE ANGIOMA.

A shipping clerk, aged 25, came under my care at the Middlesex Hospital, in 1917, for a peculiar abnormality of the blood vessels of the right upper limb. The arteries and the superficial veins were enormously enlarged. The veins pulsed like arteries and a thrill was perceptible in



all the veins. On auscultation a loud buzzing could be heard in these swollen vessels. The palm was occupied by a large blue compressible swelling with all the



FIG. 3.—Right adrenal and kidney in section. The adrenal is converted into a tumour.

characters of a cavernous angioma; it bulged through the first interosseous space and appeared on the back of the hand. The heart and big vessels of the thorax appeared to be normal.

The man said the swelling had existed as long as he could remember, but the blood vessels had of late increased in size. As he could use his hand and fingers freely I did not feel disposed to interfere, but warned him to return on the appearance of any serious change.

Six months later I found the man in my ward in a pitiable condition, ill and suffering. The fourth and fifth fingers of the right hand were gangrenous and bleeding. After careful consideration and consultation with my colleagues, I reluctantly amputated the limb just below the insertion of the deltoid muscle.

Immediately after removal the vessels were thoroughly irrigated with warm saline solution and filled with wax, coloured with vermilion, and subsequently dissected (Fig. 4).

The first surprise came with the injection, for the wax injected into the brachial artery promptly returned by the veins; both sets of vessels were filled with injection mass from the brachial artery. An examination of the dissected specimen explains this.

The brachial artery, more than twice the normal size, divides at the bend of the elbow into an ulnar and radial branch; each as big as the common femoral artery.

The ulnar, the larger of the two, runs its normal course, and forms a superficial palmar arch consisting of a big moniliform artery sending branches to feed a cavernous



FIG. 4.—Large cavernous angioma of the palm. R.A., Radial artery; U.A., ulnar artery. The effect of impaired nutrition is shown by the transverse ridges on the nail of the fourth finger.

angioma in the skin of the palm. Superficial veins arose from the angioma and passed up the forearm as usual, but they were unusually big. Through this communication much of the injection material reached the veins.

The radial artery ran a normal course, but formed a tortuous rete mainly in the first interosseous space. Several large veins arose in this plexus. The interosseous arteries in the forearm are larger than usual, and the superficial palmar arch does not join the radial in the first interosseous space. The venae comites of the radial, ulnar, and brachial arteries are not enlarged. All the vessels concerned in supplying and discharging blood from the angioma had walls of the same thickness. During life these arteries and veins pulsated synchronously. They buzzed or purred with the same note and thrilled equally. The big angioma in the palm exercised the same effect on them as a varicose aneurysm. The blood during life was of the same colour in the arteries as in the veins; not so bright as arterial blood, nor so blue as is usual in the superficial veins of the forearm. The veins and arteries are alike in structure; there is no sharp distinction between the coats,



FIG. 5.—Portion of a stomach showing an ulcer. From a woman aged 22; the ulcer perforated.

and elastic tissue is deficient in quantity.

A similar specimen in the Museum of the Charing Cross Hospital was described by R. Barwell in 1897; as he could find no term in textbooks to fit the abnormal condition of



the blood vessels, he invented one—*Macro-angiosis*. The abnormal condition of the blood vessels in this limb offers a suggestive theme for an imaginative mind.

#### **PATHOLOGY FOLLOWS THE SCALPEL.**

During the last forty years surgeons have been too busy developing the possibilities of abdominal surgery to find time for inquiring into the remote consequences of some of their acts. It is well to remember that occasionally an operation which promised much leaves the patient in an unhappy condition. This is occasionally true of operations on the stomach. Gastric surgery made little headway until Wölfler, in Billroth's Klinik at the K.K. allgemeines Krankenhaus, Vienna, in 1881, introduced gastro-enterostomy. As happens to almost every important advance in operative methods there followed a groping stage, then a period of extreme specialization when a few clever surgeons acquired a successful technique and vulgarized short-circuiting. Such efforts have made us better acquainted with the gross maladies of the stomach than all the efforts of morbid anatomists during the preceding century. *Pathology follows the scalpel.*

Most of us admire men who have the acumen to recognize in familiar plants and animals specific differences which their predecessors failed to detect. This is also true of pathological conditions. It is difficult to believe that a hundred years ago gastric ulcer was not distinguished from cancer of the stomach. Trousseau, in a clinical lecture published about 1860, said: "To Cruveilhier unquestionably belongs the merit of having first described the simple chronic ulcer of the stomach as a disease special in its nature, and quite distinct from cancer of the stomach, with which till then it had been confounded." In 1830 Cruveilhier described the condition, and five years later published some excellent illustrations of the lesion in his *Anatomie Pathologique*.

John Hunter recognized chronic ulcer of the stomach at least forty years before Cruveilhier's observation. The Museum of the Royal College of Surgeons of England contains an excellent example (Fig. 5). The specimen is

worth examination. In common with all Hunterian specimens it was most carefully selected, excellently mounted, and remains in good condition although it has been in spirit 150 years.

Matthew Baillie published, in 1799, some good illustrations of chronic gastric ulcers. Among the figures in his *Morbid Anatomy* there is one representing an ulcer just beyond the pylorus; it



FIG. 7.—Intracapsular fracture of the neck of the femur. (Museum, Middlesex Hospital.)

has destroyed a part of all the coats of the duodenum. This is the earliest record of a duodenal ulcer known to me.

#### **BILOCULAR STOMACHS.**

For many years bilocular stomachs were objects of interest in the dead-house and in the museum. Anatomists regarded a double stomach as an example of atavism—an attempted return to the multilocular stomach of ruminants. With the dawn of gastric surgery men recognized that double stomachs were common, and pro-

duced by disease. Morphology has no place in it. We all believe that bilocular human stomachs are due to the slow contraction of the gastric walls in the immediate vicinity of a chronic ulcer, but we are not unanimous as to the best method of dealing with it surgically.

Many examples under my care have been treated by joining a loop of jejunum to the proximal compartment of the double stomach. In three instances I have met with a stomach divided by a tubular isthmus so narrow that the desire to excise the isthmus and join the opposite halves of the stomach was irresistible. The narrowness of the isthmus is shown in Fig. 6.

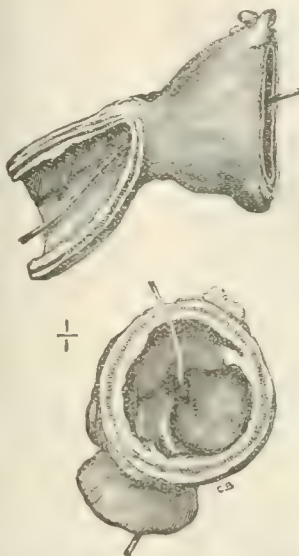


FIG. 6.—The isthmus of a double stomach. Natural size.

The immediate results of the operation in each instance were excellent. The patients were women; they were able to take food freely and painlessly, and quickly increased in weight. Within a year their troubles returned with all the symptoms of a contracted pylorus. In each instance I reopened the abdomen and found the stomach so contracted at the site of the junction that gastro-jejunostomy was necessary and successful. It seems as if the contraction at the site of the ulcer which originally divided the stomach continued after the excision of the isthmus. Now I perform gastro-jejunostomy as a routine operation for bilocular stomach. This is a matter which could be cleared up in a society like this; if surgeons would be willing to relate their experience and if possible exhibit specimens of bilocular stomachs that have been the subjects of operations, we could frame some rules to guide our successors.

#### **PATHOLOGICAL SPECIMENS AS RECORDS.**

The pathological museum is a valuable adjunct to the wards and indispensable to teachers of surgery. When I rearranged the specimens in the museum of the Middlesex Hospital in 1883 I found the upper half of a femur with an intracapsular fracture of its neck. It clearly belonged to an individual of about fifteen, for the epiphyses are present but ununited. Simple intracapsular fracture of the neck of the femur in boys or girls is, I think, an extremely rare accident. A boy aged 12 was playing a rough game in the school yard with his school-mates when he felt acute pain in the right hip. A few days later he was admitted into my ward at the Middlesex Hospital, and an x-ray examination showed clearly an intracapsular fracture of the neck of the femur. The boy made a good recovery, and walks with a limp, which is disappearing under massage and judicious exercise. It is the only case of the kind that I have seen during life, and if the accident is not uncommon, the specimen represented in Figs. 7 and 8 may be certainly accounted rare. Senile femurs with broken necks abound in pathological museums, but I doubt if five examples obtained from boys or girls exist in all the museums of the United Kingdom.

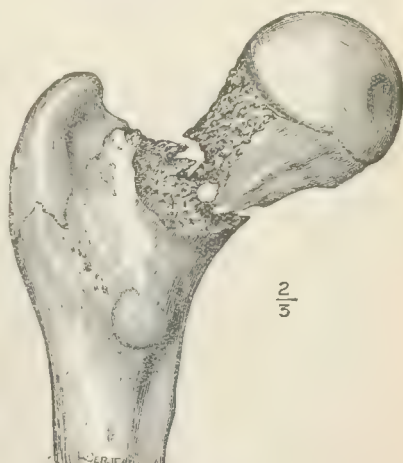


FIG. 8.—Posterior view of the same bone.

#### **SURGERY IN THE EIGHTEENTH CENTURY.**

October 16th should be Lemuria for surgeons; they need not throw black beans behind them or avoid looking back.



In fact, it is useful to look back; on this day, 1793, John Hunter died. He recognized the value of meetings arranged for the discussion of matters concerned with the progress of surgery. In 1783, when the lease of his house in Jermyn Street expired, he moved to Leicester Fields and built a museum between the house in Leicester Fields and the house in Castle Street. There were lecture-rooms, work-rooms, a dissecting-room, and a press-room, where his books were printed and published.

In 1785, a society known as the Lyceum Medicum was established under the patronage of John Hunter and Dr. Fordyce. The meetings were held at Hunter's house. Medical cases were discussed by the members, and the more instructive of the additions to the museum were exhibited at the meetings. Hunter slowly mounted the professional ladder, and in the last ten years of his life he had a big and lucrative practice. Passion for scientific work delays a young surgeon when making a practice, but it is a sure rock on which to build, and though practice may come slowly, it comes surely, and persists. Pathology was for Hunter the physiology of disease, but his pathology was mainly morbid anatomy based on the naked-eye study of the dead body. He studied critically the principles underlying the healing of wounds. This is necessary for surgeons. *If wounds did not heal the art of surgery could not flourish.*

It is difficult to realize, when we bear in mind the ignorance that persisted concerning the causes of disease in the eighteenth century, that surgery could hold its own. The surgeon's time was largely occupied in dealing with injuries, especially cuts, wounds, fractures, and their consequences. Head injuries received much attention. Hernia, a common and serious affection, was carefully studied, and especially the anatomy of hernial regions.

This is true of hydrocele. Astley Cooper, when attending Hunter's lectures, found the town divided in opinion on the best mode of performing operations for its relief. "So great was the difference of opinion among students from different hospitals that it was quite ridiculous to observe their warmth on the subject." *The spirit of the profession on vexed questions remains unchanged.*

The arrest of bleeding takes a foremost place in the work of surgeons. Although Paré acquired in the sixteenth century the simple notion of tying the cut end of an artery to stop bleeding, surgeons are still exercising their minds to find a good ligature material.

It was unreliable ligatures that caused so much difficulty in the operative treatment of popliteal aneurysm. In the eighteenth century the direct operative treatment of popliteal aneurysm was unsuccessful, "a circumstance which led some surgeons of great eminence to prefer amputation of the limb in all cases." Hunter erroneously believed that failure was due to disease of the arterial wall in the vicinity of the aneurysm. He made some experiments on the carotid and on the femoral artery of a dog which led him to believe that the common operation failed because the artery was tied near the sac, and the diseased condition of the arterial wall prevented the proper occlusion of the lumen of the vessel; on the separation of the ligature bleeding ensued and often killed the patient. This idea led him to tie the femoral at some distance from the sac, where the vessel was healthy. In December, 1785, Hunter tied the femoral artery near the middle of the thigh for the cure of a popliteal aneurysm. The patient, a coachman, recovered. Four ligatures were applied and they were gradually discharged some months after the operation (*London Medical Journal*, 1786, vii, 391). His contemporaries did not get good results from the ligature of an artery remote from the sac. A century later (1886) Sir William Savory reported on the popliteal aneurysms preserved in the London museums and came to the conclusion that ligature of the femoral artery is not an ideal method of dealing with popliteal aneurysm. He recommended a reconsideration of the question and a return to the pre-Hunterian operation. Lister solved the riddle. The cause of failure was sepsis. As soon as means were devised for making ligature material sterile and reliable, surgeons returned to the ancient method. Some boldly dissected out the sac. In 1838 Matas began to open the sacs of aneurysms and restore the canals of dilated arteries by infolding their walls. He inaugurated a new phase in the treatment of injured and disordered blood vessels.

Since Hunter's death much knowledge of the diseases

of arteries has been acquired: he had no idea of the baneful effects of syphilis on their walls. Pathologists slowly realized that in this extraordinary disease the inner and middle coats of arteries soften, and yielding to the pressure of the blood form dilatations—aneurysms. Veterinarians have long known that aneurysms of the anterior mesenteric artery of the horse and the ass are due to injuries inflicted on the wall of this vessel by the palisade worm, *Strongylus armatus*. The sexless larvae of this worm enter the blood stream and damage the walls of the artery by anchoring on the internal coat by their teeth. Verminous aneurysms are well known as well as their relation to embolic colic in horses. Later it was discovered that emboli associated with septic endocarditis swarm with streptococci, and such clots, arrested in arteries, induce local infection of the arterial wall inducing the formation of aneurysms. Such are known as embolic aneurysms. Then came Schaudinn's brilliant discovery of the cause of syphilis, a microscopic parasite, the *Spirochaeta pallida*, a trypanosome. The inner and middle coats of the arteries are its favourite haunts. Then truly the eyes of surgeons were opened and the relation of syphilis to aneurysms was revealed.

#### Tumours.

The Hunterian specimens mounted to illustrate diseased action in the museum show that the founder's ideas of many pathological processes were very crude. Without histology the surgeon's knowledge of the nature of tumours was not much above that of the horse doctor. Indeed, the herdsman used similar names. Doctors, farriers, and shepherds talk of corns, warts, blains, wens, and blemishes. Such names as polypi, tubercles, caruncles, and hydatids confuse rather than instruct. The slaughter-house furnished Hunter with melanotic tumours in the udders of cows, the knacker's yard supplied pigmented tumours from the tails of grey horses; from travelling menageries he obtained tumours in wild animals; the graveyard yielded calcified fibroids and tumours of bones. Surgeons classified tumours by colour, consistence, and clinical characters. With so much ignorance of the pathology of tumours, surgery was not helpful in dealing with them. To-day we remove them with some measure of success, but the cause of cancer remains undetected, and our methods of treatment are more or less empirical.

#### Operative Surgery in the Eighteenth Century.

Operations in Hunter's time consisted of bleeding, opening abscesses, removing pieces of dead bone, tapping for dropsy, releasing strangulated hernias, trephining the skull for cranial injury, cutting for stone in the bladder, castration, Caesarean section, removing pendulous tumours and cancerous breasts, and amputating limbs. Hunter was also especially interested in transplanting teeth.

The mortality of operations from post-operative sepsis was enormous. As late as the middle of the nineteenth century the operating theatre in one London hospital was over the *post-mortem* room, and seams in the floor "opened wide." The suffering of patients during operations was indescribable. Surgeons in those days must have been men of rare courage to practise an art requiring so much self-control. Some were very dextrous. The description of an amputation performed by Liston in pre-anaesthetic days gives a good idea of surgical dexterity:

"He took a formidable knife, and, having a scalpel in readiness, thrust the knife pointwise through the thigh, and, cutting downwards and towards the surface, in a moment completed the flap. A second and similar cut, below the femur, made another flap, the two incisions were united at the sides, the scalpel passed rapidly round the bone, the muscles *en masse* drawn up, the saw taken . . . and the limb fell to the ground. The rapidity was truly miraculous . . . the limb was on and off in a wonderfully short space of time; and this operation demonstrated the manual dexterity which practice will enable a man to acquire, whether it be in amputating a limb or picking a pocket."

The post-operative sufferings of patients were often dreadful, and the risks great. There is a specimen in the Middlesex Hospital Museum which I often look at as exemplifying these risks. It is a portion of thigh bone with an ivory peg in it. Its history is very instructive. A middle-aged man, the captain of a whaler, broke his thigh in the South Seas. The sailors put the leg in splints.



Some months afterwards he was admitted into King's College Hospital with the fracture ununited. Sir William Fergusson rubbed the fragments together; subsequently he scarified them subcutaneously, and later inserted an ivory peg between them. No union followed, and Sir William amputated the limb. Secondary bleeding occurred after the flaps had partially healed, for which Mr. J. W. Hulke tied the superficial femoral artery. An aneurysm formed at the seat of ligature. The patient died a few months later. The specimen is not only instructive, but it is of historical interest.

Surgeons vainly imagined in the dawn of the twentieth century that they had seen the last of post-operative sepsis. Sir Charles Bell's water-colour sketches, recently exhibited in the museum, are vivid pictures of septic fungating gunshot wounds incurred at Waterloo. The present war has given surgeons an opportunity of testing their accuracy and witnessing similar horrors.

The large collection of pathological specimens illustrating war wounds, now lodged at the Royal College of Surgeons of England, should be utilized. If these preparations were systematically studied much that is useful could be co-ordinated, and this Section should be the medium for collecting some of the "choicest spoils" obtained by surgeons in London.

## A REPORT ON TEMPORARY PEGS FOR AMPUTATION OF THE LOWER LIMB.

BY

W. A. CHAPPLE, M.D., M.P., MAJOR R.A.M.C.,

BURGESS SPECIALIST, PAVILION GENERAL HOSPITAL, BRIGHTON;  
MEDICAL ADVISOR TO THE PROVISIONAL LIMBS DEPARTMENT  
OF THE JOINT WAR COMMITTEE, BRITISH RED CROSS  
AND ORDER OF ST. JOHN.

It has been agreed by all authorities interested in the subject that during the interval elapsing between the healing of an amputation stump of the lower limb (or a near approach to healing) and the provision of a permanent artificial limb when the stump has shrunk to its permanent size, a man should wear some kind of temporary peg. The period of more or less rapid shrinking and re-shaping of the stump follows healing. Though the stump may appear to be following a normal course, however, the scar may become tender, or break down and ulcerate, or bulbous nerves may form, or spurs may develop; devitalized bone may, instead of recovering, necrose, or the atrophy and shrinking of the soft tissues may be so complete as to bring to the surface bony spurs or prominences that make the stump rebellious to a mechanical appliance.

### A MODEL STUMP.

An ideal stump is one which most nearly conforms to nature's stump, the normal heel, and is capable of bearing without discomfort the whole weight of the body in normal locomotion. The characteristics of the normal heel are that it is dome-shaped, is covered with skin capable of hardening with use, is free from scar, and has a subcutaneous pad of fat honeycombed with connective tissue, which lies upon the periosteum covering the dome-shaped extremity of bone. Every surgeon aims at reproducing these conditions in the end of an amputation stump. He may fail, but the more nearly he approaches the more successful will be the result, and the more grateful his patient.

### A MODEL BUCKET.

A well fitting boot on a normal foot suggests the characteristics of an ideal bucket. A boot should fit accurately the whole contour of the foot. It should be sufficiently tight to bear equally on every surface of contact, and should be sufficiently smooth on all its inner surfaces to permit of the slight amount of necessary friction in walking to take place between the sock and those smooth surfaces. If the inside of the boot is rough, the sock tends to cling to it, and the friction in movement is apt to take place between the sock and the skin. These characteristics are even more important when we have to deal with skin surfaces and bony prominences which are not meant by nature to submit to this pressure and friction. An ideal bucket will therefore have a smooth and almost

shiny inside surface, with a diaphragm so placed as to carry a maximum portion of the weight of the body on the end of the stump, and a rim so contrived and shaped as to carry the remaining portion of the body weight by coaptation to the appropriate bony surfaces, near the adjacent joint.

### Pegs.

Various kinds of temporary pegs have been designed and made from time to time, with some attempt to conform to those conditions. A peg can be used even before the stump is quite healed. It rapidly shrinks and shapes the stump to its permanent size and form. It trains at the soonest possible moment the muscles that are to move the stump in locomotion. It tends to prevent stiffness from disuse of the adjacent joint. It picks out the weak spot in scar or bone or nerve that is destined to give way later to the pressure of the permanent limb; and it does this early and without waste of time, and with the scrapping of a limb that cost under 10s. instead of one that costs £15 or of a bucket that costs £4. It avoids the use of crutches, with their danger of crutch paralysis; the displacement of the centre of gravity of the body, and the unequal distribution of pressure on the joints of the sound limb. It frees the hands from the immobilization that crutches entail, and permits the man to get on with work or training. It provides a light domestic "slipper" after the man has his permanent limb, with which he can rest at home or in his garden, by throwing off his seven or eight pound limb and putting on one of one or two pounds. It supplies him with a spare for use if his permanent limb breaks down or requires to be repaired.

### Various Designs.

It is admitted that the ideal peg has not yet been found, and a number of manufacturing dépôts have been busily engaged in making and improving pegs for the past two years. The following is a brief description of the most popular. They may be divided into two classes: (1) Therapeutic pegs, and (2) Auxiliary pegs. The therapeutic peg is one which shrinks and shapes the stump, but has no durability for permanent use. The auxiliary peg is one which is serviceable to the wearer after the limb has approximated its permanent shape and size. It has the characteristics of permanence and may be used to fill the interval between more or less complete shrinking and the time when a permanent limb can be supplied. If well made and well fitting and of durable material there is no reason why it should not act permanently as a spare, a rest, and a "slipper."

### Plaster Pylon.

The most generally used peg of the therapeutic class is the plaster pylon. It is made of two wooden struts morticed into a turned wooden ferrule, to the bottom of which is fixed a rubber heel. These uprights are of unequal length for a thigh stump and of equal length for a leg stump. After the skin of the stump is smeared with vaseline, the upper ends of the struts are embraced in plaster-of-Paris bandages, which are wound round the stump. When a sufficient number of turns have been made to give the bucket stability, it is left for a few moments to harden, then slipped off and reinforced with more

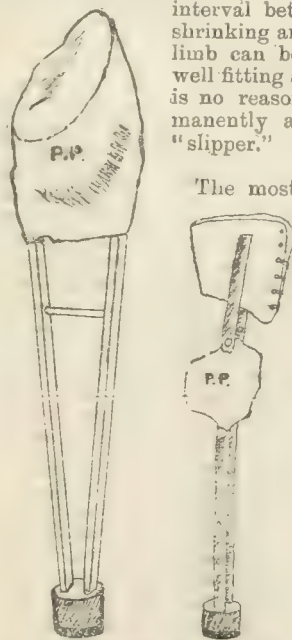


Fig. 1.—Plaster pylons. P.P., Plaster-of-Paris bandages.

plaster bandages, the edges being turned over and shaped to conform to the bony prominences on which the body weight is carried. The inside is made perfectly smooth with plaster-of-Paris cream. It may be naturally or artificially dried, but it is usually hard within forty-eight hours from the time it is made and is ready for use. A hook is advisable in the outer strut for a thigh stump, and also a wooden spreader between the struts in order



that braces may be attached and used to support the weight of the peg. Some line the bucket with felt. This seems unnecessary, because it violates the principle already mentioned. The lining tends to hang to the stump sock and the friction in locomotion tends to take place between the sock and the skin. The lining also in many cases tends to ruck and get lumpy. The use of one or more socks is sufficient to give the upholstering necessary. The material costs about 5s.

#### Auxiliary Pegs.

The auxiliary pegs are of a more permanent character. Plaster-of-Paris soon crumbles, and the peg is valueless in from six weeks to three months from the time it is made, but being cheap and readily applied it can always be remade by chipping off the plaster from the struts and rebandaging with plaster-of-Paris bandages. Moreover, auxiliary pegs can be made to fulfil the function of a therapeutic peg. These pegs are so simple and cheap that if shrinkage does take place either the bucket of the auxiliary or the whole peg can be remade. The most popular of the auxiliary pegs are the following, described in their alphabetical order:

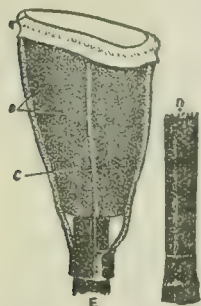


FIG. 2.—The Alder Hey peg. A, Wire ring and felt covering; B, wire struts; C, papier-mâché; D, wooden stem; E, thigh peg.

applied to the surface of the felt with a trowel to the thickness of one-eighth of an inch till a homogeneous surface is made over the whole cast. When the papier-mâché is dry it is removed from the cast. A diaphragm is made in this bucket by gluing to its lower edge a circular piece of wood about half an inch thick. Four iron stays welded below to a tube, 1 in. deep, of one and a half inch gas tubing are now applied vertically round the bucket in such a way as to embrace it firmly; they are fixed by strips of glued canvas vertically applied, and afterwards covered by gauze bandages firmly wrapped around the bucket and glued. The upper ends of these struts having been bitten off are bent over a ring of iron wire (No. 12 standard gauge) which encircles the upper edge of the bucket. The upper edge of the felt is then drawn over this wire ring and stretched down firmly, thus making a cushion upon which pressure can be made.



FIG. 3.—The Bath peg.

3. **Brighton.**—The Brighton peg consists of a cone of black fibre board. The fibre is riveted in such a way as to allow the upper end of the cone to embrace a bucket made of leather or of leather-board. For below the knee a plaster cast of the stump is first taken. Bony pro-

minences, such as the shin or the tuberosity of the tibia or the head of the fibula, are exaggerated on the plaster cast by tacking on little pieces of trimmed leather in order that the subsequent leather bucket may have concavities



FIG. 4.—The Brighton peg. A, Fibre corset; B, edge of bucket; C, rivet fixing bucket; D, leather-board bucket.

similarly exaggerated, and thereby prevent too forcible a contact between the bony prominences and the bucket in walking. An appropriate size of leather or of leather-board is soaked in water till it is quite limp. It is then stitched over or overlapped over the plaster-of-Paris cast, and hammered into all concavities, bound temporarily with firm bandages and then allowed to dry hard. If leather is used, the edges may be stitched down the back of the cast corresponding to the back of the leg; or if leather-board, the edges may overlap and be riveted when dry and then shaved smooth. This bucket may be reinforced with glue bandages or plaster-of-Paris bandages, or, when subsequently fixed into the upper end of a fibre cone and riveted there, the interstices may be filled up with papier-mâché. The fibre cone is then made to the correct length and its lower edge screwed round a wooden ferrule. Two hinges corresponding to the knee-joint and with their upper arms riveted to a corset to embrace the thigh, are as a rule necessary to keep the cone firmly applied to the stump when walking. If the stump shrinks this bucket can be removed, reshaped on a new cast, and then reinserted in the cone. The material costs 5s. 6d. with leather bucket. (Leather buckets alone cost about 2s. each, leather-board 3½d.)

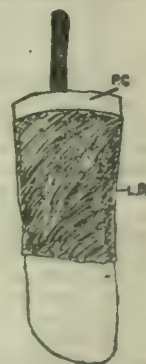


FIG. 5.—The Brighton peg. P.C., Plaster cast; L.B., leather bucket.

4. **Chelsea.**—At Mulberry Walk, Chelsea, a fibre cone is made, the overlapping edges being firmly riveted. The bucket and upper edges are upholstered and a vertical split is made from the upper edge to about three inches or four inches. The vertical edges thus made are strengthened and laced. Several eyelet-holes are also made in the trunk of the cone at a level corresponding to about one inch from the end of the stump. Laces are threaded through these holes and are under the control of the patient; he may loosen or tighten them according to the amount of pressure he can bear on the end of his stump. A pad of rubber sponge or other material



FIG. 6.—The Chelsea peg, for amputation below the knee.



is laid upon the diaphragm made by these laces, which can be altered or replaced to meet the comfort of the patient. There is great merit in this device, the patient himself training the end of his stump to bear its full share of the weight under his own sensation and control. Hinges for the knee are sometimes applied. The vertical split weakens the bucket, but it is said to give comfort. The material costs 9s. 6d.

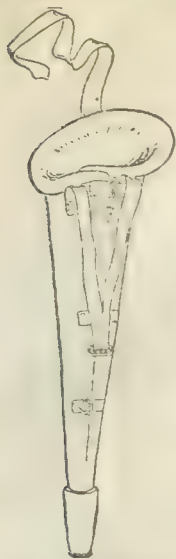


FIG. 7.—The Eaton Gate peg.

extent sacrificed in this attempt. The material costs about 12s. 6d.

6. *Erskine House*.—This peg consists of a bucket made up of vertical laths, to the lower end of which a wooden diaphragm perforated for a wooden stem is attached; to the upper end an elliptical wooden ring is fixed. Inside these laths is a compressible bucket attached to the lower edge of the ring and embraced by a strap and buckle. These elliptical rings are made in a special manufactory and are supplied in eight sizes. The adjustable bucket inside the laths is made of a single piece of three-ply wood one-eighth of an inch thick, and its overlapping edges are free and yield to the pressure of the strap and the buckle, so that as the limb shrinks it can be altered by a tightening of the strap. The wooden stem passes through the hole in the wooden diaphragm and is adjustable as to length. It is firmly fixed by screws when the height of the patient is ascertained. The material costs about 15s.



FIG. 9.—The Kensington peg.

are riveted in their whole length, making a perfect cone in length and a perfect circle in cross section. This gives stability and endurance. A new peg is made if shrinking takes place. The cost of materials is 8s. 6d.

It is not claimed for any of these pegs that it is ideal. Workers realize that the perfect peg has not yet been

5. *Eaton Gate*.—This peg is made of fibre and is cone shaped. Its overlapping edges are not riveted, but bound together by a series of broad straps and buckles, while the upper edges are upholstered and then covered with a movable chamois leather covering, which can be changed. In this peg an attempt is made to serve the double purpose of the therapeutic and the auxiliary pegs; it can be used before shrinking has taken place, and gradually tightened as the shrinking progresses. Stability and permanence are to some

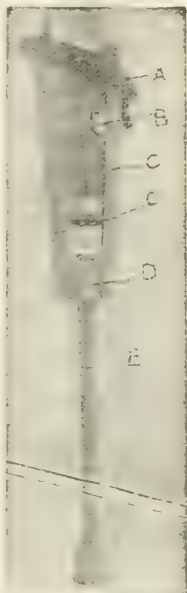


FIG. 8.—The Erskine House peg. A. Wooden stem; B. strap round compressible bucket; C. C. laths; D. diaphragm; E. wooden stem.

7. The *Kensington* peg is a fibre cone like that already described. The rim along the inner side is slightly everted, when moist, with a hot tool, and then padded. The bucket, which is simply the top of the cone, is upholstered in such a way as to accurately fit the stump. A movable and washable sock covers the rim and lines the bucket. In the case of a short thigh stump a pelvic band with a hip hinge is attached. This gives better control of the peg by the stump. There is no vertical split in the bucket, and the overlapping edges

found, and all are attempting new designs. It is hoped that all the dépôts will use their best endeavour for the provision of an auxiliary limb which will so fulfil the every need of a limbless man that the provision of a permanent limb may be postponed for a longer period than has hitherto been the rule, in order to avert the great cost of refittings following premature manufacture, and the consequent disappointment of the man.

## SOME REFLECTIONS ON CARDIAC CONDITIONS IN SOLDIERS.

BY

R. O. NOON, M.D., F.R.C.P.,

PHYSICIAN TO THE HOSPITAL FOR DISEASES OF THE HEART.

THE belief of Hippocrates that the heart was not affected by disease, which idea persisted well into the seventeenth century, stands in strange contrast with our present-day experiences of the numerous ramifications of cardiac specialism. The war would seem to have made affections of the heart bulk more largely in the eyes of the profession than ever before.

In any large military hospital at the base on any front there is always in the medical wards a fair proportion of so-called cardiac cases; then again, in the examination of recruits, the invaliding of soldiers out of the army or their recategorization, the view taken of the cardiac condition is frequently of primary importance. In a military hospital the number of cases with definite organic disease of the heart is, as might be expected, comparatively small, for such would hardly have passed through the various meshes which encompass the prospective recruit prior to his admission into the army. The large majority of these cardiac cases have gone sick with a variety of symptoms, such as shortness of breath on the march, faint feelings or a general sensation of exhaustion, pointing certainly *prima facie* to some derangement of the circulatory system and often classified under the rather unsatisfactory title of "Disorderly Action of the Heart." As in other departments of medicine, or indeed of life in general, war would seem to have revealed aspects of heart affections which had been but imperfectly apprehended before.

On the one hand war has shown the strength, on the other hand the weakness, of the heart. Many of us must have encountered cases with an organic valvular lesion which had yet been able to carry on satisfactorily for a considerable length of time, and had finally gone sick with something having no obvious connexion with the heart condition. No one can fail to be astonished at the amount of hard work which can be performed by a man with a serious cardiac lesion who has either escaped the vigilance of the recruit examiner or fallen in with an unduly indulgent one. Thus, I well remember a case of mitral stenosis in a man aged 42, whose lesion was clearly due to an attack of rheumatic fever contracted some twenty years previously, but who had been driving a motor in the A.S.C., first in France and then in Salonica, since 1914, and had not suffered from any cardiac symptoms till a month prior to his admission into hospital with malaria in July, 1917. Similarly, I came across a young Canadian with obvious aortic regurgitation, dating from an attack of chorea at the age of 17, who had served in France for eight months in the infantry and about the same period in the field artillery without having had any cardiac symptoms to trouble him, and who had come into hospital for a gunshot wound of the thigh. French writers are of opinion that mitral stenosis is the form of valvular lesion which shows least resistance to active service conditions, whereas aortic disease, when of rheumatic origin, may be viewed more favourably; but it need hardly be said that all valvular lesions, whether mitral or aortic, when of degenerative, arterio-sclerotic origin, are quite unfitted for active service in any form.

But, of course, the war has also disclosed the hitherto unknown weakness of some hearts, just as it has surprised us with the unexpected strength of others. Many of those hearts which give way on active service are, doubtless, intrinsically unsound, though their owners have been able to do their ordinary work in civilian life with little inconvenience, because it has involved no special stress or strain. Hearts are affected less by the actual



amount of work entailed by military life than by the sudden and unexpected demands made upon them from time to time; the same daily output of work might have been accomplished without risk had the man been able to take his own time about it. By testing the reaction of such hearts to exercise no doubt much assistance is gained for making a general estimate of the cardiac reserve power, but the exigencies of active service in the field make a great strain upon the nervous system, and it is this factor which it seems almost impossible to estimate beforehand, at least by any mechanical devices.

French physicians have recorded three definite cases of permanent tachycardia of emotional origin; in each case the tachycardia developed after concussion due to shell explosion. The serious effect of emotion upon the heart was noted long ago by Corvisart during the French Revolution, who said, "I am not the only physician to whom it appeared that organic diseases of the heart during the reign of terror were more frequent than in ordinary times."

Most of these cases with what one might call "sub-normal" hearts complain of shortness of breath on quite moderate exertion, at times of giddiness and faint feelings, but most especially of a general sense of exhaustion, occasionally, too, of nocturnal palpitations, but complaint of actual pain has in my experience been infrequent. The most usual physical signs in such cases are a rapid pulse, a diffuse slapping impulse, and at times an indefinite short systolic murmur at the apex, which has really but little resemblance to a true organic mitral murmur. Careful inquiry would elicit that in very many instances these cases had in the distant past suffered either from rheumatism, diphtheria, frequent attacks of influenza, or that during the war they had been in hospital with trench fever or some indefinite febrile disorder. There is little doubt in my mind that these last-named affections do quite definitely impair the efficiency of the myocardium.

On the other hand, malaria, which has affected so large a number of our soldiers and of which I have had the opportunity of seeing a good deal both in Salonica and afterwards at home among the soldiers returning from the various Eastern fronts, seems quite exceptionally to have had more than a transitory effect upon the heart. Many cases have, of course, been much weakened in their general health by the constantly recurring attacks, but, in my experience, it is seldom that cardiac manifestations, when present, can be attributed to malaria. It so happens that many cases of malaria have also suffered from dysentery, and it seems probable that such cardiac weakness as occurs may be due to the dysentery rather than to the malaria. It may be remembered that De Costa, in his classical article upon "The irritable heart of soldiers," gives as one of the most frequent causes of it "prolonged diarrhoea."

Apart from an occasional case of obvious Graves's disease which has developed rapidly owing to the unfavourable condition of active service, it has not been my experience that the tachycardia so common in soldiers can often be traced to hyperthyroidism, and this seems also to be the experience of Continental physicians, though much has been written to the contrary in this country. A far more potent cause is tobacco, particularly in the case of young soldiers. Among older men arterio-sclerosis is fairly common, at least in its early stages. But on careful investigation it will be found due to causes which were in operation before the man entered the army, but obviously made worse by the abuse of alcohol and tobacco, while the excessive meat dietary, which is so characteristic of the British army, has also a most unfavourable influence upon the condition.

The fact that so many cases suffering from some apparent cardiac disability are not, strictly speaking, cardiac at all has been much insisted upon by many observers, and particularly by British physicians. Such cases might be regarded as conditions of "cardasthenia," on the analogy of neurasthenia, though this latter term has more subtle and wide-reaching connotations than its name would seem to indicate. In any given instance of one of these indefinite cardiac conditions, to determine how much is due to a nervous and how much to a muscular affection must be left to the acumen of the individual physician; it is unlikely that mechanical methods will prove of much assistance in this type of case. Medical labels are bad for soldiers, and perhaps for other people, too, while nothing is more unwise than a false precision. Medical officers are often much hampered by the rigidity

of the official nomenclature of diseases, which tends to impress the soldier too much with the name of his complaint, to which he clings with a pathetic persistence; also it leads to that "education of diseases" so strongly deprecated by Plato in the Republic.

## A NOTE ON THE THYRO-TOXIC HEART.

BY

G. ROME HALL, M.D.,

DEPUTY COMMISSIONER, MEDICAL SERVICES, MINISTRY OF  
NATIONAL SERVICE.

CERTAIN conclusions as to the relation of thyroid secretion to the action of the heart seem to be definitely accepted.

1. Prosenchymatous enlargement of the thyroid causes mechanical trouble only, and has no effect on the heart. There is no trouble until a sclerosing process destroys gland substance, then myxoedema may start.

2. It is parenchymatous enlargement that gives trouble.

(a) There may be only intermittent overactivity without decided permanent enlargement; this is hyperthyroidism.

(b) There may be marked permanent overgrowth, with fluctuating overactivity; culminating in the permanent fast heart of Graves's disease. One form of paroxysmal tachycardia is due to excessive secretion; the rapidity stops short with the cessation of the secretion, and it has been known to occur as the stethoscope was being used.

(c) Between these conditions is a minor degree of overgrowth obliterating the inner sulcus along the clavicular ending of the sterno-mastoids, the fullness moving up on swallowing. In some 2,500 cases of recruits classes (a) and (c) account for 5 per cent. of the cases of cardiac disturbances. This amount of hyperthyroidism amongst men was never suspected until they came to be examined with their throats exposed. The dark or neurotic type has hyperthyroidism ten times more frequently than the blue-eyed.

3. In thyroidism the pupil is dilated. A mild solution of adrenal extract which causes contraction of a pupil not influenced by thyroidism fails to produce contraction when under this action. This is supposed to be diagnostic. Usually in cases of type (c), when the question is put, "How do you sleep at night—do you ever wake?" the answer is, "After a sleep I awake frightened." "And what do you notice then?" "My heart is beating very fast, and sometimes I have to sit up in bed." Some of these patients complain of insomnia with the same waking after they have managed to get asleep. Sometimes there is only the history of waking up with night sweats.

4. Adrenal secretion contracts the arterioles and slows the heart if its hormone fails to activate the thyroid. Excessive adrenalism occurs on sudden fright or on profound nerve strain, as in "fright" chorea, or the strain of action, as many take it, as also great mental and physical fatigue in certain constitutions, and from other causes. The first two causes specially concern front-line soldiers and the fatigue group, and even those undergoing only the strain of training at home. If the thyroid responds by activity that balances the excessive adrenalism it is well. But, once set going, the thyroid may secrete for long after the necessity ceases; hence an obstinate tachycardia. There is also a normal permanent secretion of the adrenals, with a corresponding balanced thyroid secretion. If the former falls short, the latter remaining at its normal, there is a potential hyperthyroidism without any enlargement. The pupil reaction to the adrenal secretion with change in blood pressure would be diagnostic.

5. A peculiar fact is that the thin-faced dark type of man, as a rule dolichocephalic, seems to be specially liable to hyperthyroid action—in my figures ten to one gives the relative frequency. I believe there is some connexion between this condition and the secretion of the testes, and that the man not living the sexual life is specially prone to it.

6. In a heart driven by the thyroid secretion the diastole is shortened; in intermittent cases there is a temporary weakening of the myocardium; if permanently driven the heart muscle "rags out" in atrophy. In addition to a



quiet life generally, and the avoidance of over-fatigue when already tired, as cycling when fatigued by a day's work, also constitutional treatment according to any observed defect, there is the use of adrenal or pituitary extract if the original adrenalism has ceased. Personally, where the diastole needs lengthening, I prefer strophanthus, the physiological preparation by preference.

7. I have had a whole group of cases, men discharged from the army certified for valvular disease of the heart. A year after, having lived a normal civilian life in the meantime, there were no adventitious sounds, only slight enlargement of the thyroid with, generally, some depreciation of the heart muscle and its work force, but nothing to be called "heart disease."

8. As regards classification for military fitness, reference should be made to Clause 2: (a) These cases, if young, are cured by a hygienic life, as military training. (b) If the myocardium has suffered and is altered, they are only fit for sedentary classification. (c) The intermediate cases, in which the heart muscle is not yet definitely weakened, but special fatigue cannot be withstood, either because they are beyond adolescence or have some physical flaw handicapping their activity, are only fit for home service gradings, as the strain of action will never occur.

## DIGRESSIONS.\*

BY

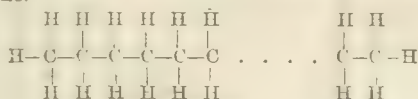
A. J. CAMPBELL, M.A., M.D., C.M.,

CHAIRMAN, SOUTH-EASTERN COUNTIES (SCOTLAND) DIVISION OF THE  
BRITISH MEDICAL ASSOCIATION.

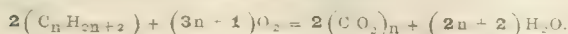
[AFTER thanking the members of the Division for the honour they had done him in electing him chairman, Dr. Campbell delivered the following address:]

I have added, and I fear I shall add, nothing to the sum of human knowledge. I should have been proud if I could have communicated anything new to the Division. But the best medical and surgical work that I have done has been to apply the knowledge imparted to me by other men—my superiors, equals, and inferiors in age, and my superiors in research and observation. It has, however, been my good fortune to find by the hard professional high road which I have travelled perhaps a greater variety of flowers that have seemed beautiful to me than many of my fellows have found. Even if you call them weeds I shall be pleased if to-day you find them interesting.

The petrol which we burn in our motor engines has lain for many thousands or millions of years in America or Galicia unchanged in chemical constitution. It consists of mixed paraffins whose formulae picture to us long strings of carbon prisoners, each one flanked by a hydrogen guard on each side, with or without two extra guards at the end of the line.



For more than all historic time, long before man knew that he was mortal or hoped that he was immortal, these atoms and their guards lay inert and dead. The longest stretch of hope deferred that can have dulled any of us is a very small fraction of that time. Yet to-day or yesterday Gabriel's trumpet sounded, the spark flashed between the points of the plugs, and without loss of substance guards and prisoners alike found their affinities. What happened can be expressed as a chemical formula:



For a time a little more water and a little more carbon dioxide will float or fall in the atmosphere like disembodied spirits until they find a resurrection of the body in the root and the leaf of a growing plant. Whatever view we hold about the transmigration of souls, none of us has any doubt about the transmigration of bodies.

It is interesting to notice how often the ocellus occurs in animals and plants which have no racial connexion. Darwin, in his *Descent of Man*, mentions it "on the feathers of various birds, on the hairy coats of some mammals, on

the scales of reptiles and fishes, on the skins of amphibians, and on the wings of Lepidoptera and some other insects." It also occurs among molluscs on the mantle fringes of the scallop; it occurs inconspicuously on the back of the medicinal leech, and I have seen it at the bottom of a sand-carpeted rock-pool, displayed by a worm, *Sabella arenaosa*, in a hole of iridescent tentacles. The name of a rarer congener, *Sabella pavonina*, suggests the peacock tail pattern. In plants we can see it on the face of some pansies and faintly shadowed on the clover head. We see it in the lichen *Parmelia parietina* as it fades from yellow to silver on a whinstone wall. And on a wet day we see it in a lifeless thing when a drop of oil falls on the road. Here the spreading concentric rings of red, purple, pale blue, and bronze, surpass in colour, but hardly rival in outline, the pattern on the peacock's tail. In these days of dear lubricant this meditation on the glory of the quivering iridescence may palliate the pang with which we contemplate the waste of oil. This recurrence of the ocellus pattern is not due to evolution. I am willing to risk a smile and say that it appears to me as one of the signatures of a Personal Artist.

The simulation of the peacock's tail by the oil-drop, or vice versa, leads me to mention a phenomenon in inorganic nature which looks very like reproduction of the living individual. Growth by accretion is familiar to us in inorganic crystals and electroplating, but this is not reproduction. When, however, a drop of ink, or, on a larger scale but less distinct, a drop of strong permanganate solution falls from a height into a vessel of water, the vortex ring gives birth almost immediately to triplets, and these again to triplets. The multiplication of the species goes on at a rate that might appal the Bishop of London himself.

I am a hypermetrope, and need about one diopetre to correct my refraction; I need no cylinder. The asthenopia from which I suffered in my late teens was a hindrance to me in concentrated study. It was not corrected till I was about 30. Scores of times I have read a paragraph four times over without taking in its meaning; all my available energy was pouring down my third nerves to focus on my retina impressions which the occipital lobes never sent forward to the mental department of the brain, wherever that is. The inclination to relieve the strain by looking up from his book is irresistible in a hypermetropic child. Such a boy in church catches sight of "the bumble bee in windie glasses"; in school meets the eye of the other hypermetrope at the far end of the room, so that both of them get whacked. He is quick in picking up a new subject from the blackboard, but not a good plodder at his desk. He is wax to receive, but he is not marble to retain. If after much pain he escapes being jack of all trades and master of none, if he has the honour to be president-elect of the South-Eastern Counties Division, his inaugural address is discursive, like this.

The myope, on the other hand, has no such tendency to leave his concentrated study. He is a better plodder, and except in so far as he cannot see the blackboard and the wall map he gets on better with his lessons.

Now the hypermetrope can by effort correct his defect, and is often unconscious of it, while the myope's defect, unless very small, is more readily detected. For this reason a greater proportion of myopes wear spectacles than of hypermetropes. The concave anterior surface of the myope's negative lens reflects to a focus in front of it a glare of light which the hypermetrope's does not. Moreover, the hypermetrope's eyes are apparently magnified by his glasses and the myope's eyes are diminished. Also the thick-rimmed lenses of the myope are more kenspeckle than the thin edged lenses of the hypermetrope. We see the hypermetrope's eyes and the myope's glasses. For these four reasons the convention of fictional illustration has been to stick conspicuous spectacles on the nose of the learned professor. He is often treated as a comic character. This is not true to life; it is the uncorrected myope not the corrected one who makes the funny blunders, who apologizes to the lamp-post. The corrected myope is as wideawake as anybody. Thackeray and Tennyson were, and Kipling is, myopic.

I began to wear spectacles for distance constantly when I was about forty. I had never been colour blind, but it was only after this that I began to find distinct pleasure in colour as apart from shape. I had always seen green trees; now in spring I saw the ruddy green of the young

\* An address delivered before the South Eastern Counties of Scotland Division of the British Medical Association.



plane-tree leaf, the silver green of the willow, the yellow-green of the new and the blue-green of the old pine foliage. I cannot quite explain why my enrichment lay rather in red and green than in blue and yellow, for which latter pair a larger area of retina is said to be sensitive. A few narrow escapes when bicycling showed me that the uncorrected periphery of my field of vision was not warning me so well as it used when all my light passed through the same refractive media. I suppose that the improvement was due to the fact that a greater quantity of light and colour was passing through the pupils, now enlarged by the cessation of accommodative effort. I suppose, also, that the whole of my red-green field was covered by my spectacles, while the peripheral parts of my blue-yellow field were receiving past the side of the glasses a quantity of unfocussed rays, and were thus at a relative disadvantage.

Or, again, the whole thing may have been psychical education even thus late in life. Many of my friends of recent years have had keen sense of colour. They may have drawn my attention more than was my wont to what I had always seen and seldom noticed.

The doubt as to where discrimination of impression takes place also applies to the sense of hearing. Does inability to measure musical interval and analyse chords depend on the cochlea or the cerebrum? Rutherford said it depended on the cerebrum, and Helmholtz said the cochlea. A friend of mine who knows a good deal about the physics of sound, who can explain harmony without hearing it, cannot tell harmony when he does hear it, and cannot tell an octave from a seventh or a ninth; while my little daughter, aged 10, who does not know that sound depends on rarefactions and condensations of air, can yet tell harmony from discord and musical discord from noise. This inability and this ability seem to indicate that the end organ, the cochlea, is where the difference lies. Very few people can tell where the mean pitch of the well-tuned piano is faulty in any scale, but, taken as a class, violinists are better at this than organists and pianists. This would lead us to attribute discrimination to the educated cerebrum. Piano-tuners learn their trade; this again looks as if the cerebrum were the place of discrimination. On the other hand, piano-tuners work largely by the presence or absence of beats in slightly dissonant notes, and these beats are perceived rather as differences in intensity of sound than as differences of pitch.\*

Russell Wallace's book, *Man's Place in the Universe*, has as its main proposition that organic life like ours cannot exist in any other world known to us and is unlikely to occur in any other world at all. The conditions of temperature, and the oxygen atmosphere necessary for carbon nitrogen protoplasm are found on no other member of our planetary system, and are unlikely to be found in any other solar system. I once saw the suggestion that organic life might be conceived of with silicon as a protoplasm basis and iodine as an atmosphere. At first we are apt to think of brittle glass creatures until we remember the radiolaria and the equisetinae. But a siliceous protoplasm need be no more glassy than a carbonaceous protoplasm is crystalline like diamond or opaque like graphite. There are some substitutions known to us slightly analogous to this. The blood pigment in some molluscs and crustaceans has copper in it where haemoglobin has iron, and the main difference between the empirical formulae of haemoglobin and chlorophyll is that haemoglobin has iron where chlorophyll has magnesium.

To what do all these disconnected fancies tend? Perhaps they lead no whither. They have interested me, and they do more. They are to me a partial revelation in religion protecting my hopes from the chloroform-like euthanasia which Metchnikoff offers in his *Nature of Man*. Some of the fancies of which I have half playfully told you encourage me by analogy to hope for a life after death. My hope is quite independent of what is usually called "spiritualism," a subject of which I have no experience. I wish to dissociate myself from all disrespect towards researchers in spiritualism, whose methods I have no more right to criticize than those of Sanscrit scholars.

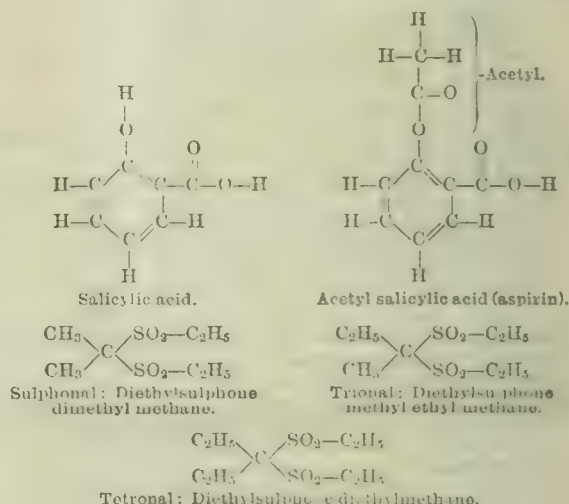
It is difficult to think of leucocytes as other than individuals. Their military patrol of the body on and off

the blood vessel highways which they share with their civilian brethren the red corpuscles, their mobilization in greater numbers in the garrison towns, the enlarged glands, along the line of threatened advance of invaders—of these we have known since our college days. We have learnt later of their educability by vaccines: how they can be practised on dead bacteria as our young soldiers learn bayonet fighting on dummies; how they can be better practised, though with more risk, on sensitized vaccines where the bacteria are only stunned, just as an inexperienced battalion may be seasoned at the cost of a few lives against the weaker units of the enemy.

If an amoeba could be imagined to think of a future life it might ask for plenty of pabulum, uniform physical conditions, a well-defined nucleus, or perhaps a number of nuclei. It would find these if it were a leucocyte. Yet with all its blissful individuality the leucocyte is but one cell of the macrocosm which you are or the microcosm which I am.

The Eastern ideal of the destiny of the soul is that it shall be lost in fusion with the infinite soul. To our Western minds the loss of individuality is not attractive. We are perhaps not so anxious about our own personality as about that of our friends, whom we hope to meet again not altogether different from what they were.

When we go even lower than unicellular organisms there is an individuality in chemical molecular groups. Aspirin is not the same as salicylic acid, the acetyl radicle makes the difference; sulphonal is not the same as trional



or tetronal—the ethyl radicles make the difference. The saturated paraffins are inert, but if a hydrogen atom is taken away from methane, ethane, or butane the methyl, ethyl, or butyl can modify greatly the molecule to which it is joined. On this analogy it is possible to imagine fusion without loss of individuality. We should be glad to contain in ourselves the musical power of Beethoven, the courage of Nelson, the scientific imagination of Darwin and Helmholtz, the colour sense of Leader and Turner, the form sense of Blake and Flaxman, the poetic imagination of Browning, and the word mastery of Tennyson. In some future state the psychically good part of each of us may conceivably be fused with the complementary good in some others to form a being which will far transcend any of its components. The very physical and mental defects which we now deplore—timidity, ill health, Milton's blindness, Beethoven's deafness, Blake's insanity, Turner's astigmatism, Darwin's want of musical ear, Browning's bereavement—may be the open chain-links, the haptophores, or amboceptors, to join us to our affinities.

There is a curious passage in the Book of Revelation, xxi, 9, 10: "There came unto me one of the seven angels . . . and talked with me, saying, Come hither, I will show thee the Bride, the Lamb's wife. And he carried me away in the spirit to a great and high mountain, and showed me that great city, the holy Jerusalem." The metaphor seems mixed indeed. How can a city be a bride? A city is not only a collection of buildings, it is also a collection of citizens. But take the word in

\* When I wrote the above I had not read Sir Thomas Wrightson's book.



whatever sense you will, the official handbook of the Christian religion reiterates metaphors like this: "They without us should not be made perfect." "We who are many are one body." "Members one of another."

If everything we value in the personality of ourselves and our friends is conserved, every sense corrected and made keen, every passion cleansed and strengthened, memory cleared of rubbish and set in order, our defects made good and circumstances granted of the same kind as we have already experienced but somewhat better—that would be the earthly paradise of our dreams.

But if with all this there is a further stage of synthetic creation, and if all the collective intellect and emotion of mankind be in some way unified in a Person meet to hold such fellowship with God as is expressed in the words, the Bride, the Lamb's wife, that were a destiny too great for us to contemplate as yet. We may speak the words lightly if we do not think of what they may mean; if we try to measure their content we dare hardly breathe them.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### BLOOD TRANSFUSION AND RESUSCITATION.

The difficulty of finding time to give blood to the large numbers of wounded men requiring blood transfusion has been felt by all surgeons during a busy time in a casualty clearing station.

The following routine has enabled us to give blood, in all cases in which indications for blood transfusion existed, and also to carry out in cases with multiple wounds very complete, shock-producing, sepsis-combating operations, which could not be undertaken successfully without the aid of blood.

The citrate method of blood transfusion is used. Robertson's technique in drawing blood from the donor is adopted; the blood is administered through funnel, tube, and cannula, into a vein by being poured from the bottle into the funnel. Several sets of apparatus and bottles are kept. The team sister keeps a sterile set of blood-giving instruments in a tray ready for immediate use during the tour of duty. Before the team goes on duty blood is drawn from donors; two or three bottles of 600 c.cm. each are generally found sufficient for a team doing resuscitation cases.

The receiving tubes and cork are removed from the bottle after the blood is taken, and the opening plugged with sterile gauze. The bottle can then be placed in a bath of water pleasantly warm to the hand. Citrated blood can be kept thus for twelve hours, and then administered with good results.

We have given citrated blood thirty-six hours after being drawn from the donor, but its safety after twelve hours has not yet been fully established. As many as six bottles of blood have been collected for two teams and used during their tour of duty.

The advantages of this routine are, that there is no delay for taking blood between operations, and the blood can be used quickly and freely when urgent symptoms arise in any patient in the hospital. If the blood is not used in one casualty clearing station because there is no suitable case, it need not be wasted, but can be taken to another of the group receiving wounded.

We have now used this routine in over fifty blood transfusions, given during "rush" times. Two teams operated in fourteen hours on forty-one cases of light and serious wounds, and did six transfusions. It took a medical officer an hour and a quarter to draw six bottles of blood before the wounded arrived.

For seven days one team on night duty operated on from eight to ten heavy resuscitation cases, and in addition did two to three transfusions each night.

Although finality in methods of resuscitation has not nearly been reached, gratifying results in the largest numbers of cases under casualty clearing station conditions have been obtained from the following procedures.

The treatment in the resuscitation ward is short in all cases, except in those with clean bullet wounds where there is no danger of the resuscitated patient dying of sepsis from delayed operative treatment. Forced fluids, 8 oz. by mouth and 8 oz. by rectum, are administered every half-hour, and charted, by special sisters and orderlies, who must enter with enthusiasm into the work. The operation is done under gas and oxygen, or in suitable cases under spinal anaesthesia. Towards the end of the operation the anaesthetist administers the blood, and if

indicated 1,000 to 1,500 c.cm. of sodium bicarbonate solution are also run in. In this way no time is lost. Forced fluids are continued when the patient returns to the ward.

E. T. C. MILLIGAN, Captain R.A.M.C.,  
Surgical Specialist, — Casualty Clearing Station,  
B.E.F.

FRED. L. NAPIER, Captain R.A.M.C.,  
Anaesthetist, — Casualty Clearing Station, B.E.F.

#### EXTEMPORIZED EAR SPECULUM AND MIRROR.

THERE are frequent occasions in the field when an ear speculum is not available. Diagnosis of ear complaints then becomes mere guess-work. I therefore venture to describe home-made appliances. The speculum is formed by rolling into shape around the end of a well pointed pencil a bright piece of thin "tin," such as is employed in hermetically sealing tobacco or cigarette tins. The tin can be cut into proper shape by the shears supplied in the field fracture box and the edges smoothed with the file also contained in that box. A hand mirror, sufficiently good for the purpose, may be evolved from the lid of a tobacco tin, through the centre of which a small round hole has been drilled.

A. R. RENDLE,  
N. Russia.  
Captain R.A.M.C.(T.C.).

## Reports of Societies.

### DISCUSSION ON INFLUENZA.

THE following is a continuation of the report, printed at p. 574 in our last issue, of the discussion on influenza at a meeting of the Fellows of the Royal Society of Medicine held on November 13th.

In discussing the morbid anatomy of the disease Dr. B. H. SPILSBURY said that he regarded the condition as a primary infection of the air passages by Pfeiffer's bacillus, the failure to find this organism in 40 per cent. of his *post-mortem* cases being due either to the search not being sufficiently thorough or to the organism having disappeared before death. Following this infection an invasion of the air passages and lungs by pneumococci or streptococci occurred, one of these organisms being responsible for the pneumonias. The changes found elsewhere in the body were due to acute toxæmia, and in no case had he found a pyæmic or septicæmic condition.

Sir BERTRAND DAWSON, speaking from the clinical side, said that though the onset was generally acute, it might be subacute or insidious. The seriousness of the cases depended upon the relative prominence of (1) the septicaemia, and (2) the amount of involvement of the respiratory tract and its nature. The evidence tended to show that Pfeiffer's bacillus played a dominant part as a pioneer preparing the way for other organisms.

Colonel W. LONGCOPE, U.S.M.C., said that by segregation and isolation it had been possible to prevent the spread of the disease in hospitals. In one hospital the patients were segregated according to the germ found, with the result that very little pneumonia developed.

Dr. R. MURRAY LESLIE said that pulmonary tuberculosis was a late complication. He had had under his care during the past few months young soldiers showing symptoms and signs of tuberculous disease within periods varying from a fortnight to four or five months after an attack of influenza.

Captain W. E. CARNEGIE DICKSON, R.A.M.C., gave an account of his experience of his "mixed influenza vaccine" with the approximate composition, taking the whole as 20, of streptococci 5 parts, staphylococci 5 parts, pneumococci 3 parts, minute Gram-negative influenza-like bacilli 3 parts, Friedländer's bacilli 2 parts, other organisms (*M. catarrhalis*, etc.) 2 parts. In prophylactic use 60, 100, and 150 million were given to adult males at weekly intervals; 40, 60, and 100 million to adult females. The amount of reaction produced by these doses appeared suitable in the majority of cases. In most cases without pulmonary complications the disease appeared to be shortened and the occurrence of complications prevented. In the severe cases, though the vaccine appeared to be helpful, there were not a sufficient number of cases upon which to base a scientific opinion. He had given the vaccine prophylactically to about 150 persons, and so far



as he could ascertain only two had developed anything resembling influenza, and these were doing well. He had recently found small Gram negative influenza-like bacilli in many of the cases of chronic bronchitis in which, clinically, there was no suspicion of influenza. He was convinced that such cases constituted a reservoir of influenza infection in this country.

Surgeon Captain P. W. BASSETT-SMITH, R.N., gave an account of the prophylactic vaccine prepared in quantity at the Royal Naval College, Greenwich, and distributed to the dépôts and to ships of the Grand Fleet, to be given to all on a voluntary basis. Its composition was as follows: *B. influenzae* (3 to 5 strains) 60 million per c.c.m.; streptococci (3 to 5 strains) 40 million per c.c.m.; pneumococci (3 to 5 strains) 200 million per c.c.m. Dose: First inoculation, 0.5 c.c.m.; second inoculation, 1.0 c.c.m. One medical officer reported that in the course of the inoculations ten cases occurred. Four of these had received one dose on the day of onset only. All ran a very mild course. Of the six not inoculated, two were mild and four severe, with one death. At Greenwich 1,000 boys of the Royal Hospital School had received both inoculations, and no case had occurred amongst them, though the disease was prevalent in the district.

Captain H. E. WHITTINGHAM, R.A.M.C., attached R.A.F., described the vaccine prepared by him and Dr. Carrie Sims. It consisted of the following organisms: Streptococcus, pneumococcus, and *Micrococcus catarrhalis*, of each 50 million; meningococcus and *B. influenzae*, of each 30 million. The first dose was 0.5 c.c.m.; the second, given seven to ten days later, 1 c.c.m. The curative dose was one-tenth of this strength, and was given daily in some cases, in other cases every second day. In one institution, out of 305 persons (156 inoculated and 149 uninoculated), the case incidence was 5 per cent. among the inoculated and 12 per cent. among the uninoculated. Those who were inoculated had only slight attacks, lasting about forty-eight hours; in those uninoculated the disease was more severe, lasting five to seven days in the milder forms and being more prolonged in the complicated cases. Pulmonary involvement was distinct in seven of the cases.

Lieut.-Colonel C. E. COOPER COLE, C.A.M.C., spoke of 125 cases treated with polyvalent antistreptococcal serum. Early mild cases cleared up forthwith, and in extremely toxic cases reduction in the toxæmia appeared to follow.

Mr. E. B. TURNER spoke of his experience of treatment by salicin, which seemed to have a remarkable effect in cutting short the disease, preventing complications, and destroying the infectivity of the patient. Treatment should be commenced at once. Very large doses were necessary, so that the patient should be drenched with salicin. He began by giving 20 gr. hourly for twelve hours in each case form. Less was of no use. These large doses he had found harmless even in cases of heart disease.

## TYPHOID FEVER IN INOCULATED SOLDIERS.

At a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine on November 8th, the President, Dr. E. W. GOODALL, being in the chair, Captain FRED. M. MEADER, M.C., gave an account of an outbreak of typhoid fever in a company of United States soldiers which presented remarkable features. The essential facts were as follows: On the arrival of the unit at an American rest camp in Europe on July 18th, 1918, suspicious cases were observed, and altogether 38 soldiers developed typhoid fever in the camp, from 18 of whom *Bacillus typhosus* was isolated. The organization had left the camp before the diagnosis was established, and other cases occurred elsewhere; in all, 95 cases out of a company of 248 men were discovered. The unit left a cantonment on June 15th, and en route for New Jersey was taken for a swim in a shallow lake. The men embarked on June 21st and reached Liverpool on July 10th. One man was ill on leaving the original camp, the second case developed on June 19th, the third on June 21st, the fourth on June 24th, three on June 26th, four on June 29th, five on July 6th, after which a case developed every day up to the time of arrival in the rest camp. The development of a considerable group of cases during the latter part of the month of June and the early part of July suggested a common origin. No cases developed among members of other units in contact upon

the transport. Captain Meader suggested that infection occurred either (1) in the train early in the journey, or (2) during the bath in the shallow lake, massive infection being perhaps due to the first man to sicken, who was one of the bathers.

Captain CLINTON B. HAWN, M.C., submitted a clinical study of the cases, from which it appeared that the symptomatology and fatality were those of classical typhoid. All the men had been inoculated, many of them several times and at different posts, and the agglutinins for typhoid and paratyphoid A and B in the cases investigated by Captain J. G. HOPKINS, M.C., reached a titre normal for recently vaccinated men.

In opening the discussion, Major-General Sir WILLIAM LEISHMAN, F.R.S., expressed the opinion that massive and repeated infection owing to the close aggregation of the men on ships seemed the most plausible explanation of the outbreak. He was satisfied by the evidence adduced that the men had been properly inoculated, nor did he think that the strain of typhoid bacillus isolated from the cases had been proved to differ in any important respect from the ordinary strains. No comparable instance of failure of vaccine had occurred in the British experience.

Dr. FORD CAIGER concurred with Sir William Leishman in thinking the close association of the men in the train and on shipboard a more probable source of infection than bathing together on one occasion. The failure of the vaccine was naturally disappointing; he thought that perhaps the length of time since inoculation, which seemed to have been in most cases eight or nine months, combined with massive infection, might explain the sequence. No vaccine could afford protection against a virus if introduced in overwhelming quantity.

Lieut.-Colonel HARVEY, C.M.G., suggested as a possibility that the fact that the men were inoculated frequently and at short intervals of time with varying doses of different strengths of bacilli might have resulted not in an increased immunity for the typhoid element of the vaccine, as would have been the case had an interval of some months been allowed to elapse between the various series of inoculations, but in a decrease of immunity. For instance, one man was stated on the protocol to have completed his typhoid inoculations on October 23rd and his paratyphoid on October 28th, 1917.

## BRITISH ORTHOPAEDIC ASSOCIATION.

THE first annual meeting of the British Orthopaedic Association was held at the rooms of the Medical Society of London on July 27th and 28th, 1918.

Mr. JETTERHEAD LITTLE, senior surgeon to the Royal National Orthopaedic Hospital, the first President of the Association, delivered the presidential address, as follows:

### ORTHOPAEDICS AND GENERAL SURGERY.

When subcutaneous surgery was first given to the world, more than eighty years ago, orthopaedic surgery began to flourish. But after the passing of a generation it lost favour in the eyes of the profession, so that in 1872 a medical journal in this country denounced orthopaedic hospitals and specialists as unnecessary. Nine years later, in 1881, a request that an Orthopaedic Section should be included in the International Medical Congress, to meet that year in London, was refused. It was not until the Berlin Congress of 1890 that an Orthopaedic Section was formed, largely owing to our American colleagues, who in the meanwhile had founded the American Orthopaedic Association. The medical journalist of 1872 claimed that there was no general hospital where deformities would not be properly treated, and no general surgeon who would not so treat them. Experience showed that this claim could not be substantiated. Sufficient experience for the successful treatment of deformities could not fall in the way of very many surgeons. The specialty was unjustly condemned, but there is no doubt that it had fallen into disfavour. Why was this? Partly, no doubt, from too much conservatism and too great reliance on subcutaneous methods to the exclusion of bolder treatment, which the work of Lister had begun to make successful. Even across the Atlantic in later years some of the founders of the Orthopaedic Association protested against the radical procedures adopted by the younger men. It used to be said that orthopaedic surgery



was moribund. I venture to think that to-day it is not the specialist but the general surgeon who is in danger of becoming extinct. A surgeon to succeed must take up a special line. The scope of surgery has become so vast, its technique has become so elaborate, that only a man with the powers of a Whewell could hope to be proficient all round.

This calamitous war has some compensations, one of which is the recognition of the need for trained orthopaedic surgeons in the treatment of many injuries. This is due to the example of our New England friends, and to the efforts of our Inspector of Military Orthopaedics, Sir Robert Jones. What would the journalist of 1872 say if he could know that in 1918 there are 30,000 military orthopaedic beds under the direction of a specialist appointed by the Government? The ground thus won should not be lost. In the public interest the treatment of fractures should be taught in all medical schools by orthopaedic surgeons. At present in at least one large metropolitan hospital with a medical school attached cases of fracture are not admitted to the wards, and the students from that school must start practice with no practical knowledge of the treatment of fractures of the lower extremity, and very little of orthopaedic surgery generally. Is it surprising that bonesetters and the like flourish?

May the British Orthopaedic Association have a long and prosperous future, and serve the public weal by securing for the country at large the services of surgeons well trained in the most up-to-date orthopaedic methods!

#### DISCUSSIONS.

Two set discussions were held, the first on "The indications, technique, and results of tendon transplantation in gunshot injuries of nerves," introduced by Major T. P. McMURRAY and Mr. A. ROCKY JONES; the second upon "The Abbott treatment of scoliosis," introduced by Captain AITKEN and Lieutenant TRETHOWAN. In each case there was an active discussion in which not only members but also visitors from Canada, New Zealand, and America joined.

#### THESES.

Candidates for membership of the Association (after the nomination of the original members) must present a thesis upon some subject in orthopaedic surgery, which must be accepted by the Nomination Committee. Theses were read at the meeting by three newly-elected members: Mr. G. R. GIRDLESTONE (Oxford), on "The results of the Albee operation for Pott's disease"; Mr. T. E. HAMMOND (Newport), on "The non-operative treatment of nerve lesions of the upper extremity"; Mr. P. J. VERRALL (London), on "Stiff fingers, with special reference to methods of treatment by metal and plaster splints." Mr. E. G. SCHLESINGER was also elected a member, but his thesis was not read on account of his absence on active service.

#### OTHER CONTRIBUTIONS.

Mr. R. C. ELSLIE and Mr. H. PLATT read papers on pseudo-coxalgia; Mr. J. JACKSON CLARKE on the open operation for congenital dislocation of the hip-joint; Major ALVIN SMITH on the preparatory treatment of amputation stumps; and Mr. LAMING EVANS on clonic spasmodic contraction of the muscles around the hip-joint.

In the JOURNAL of October 12th, p. 408, we announced that the War Cabinet had appointed a committee to consider No. 40 D of the Defence of the Realm Regulations. On November 25th an Order in Council was made repealing a number of the Defence of the Realm Regulations, including No. 40 D. This regulation is revoked on the recommendation of the committee, which, without pronouncing any final opinion upon its merits, advised that in its present form it should be regarded only as a war measure, and should be dropped on the cessation of hostilities. The London Association of Medical Women, at a meeting on November 19th, after passing a resolution condemning Regulation 40 D, discussed constructive proposals for arresting the present widespread increase of venereal diseases. Among the measures discussed were regulations for keeping public thoroughfares free from solicitation by either sex; the raising of the age of consent; the registration of lodgings for young people; the punishment of brothel keepers by imprisonment without the option of a fine; the provision of women police in adequate numbers; and the attendance of women in police courts at the hearing of cases concerning women and children.

## Reviews.

### THE BETTER TREATMENT OF MENTAL DISEASE.

In *A Plea for the Insane*, Dr. WEATHERLY presents the case for reform in the care and treatment of mental diseases, in the hope of rousing the public to agitate to get a new Lunacy Act passed. The book is therefore addressed primarily to the general public, and gives the point of view of a medical man who has had a long experience in dealing with the insane. It is opportune in the time of its appearance, as it helps to swell a movement already on foot. It happens that it almost coincides in its appearance with the report of the Board of Control, which makes a number of important recommendations for the amendment of the law. In many respects these are identical with those urged by the author. His proposals fall for the most part under the following heads:

1. Education and conversion of the public in its attitude towards insanity.
2. Extension of the voluntary boarder system.
3. Legalization of the treatment away from home of early cases of mental disease without certification.
4. Improved methods of housing the insane.
5. Improvement of the medical services of institutions for the insane.
6. Revision of the law defining the criminal responsibility of the insane.
7. An improved spirit of administration and simplified machinery, excluding the taint of pauperism and the use of terms and procedure likely to alarm or hurt the feelings of patients.

It will be seen that of these proposals Nos. 2, 3, and 6 require legislation, whereas Nos. 1, 4, 5, and 7 are largely questions of administration and finance. Proposals 2 and 3 are covered by the recommendations of the Board. No. 6, though affecting the interests of the insane, does not fall under the head of lunacy legislation but under another category. The author is frankly hostile to the present Act and its administration; without discussing pros and cons, he pins his faith to a redrafting of the whole Act with the assistance of the Board of Control and medical men selected for their special experience. It seems, however, that most of the reforms advocated could be achieved by a short amending Act, and that to clamour for a new Act is to risk deferring them to the Greek Kalends. Dr. Weatherly urges that the power to treat early cases without certificate should not be limited to six months, as suggested by the Board, but be open to renewal, and there is much to be said in favour of this view. He vehemently deplores the attitude of the public in regarding insanity as carrying a special stigma. It is difficult to believe that lecturing will alter this attitude. In so far as the "stigma" is regarded as a mark of personal disgrace, it is of course unjust, and the most helpful things would be to show by the method and the success of our treatment of mental disorders that they can in many cases be looked upon as curable, like other ailments; to safeguard the patient from feeling that he comes under any stigma; and, if possible, to save him from it as an actual fact.

The greater part of the book is occupied with the chapters headed "Legislation," by which is apparently meant the law as it at present stands, "Institutions for the insane," and "Suggestions for reform." "Criminal responsibility" and "Testamentary capacity" are dealt with in a superficial manner, and no very definite or helpful conclusions are reached. The author seems to be unaware of the important report of the Council of the British Medical Association on Crime and Punishment adopted by the Annual Representative Meeting in 1915, which goes very fully into the former question.

While agreeing on the whole with the case presented for reform in its main outlines and with the remedies suggested, which are generally in accord with those recently put forward in this JOURNAL, it is impossible to escape the impression that the book is marred by the way in which the subject is handled. The writing throughout is regrettably slipshod, and there is much unnecessary repetition of arguments and introduction of matter outside the scope of



he work. Personal feelings are expressed with extravagance and some bitterness, and opinions are put forward with a lack of moderation which will not add to the strength of the case in the eyes of serious readers. This is unfortunate, as there is much interesting and useful information in the book.

### WAR SURGERY.

It is devoutly to be hoped that the need for complete and competent guidance in the primary surgery of gunshot wounds will soon be no longer felt. There will remain the necessity for authoritative direction in the late treatment of war injuries and their complications; and if this need is not to be sown in barren ground there ought to be a thorough and intelligent understanding of the physiology and pathology of tissues damaged under conditions of war sepsis. Not for this reason only do we welcome the two volumes, *War Surgery, from Firing Line to Base*,<sup>2</sup> by Major BASIL HUGHES and Captain STANLEY BANKS, and *Surgery in War*,<sup>3</sup> by Lieut.-Colonel HULL; they form in addition a permanent record of the great recovery made by British surgery after the early failures into which it was betrayed by the magnitude of the advances made under the aseptic régime.

Comparisons between the two works before us would perhaps be invidious. Certainly both fulfil their object admirably, and both are deserving of the highest praise; but, if we were forced to discriminate, it must be said that there is a personal flavour about Major Hughes's book—a breath so strong of the fighting front and the whole pilgrimage to the base that it can be read with close interest even apart from its clear presentation of the complete surgical picture. The figures are very good, and the coloured plates are a joy. The pathological sections right through the volume, and in particular the applied bacteriology, are full and clear and most instructive.

Colonel Hull's book, besides his own solidly valuable work, contains contributions by Captain Miller on wounds of the chest; by Captain Petrie on wound infection; by Captain Tracy on the jaw and face; a carefully considered contribution by Major Jocelyn Swan on the peripheral nerves and on the later treatment of bone injuries; and, what is perhaps the cream of the book, a study of wounds of the abdomen by Colonel Owen Richards.

### THE CAUSE AND PREVENTION OF SCURVY.

In view of the fact that outbreaks of scurvy have occurred at various times, both in this country, and abroad in His Majesty's Forces, and in order to guard against a recurrence of such outbreaks, especially at places far removed from sources of supply, the Royal Society Food (War) Committee has thought it advisable to issue the following statement, based chiefly upon investigations carried out at the Lister Institute.

#### THE CAUSE AND PREVENTION OF SCURVY.

1. Scurvy, like beri-beri, is a "deficiency disease," and is due to the long continued consumption of food lacking in an accessory food substance or vitamine. The view that scurvy is due to tainted food must be abandoned.

2. This vitamine is contained in a number of fresh foods: in largest amount in oranges, lemons, and fresh green vegetables; in considerable amount in roots and tubers, such as swedes, potatoes, etc.; and in small quantities in fresh meat and milk. It is deficient in all dried and preserved foods.

3. It is destroyed by prolonged heating, such as takes place during stewing. Thus potatoes in stews would be devoid of vitamine, but if boiled rapidly will still contain some quantity. Alkalis rapidly destroy antiscorbutic properties. Soda should therefore not be added to the water in which vegetables are soaked or boiled.

<sup>2</sup> *War Surgery, from Firing Line to Base*. By Basil Hughes, D.S.O., Major R.A.M.C.(T.F.), and H. Stanley Banks, Captain R.A.M.C.(T.C.). London: Baillière, Tindall, and Cox. 1918. (Royal 8vo, pp. x + 623; 373 figures, 9 coloured plates. 20s. net.)

<sup>3</sup> *Surgery in War*. By Alfred J. Hull, F.R.C.S., Lieut.-Colonel R.A.M.C. Second edition. London: J. and A. Churchill. 1918. (Demy 8vo, pp. xv + 624; 210 figures. 25s. net.)

4. Before the onset of definite symptoms of scurvy there is a period of debility and weakened resistance to disease. The occurrence of cases of debility in any body of troops without sufficient cause should at once direct the medical officer's attention to the sufficiency of the diet.

#### Prevention of Scurvy.

5. West Indian lime juice, as ordinarily prepared, is useless for the prevention of scurvy. Fresh limes have an antiscorbutic action, but their efficiency is only one-fourth that of lemons. The so-called "lime juice," by the regular administration of which scurvy was eliminated from the navy during the first half of the nineteenth century, was really lemon juice obtained from the Mediterranean. The history of Arctic exploration affords numerous examples in which scurvy was prevented for long periods of time by the agency of lemon juice regularly taken. Nares's expedition of 1875, notorious for the serious outbreaks of scurvy encountered, was the first to be provisioned with "lime juice" prepared from West Indian limes. Orange juice is as effective as lemon juice.

6. Potatoes and root vegetables have a distinct value in the prevention of scurvy—much less, however, than green vegetables or fresh fruit juices. A daily ration of 14 oz. of potatoes, boiled rapidly but not stewed, will suffice to prevent scurvy.

7. Pulses, beans, peas, and lentils in the dried condition have no antiscorbutic properties. If, however, the dried seeds are soaked in water and are allowed to germinate for a short period, one or two days, they develop the antiscorbutic vitamine. At the same time these pulses are also rich in the vitamine which prevents beri-beri, and are, moreover, valuable foods.

The method adopted for germination is as follows: The beans, peas, or lentils are soaked in water at room temperature (60° F.) for twenty-four hours. The water is then drained away, and, to permit germination, the soaked seeds are spread out in layers, not exceeding 2 to 3 inches in depth, and kept moist for a period of about forty-eight hours at ordinary room temperature (60° F.). They should not be allowed to dry after this operation, but should be cooked as rapidly as possible (lentils, 20 minutes; peas, 40 to 60 minutes).

8. The antiscorbutic value of fresh meat is very low in comparison with that of fresh vegetables and fruit. If fresh meat is consumed in large quantities, 2 to 4 lb. a day, scurvy will be prevented. Tinned and preserved meats possess no antiscorbutic value. Frozen meat, while more valuable than preserved meat, must be considered inferior to freshly killed meat in this respect.

#### Methods of Cooking.

9. The destruction of the antiscorbutic properties depends rather upon the time than the temperature employed. All foods, especially vegetable, should be cooked for as short a time as possible at boiling point. Slow methods of cooking, such as stewing with meat or simmering below boiling point, should be avoided. Potatoes should be plunged into boiling water and the boiling continued for twenty to thirty minutes after the boiling-point has again been reached. Frozen meat should be roasted when practicable.

#### SUMMARY OF MEASURES RECOMMENDED FOR THE PREVENTION OF SCURVY WHEN FRESH VEGETABLES ARE UNOBTAINABLE.

- The lime-juice ration should be replaced by lemon juice. The ration should be 1 oz. daily served with sugar.
- Cooked germinated peas, beans, or lentils should form part of the regular daily ration.
- Attention should be paid to the methods of cooking employed, as set forth under 9.

November 15th, 1918.

THERE are seven medical members of the Dutch Parliament.

In Austria-Hungary, at the end of December, 1917, 2,000 army doctors, over 10,000 ex-civilian doctors, and 2,500 Landsturm civilian doctors were engaged on army work. In addition, 3,000 civilian chemists and 4,500 first-year medical students (volunteers) were employed by the army. During the war about 800 medical students had qualified as medical practitioners.



# British Medical Journal.

SATURDAY, NOVEMBER 30TH, 1918.

## THE HOME-COMING OF THE CONSUMPTIVE SOLDIER.

For many months to come the brave men who have suffered all the toils and terrors of warfare by land and sea in defence of right will be returning home, assured of a present welcome, but in too many cases by no means assured of future welfare. The case of the consumptive sailor or soldier whose period of active service has resuscitated his dormant disease is one that demands prompt and energetic action, not only in the interest of the man himself, but also on behalf of his children and of others with whom he may be brought into close personal contact. It has been estimated that 200,000 men have, in varying degree, developed tuberculosis as a direct result of active service during the last four and a half years. Many of them have already been admitted to treatment, but for the vast majority of this great company of sufferers there is no adequate provision at the present time. Not only must they continue to make the best of conditions which only conduce to the advancement of their disease, but they must also be a daily source of risk of infection to all young children, and especially those of their own family. With the advance of the illness the danger of the spread of the infection becomes ever proportionately greater, not to adults, but to young persons below the age of 15, in whom the seeds of tuberculosis are only too easily implanted, although the indications of such infection are almost always overlooked.

In the interest, therefore, of the on-coming generation, as well as in that of the soldier himself, it is imperative that measures should be adopted to deal with the problem on a large and practical scale. Of late years we have been accustomed to deal in millions, and the fact must be faced that only by further expenditure of millions can proper provision be made to restore working capacity to the men to whom we owe so much, and at the same time to protect their families from the risks to which we have referred. The machinery at present available for attaining these ends is working smoothly, by way of tuberculosis dispensaries and sanatoriums, and the annual reports emanating from them all tell of a certain measure of success, but it is only a temporary success, and by far the larger proportion of the patients who have derived benefit are perforce allowed to return to home conditions which tend to retard rather than to aid their further progress.

It has to be admitted that the methods hitherto adopted to check the fatality and the spread of tuberculosis are incomplete, and that a far more vigorous, if costly, means must be employed if success is to be obtained. Expert opinion, guided by the results of many years of observation, is now hardening in a definite direction. The futility of short periods of treatment has been fully demonstrated, but prolonged treatment opens up many economic questions which must be boldly dealt with on a broad basis.

The colony system, already introduced in a few parts of the country and notably in Cambridgeshire, appears to offer the best solution of the problem, and already it has received the cordial approval of those best qualified to judge of its merits and possibilities.

To start such colonies, however, two things are necessary—money, and plenty of it, to meet the initial cost of establishment, and, secondly, the sympathetic co-operation of the authorities controlling insurance and pension funds. The hard and fast rules that determine a pension strictly in accordance with present disability, and that withdraw sickness benefit directly the insured man is able to do a little work, must be recast in the case of the sufferer from tuberculosis. The same rule that applies to a man with a damaged hand cannot reasonably be made to apply to the man with a damaged lung. In the one case recovery, once established, remains permanent, but in the other the liability to relapse is ever present for the first few years, at any rate, and during those years there may be a fair amount of capacity for work, but not sufficient to earn the living wage. It is universally recognized that the consumptive is far more likely to overcome his disease if his mind is at ease and his hands are employed. Hence it is essential that he should be free of financial cares, such as would be entailed if his pension were liable to withdrawal when he undertook light work.

Colonies for the control of tuberculosis can be made to be self-supporting if established on sufficiently broad lines. Not only can all ordinary food supplies be met by farming operations, but a vast number of industrial occupations can be carried on in suitable buildings, erected by home labour, which should in time render the workers independent of outside help. But until they are so independent it is imperative that their pensions and allowances should be graduated in accordance with their earning capacity.

The whole subject of the discharged consumptive soldier in relation to tuberculosis colonies has been well dealt with in a small book\* by the Clerk to the Brighton Insurance Committee, in which the ways and means, and also the obstacles and difficulties, are carefully examined. It has already been demonstrated that such a colony can be established and maintained on a comparatively small scale by the experience recorded by Dr. Varrier-Jones of Cambridge. The expansion of the same system should not present much difficulty apart from financial considerations. The main obstacle to be overcome is a personal one. The returned soldier not unnaturally wishes to remain in touch with his family. The only way to meet this difficulty is the radical one of providing for the family within the boundaries of the colony in such a manner as to allow of association of the consumptive parent with his children under strictly hygienic conditions. Such a plan would be of far-reaching effect in the case of the advanced consumptive and would admit of the segregation which is on all hands recognized as desirable, although never carried out in practice. Payment of pensions or allowances to such cases might be made dependent upon strict adherence to rules, but no hardship need be involved in maintaining such an amount of supervision as would suffice to protect their families.

## THE BOARD OF CONTROL ON EARLY TREATMENT OF MENTAL DISORDER.

THE report of the Board of Control on lunacy and mental deficiency for the year 1917 contains in an introductory section some important observations on the existing lack of facilities for the adequate treatment of persons suffering from mental disease, using

\* *The Discharged Consumptive Soldier: His Treatment in Relation to the Treatment of Consumption as a Whole*. By Thomas Denman, Clerk to the Brighton Insurance Committee, with a Foreword by H. de C. Wootcock, M.D., Principal of the Central Dispensary for Tuberculosis and Diseases of the Chest, Leeds. London: J. Baker, Sons, and D. Baskerville, Ltd. Pp. 45. 1s.



that term in a broad sense, and on certain defects in the existing provisions of the law to which the absence of such facilities is largely due. The Board has to recognize that there is a public prejudice against the stigma of certification, the feeling has, indeed, been so strong that it has been necessary, in conjunction with the War Office, to make special arrangements to meet the pronounced opposition both in and out of Parliament to the certification of soldiers who, during the war, suffered from mental breakdown, ranging from the milder to pronounced forms of insanity. Since the outbreak of the war the Board of Control has lent to the Army Council sixteen institutions under its supervision containing 23,500 beds, as hospital accommodation for sick and wounded soldiers; over 2,000 of these beds have been set aside for men suffering from mental breakdown who, whilst being retained in the service, can be cared for and treated without certification. Further, the Board has, in conjunction with the Ministry of Pensions, framed a scheme which will ensure that soldiers and sailors who after serving in the war are eventually discharged from the service and certified under the lunacy laws, shall be certified as private and not as pauper patients.

The Board admits that the public prejudice against certification has ever been a hindrance to the early treatment of mental disease, with the result that in all asylums there are numbers of persons suffering from incurable insanity who, had they been subjected to expert advice and treatment when the premonitory symptoms manifested themselves, would not improbably have recovered and become useful members of the community.

In some general comments on the existing defects in the treatment of cases of mental disorder, incipient in character or of recent origin, the report points out that among rich and poor alike the difficulty experienced in recognizing and treating in their early stages indications of mental disorder arises partly from public ignorance and partly from the reluctance to admit symptoms pointing to mental affection, owing to the dread that the subject may be labelled a mental case, with the possibility of certification. Much time, it is pointed out, is lost or wasted on merely palliative measures during which the patients may struggle to carry on their normal occupations. Eventually many of them become permanent nervous invalids, and others are sent to asylums only when it is too late to derive any benefit from the remedial measures provided, which at an early stage might have been completely successful. This delay, it is suggested, might in many instances have been avoided had inducements and facilities been held out for seeking an early diagnosis of the nature and character of the disease under skilled advice, and had provision been made for treatment apart from the existing provisions of the lunacy laws.

The Board of Control thus lends the weight of its great authority to the general view expressed in the article published in our columns on September 21st last, p. 322. The Board goes on to make the very serious statement that a further result of the stigma attaching to certified insanity is that many medical practitioners, and even some specialists, not infrequently classify patients of the more well-to-do classes suffering from early but undoubted insanity as merely cases of neurasthenia, or even consent under pressure from the friends to the concealment of the disease. Other points emphasized by the Board in this connexion are "that general hospitals view such cases as wholly apart from ordinary physical ailments and do not make other than a most meagre provision

for their treatment, and then only in their out-patient department; that sufficient attention is not given in the curriculum of the medical schools to this important branch of medical science, study and research in which are practically confined to advanced cases which have already fallen under asylum care; and that no special qualification is at present insisted upon as necessary for appointments to the higher medical posts in public institutions for the insane; whereas medical officers of health under the Local Government Act, 1888, are required to hold a special qualification."

The Board makes certain recommendations for the amendment of the law. The first is that there should be provision to enable cases of mental disorder, incipient in character or of recent origin, to receive treatment in general or special hospitals, mental institutions, nursing homes, or elsewhere, for limited periods—say six months—without the necessity for certification under the lunacy laws, provided that the treatment is conducted under the supervision of the Board. It also encourages the establishment of sections for both in-patients and out-patients at general hospitals for the early diagnosis and treatment of incipient cases, and advises that where the hospital is attached to a medical school organized study and research should be conducted. The third recommendation is that the principle of voluntary admission, which now obtains with respect to private asylums, should be extended to public asylums and single care. It is said further that the Board should have power to make grants to after-care associations, and that the holders of the higher medical posts on the staffs of institutions for the insane should be required to possess a diploma in mental diseases obtained after a recognized course of study in the subject.

#### THE CONTROL OF VENEREAL DISEASE.

The incidence of venereal diseases in the British armies at the present time is lower than in the adult civil population. The rate is 2 per cent. in the armies and is estimated to be many times higher in the adult civil population. This disparity, which corresponds with recent experience in America as noted last week (p. 584), is attributed to the effect of instruction, treatment and discipline in the army, and is a tribute to the efficiency of the measures taken and to the good sense of the men. The National Council for Combating Venereal Diseases, however, has done well to point out that though the rate in the army is low, the total number of infected soldiers is large; it is estimated to be something between two and three hundred thousand. With demobilization the restraining influence of discipline will cease, and the returned men will not find the same facilities for treatment which were always easily available to them in the army, and to which they were required to submit themselves for as long as was deemed necessary on medical grounds. It seems imperative, therefore, to increase the facilities for treatment in this country and to multiply the number of venereal clinics open to men who have resumed their civilian status. The matter is, we believe, receiving the attention of the President of the Local Government Board. The importance of taking every proper available means to check the spread of venereal diseases, and of inducing those who have contracted either of them to submit to treatment for as long as may be necessary, is recognized by every medical man and woman. In addressing Sir Auckland Geddes we shall without doubt find that we preach to the converted, for as a member of our profession he knows as well as any one how large a part of the chronic disabling diseases of early adult life and maturity is due to syphilis, and, in women especially, to gonorrhoea. Great progress in the



treatment of syphilis and to only a less extent of gonorrhoea has been made during the last decade, but the education of the medical students even of to-day is very defective in this respect. It is most important that every person infected with syphilis should be able to obtain efficient treatment by modern methods. There is no mystery about the injection of salvarsan or any of the alternative organic arsenic preparations, but those who have most experience in their use are most impressed by the need of minute care to avoid the risks which undoubtedly attend their administration; they, too, are most insistent in asserting that no one should undertake this treatment without the training which watching the operation and assisting in its performance can alone give. If, as we conceive to be essential in the circumstances of the present time, the number of venereal clinics should be so increased that one is put within the reach of the inhabitants of all large towns and industrial districts, it follows that the director of each clinic should have had previous experience. A corollary seems to be that medical officers who have had charge of venereal centres and hospitals in the army should be utilized for the new clinics so that they may be started on sound lines. The practitioners in the area should not only be asked to take their patients to the clinic, but themselves to study the methods in use and to share in the work, so that they may have no hesitation in applying these methods afterwards in private practice. When the clinic has been got going a rota could be formed of practitioners willing to attend the clinic as part-time officers at adequate remuneration. In plenty of districts there would be difficulty in carrying out any such scheme as this, but the country practitioner is a man of so much resource that we are sanguine that he will somehow make time to visit the clinic and gain experience in the treatment followed there.

#### UNIVERSITY REPRESENTATION IN GREAT BRITAIN.

It would appear, as matters stand at the time we go to press, that there will be contests in all the university constituencies in Great Britain. At Oxford the sitting members, Mr. R. E. Prothero, President of the Board of Agriculture, and Lord Hugh Cecil are standing again, and there is also a Labour candidate, Mr. H. S. Furniss. At Cambridge Mr. Rawlinson, K.C., and Sir Joseph Larmor, F.R.S., Professor of Mathematics, the sitting members, are candidates again, and Mr. W. C. D. Whetham is also standing as a Labour candidate. In the combined universities of Durham, Liverpool, Manchester, Leeds, Sheffield, Birmingham, and Bristol, to which the new franchise act gave two members, there are four candidates—Mr. H. A. L. Fisher, President of the Board of Education; Sir Martin Conway (U.), who combines literature with climbing the Himalayas; Mr. H. G. Williams (U.), and Mr. J. A. Hobson, who is described as an Independent. For the three seats of the four combined Scottish universities there are six candidates—Sir Henry Craik and Sir Watson Cheyne, the sitting members, are again candidates, as well as Drs. P. Macdonald and Mr. T. M. Watson of the Labour party, Mr. D. M. Cowen, of the Council of Teachers, and Professor W. R. Smith. In all these universities election will take place by the system of proportional representation, known as the single transferable vote. Taking the case of the Scottish universities, the voting paper will contain the names of the six candidates, with space for the voter to indicate the order of his preference of the candidates by numerals; he may thus arrange all the candidates in order from one to six, or he may stop short where he likes. The meaning of the term "transferable vote" is, that it may be given so as to indicate the voter's preference for the candidates in order; and is capable of being transferred to the next choice when the vote is not required to give a prior choice the necessary quota of votes, or when, owing to the deficiency in the number

of the votes given for a prior choice, that choice is eliminated from the list of candidates. In the University of Wales the contest would seem to be directly between Mr. Herbert Lewis (Coal. Lab.) and Professor Joseph Jones, who is standing as a member of the Labour party. In the University of London there are four candidates for the single seat—Sir Philip Magnus (Coal. U.), Mr. Sidney Webb (Labour), Mr. A. A. Somerville (Teachers), and Major-General Sir Wilmot Herringham, physician to St. Bartholomew's Hospital and consulting physician to the forces in France, who declines to label himself as of any party, considering that we must start afresh if we are to do any good; but he will support the present Government in its efforts to complete the war. Sir Philip Magnus, who is adopted as the official candidate of the Coalition, has behind him a record of valuable work during the thirteen years for which he has represented the University. He has always shown himself very much alive to the needs of the medical profession, and has been frequently in communication with the British Medical Association, whose views he has often expressed with great effect in the House of Commons. Sir Wilmot Herringham, on the other hand, is a distinguished and experienced member of our own profession, and we conceive that many medical electors, remembering this, and remembering also Sir Philip Magnus's past services, will have some difficulty in deciding how to vote. As the transferable vote does not apply, we could wish that these two candidates might come to some understanding as to the present and the future.

#### THE MEDICAL INSURANCE AGENCY.

A MEETING of the committee of the Medical Insurance Agency was held at 429, Strand, on Thursday, November 21st, under the chairmanship of Dr. G. E. Haslip. The financial position was found to be quite favourable, the prosperity of the agency having been well maintained in the last year of the war, while promises of future development are sound. The committee decided, having regard to the funds at its disposal, its commitments on the one hand and impending receipts on the other, that a further distribution of £500 should be made to medical charities. This is the same sum, it will be remembered, as was dealt with in the interim distribution in May of this year, the result being that the Medical Insurance Agency has been able in the fourth year of the war to give £1,000 in aid of medical charities while continuing rebates of a highly satisfactory nature to its clients. The second £500 was allocated as follows: Royal Medical Benevolent Fund, £100; Royal Medical Benevolent Fund Guild, £100; Epsom College Benevolent Fund, £100; Royal St. Anne's School, £100; War Emergency Fund, £50; Birmingham Medical Benevolent Society, £25; and the Royal Medical Benevolent Fund Society of Ireland, £25. As a result of this distribution the total of sums allocated to medical charities has reached £4,405. In the course of the meeting the chairman stated the position that had arisen between two medical charities—the Royal Medical Benevolent Fund and Epsom College—in regard to difficulties arising over testamentary benefactions. When the exact destination of bequests by will has been made doubtful between these two bodies by the wording of the testator's wishes, legal trouble has arisen and expense has been incurred for legal costs. All money so spent was a dead loss to one or other or both parties. On the suggestion of the Medical Insurance Agency a joint committee has now been formed comprising three representatives of each party, and it may confidently be hoped that the deliberations of this committee will lead to satisfactory arrangements. The chairman reported to the committee with great regret the death of one of their members, Mr. Betham Robinson, surgeon to St. Thomas's Hospital, and the acting secretary of the agency was asked to express to Mr. Robinson's relatives their sympathy and the real sense of loss felt by the committee.



## PUBLIC HEALTH IN BAGHDAD.

PUBLIC health administration in Baghdad has been organized on a comprehensive footing. The city, which has an estimated population of 165,000, apart from the military population, is said to be, from a sanitary point of view, somewhere between eastern and western standards. The most promising feature of the situation is that the sanitary measures that are being applied are appreciated by the inhabitants, though the great variety of nationalities, including Mohammedans, Jews, Armenians, and Chaldeans, with a very cosmopolitan sprinkling, gives rise to difficulties not always encountered in the administration of eastern cities. Dr. T. Barrett Heggs, M.O.H. North-East Kent United Districts, is the medical officer of health of Baghdad; at the outbreak of war he was captain of a Territorial battalion (the Buffs, East Kent Regiment), and was serving with that battalion as a major in Mesopotamia when, in July, 1917, he was transferred to the R.A.M.C. Shortly afterwards he was appointed sanitary officer of a division, and in August, 1918, became M.O.H. Baghdad. The city is still under martial law, and the M.O.H. is one of the staff of the military governor. A British sanitary section, under Captain A. E. Bonham, R.A.M.C., who has been sanitary officer of the city for over a year, constitutes the nucleus of the city's sanitary personnel. There is also a plague officer for the area, and a medical officer for the isolation hospital. The medical officer of health has charge of the medical administration of the port of Baghdad, and his duties include the registration of births and deaths, the control of vaccination, and the supervision of pharmacists, midwives, and schools.

## RECENT EXPERIENCE OF INFLUENZA.

THE new ideas contained in the article on influenza in the December number of the *Medical Supplement*,<sup>1</sup> issued by the Medical Research Committee—for an advance copy of which we are indebted to the secretary—are not numerous. Oriconi, Barbis, and Leclerc, in a note on the microbial flora of influenza, state that in addition to the usual micro-organisms of acute respiratory affections, such as pneumococci, streptococci, and pneumobacilli, they were able to isolate Pfeiffer's bacillus from the blood and pleural fluid of a certain number of patients suffering from influenza. It was chiefly towards the end of the disease and in the severest cases that Pfeiffer's bacillus was found, and almost always in association with other micro-organisms. Further investigations are needed to determine whether it plays the principal part or is only of secondary importance in the etiology of influenza. Morelli, writing of his experience of the disease in the Italian army, states that the sick rate in some divisions was as high as 90 per cent. The disease first appeared towards the end of April and increased until it reached its height at the end of May and beginning of June. In July it almost disappeared. The first attacks were so mild that the men were able to keep on duty, but subsequent cases had to take to bed owing to the severity of the symptoms. Florand notes the same tendency in France; the first cases were mild, but the later much graver, especially as regards pulmonary, pleural, and cardiac manifestations. Morelli notes that evidence of the involvement of the nervous system was afforded by headache, convulsions, and fainting, and in two cases by nuchal rigidity and Kernig's sign. The most characteristic feature of the disease was an exanthem, which was present in almost all the cases at an early stage. It was polymorphous, sometimes assuming a diffuse erythematous form, varying from a bright red to a pale pink, localized on the face, trunk, and upper limbs, but hardly ever on the hands and rarely on the lower limbs. In some cases it closely resembled measles, but was not followed by desquamation. In other cases it assumed the form of urticaria or erythema nodosum

or had the distribution of a prodromal rash of small-pox (axillae, hypochondria, and groins). An exanthem was present in all cases, and consisted of an erythema involving the soft palate, uvula, and pillars of the fauces. During a discussion at the Spanish Royal Academy of Medicine Sanz stated that in 17 out of 120 cases not only was fever absent, but there was persistent subnormal temperature. He had observed three varieties of nervous complications: one was meningeal and in two cases of this type the tension of the cerebro-spinal fluid was found on lumbar puncture to be four times higher than the normal. In the second type the principal symptoms were neuralgic, especially sciatic or trigeminal. The third type presented a psychological syndrome, with mental confusion and melancholia. According to Häberlin, the Swiss army has suffered severely, even where the accommodation for troops was good. Isolated cases occurred in June, and the epidemic broke out with great violence in the middle of July. Many severe and fatal cases were observed both in the army and in the civil population. Young persons were much more frequently attacked than the older generation which had gained immunity from the 1889-90 epidemic. In not a few cases the infection ran a fulminating course, proving fatal in one or two days, with all the signs of septicaemia. Many cases which at first seemed mild suddenly developed bronchopneumonia just after convalescence had set in. In some military units three-quarters of the effectives fell sick. The number of fatal cases in the army was about 500. Medical men formed a relatively high percentage of the victims, especially young doctors attached to hospitals or in the army. No further information is supplied as to vaccines, but we note<sup>2</sup> that in Massachusetts a special committee has reported in favour of an influenza vaccine, which we presume to be polyvalent, for prophylactic use, and has advised that the State should encourage the distribution of influenza vaccine for this purpose, provided that means are taken to secure scientific evidence of its value. It is stated, however, that no vaccine has been proved to produce any therapeutic effect.

## THE LATE DR. J. MICHELL CLARKE.

THE proposal to provide a permanent memorial to the late Dr. John Michell Clarke at Bristol has now taken definite shape. Dr. Michell Clarke worked for some thirty years at the Bristol General Hospital as physician, investigator, and teacher. He was pro-vice-chancellor of the University and joint professor of medicine, having reached that position through the chairs of practical physiology and pathology. He turned particular attention to neurology, and many of his writings constitute permanent additions to that science. Dr. Clarke was a native of Bristol, and all his work was done there; it is therefore appropriate that the memorial fund proposed to be collected should be applied to the assistance of the medical library in Bristol, now controlled by the University of Bristol and the Bristol Medico-Chirurgical Society. The fund will be administered by those two bodies, along with the honorary staffs of the Royal Infirmary and the General Hospital. Dr. Michell Clarke had many friends in the profession, and among the members of the Appeal Committee are Dr. Norman Moore, President of the Royal College of Physicians of London, Sir Clifford Allbutt, Regius Professor of Physic in the University of Cambridge, Sir William Osler, Regius Professor of Medicine in the University of Oxford, and Sir Isambard Owen, Vice-Chancellor, and Colonel J. Swain, C.B., joint Professor of Surgery in the University of Bristol. The wide esteem felt for the late Dr. Michell Clarke is shown further by the fact that among the members of the Appeal Committee are the Lord Mayor, the Sheriff, and the Bishop of Bristol, the pro-chancellors of the University of Bristol (the Right Hon. Henry Hobhouse and Mr.

<sup>1</sup> H.M. Stationery Office. To be obtained through any bookseller. 1s. net.

<sup>2</sup> *J. Amer. Med. Association*, October 19th, 1918.



G. A. Wills), and the Head Master of Clifton College. A number of subscriptions have already been promised, but it is desired to raise a sum of at least £2,500. Subscriptions may be sent to Mr. James Rafter, M.A., Registrar of the University, and cheques should be crossed "Michell Clarke Memorial Fund." Dr. Michell Clarke was an active member of the British Medical Association; he was for many years honorary secretary of the Bath and Bristol Branch, and afterwards its president.

#### TREATMENT OF ANTHRAX BY NORMAL OX SERUM.

The treatment of anthrax by the intravenous injection of ox serum was originated by R. Kraus of Buenos Aires, formerly of Vienna, who considered that hypodermic and intravenous injections gave equally good results, but Hyman and Leary,<sup>1</sup> who report a case successfully treated by four doses of 80 c.cm. and three intramuscular injections of 100 c.cm. each, state that intravenous injection has a much more intense effect. The serum is heated for half an hour to 56° C. Penna, Cuenca, and Kraus reported 140 cases of anthrax thus treated, with one death. This is compared with Selavo's mortality of 6 per cent. among 164 cases treated with his immune serum reported in 1903. The authors conclude that Selavo's immune serum owes its efficacy in small part to specific immune bodies and in the main to a non-specific protein reaction which can equally be obtained by the injection of any other protein, and that for these purposes perhaps the least objectionable is heated normal ox serum, which has the advantage over normal horse serum that it does not produce serum sickness.

#### THE COVENTRY CASE.

The Council of the British Medical Association, at a special meeting on November 26th, reconsidered its original decision to appeal against the judgement delivered by Mr. Justice McCardie in the Coventry case, and decided not to enter an appeal. A statement of the reasons for taking this course will be made at an early date. The Council has appointed a Special Committee to consider the position which has arisen and to report thereon to the Council.

#### MEDICAL CANDIDATES FOR PARLIAMENT.

In the following list we give the names of all the medical men who are candidates for Parliament so far as information has reached us. The list is probably incomplete, and we shall be grateful to any correspondents who will correct or add to it. We understand that several more medical men would be willing to stand if constituencies were available. We are informed that the Medical Parliamentary Committee is endeavouring to arrange for a supply of medical speakers to assist candidates.

Basingstoke, Hants: Sir Auckland Geddes, M.D.  
Bilston, Staffs: Lieut.-Colonel J. Kynaston.  
Bishop Auckland, Durham: Dr. V. H. Rutherford.  
Bristol, North: Dr. B. N. Blood.  
Clackmannan and Eastern [Stirling]: Major W. A. Chapple.  
Derby, High Peak: Dr. Clifford Brookes.  
Farnworth, Lancashire: Sir Thomas Flitcroft.  
Leeds, North: Major A. C. Farquharson.  
Liverpool—Wavertree: Dr. Nathan Raw.  
London—  
Bermondsey: Dr. A. Salter.  
North Paddington: Captain Donald Campbell.  
Putney: Dr. H. Jackson.  
Shoreditch: Dr. C. Addison.  
Whitechapel and St. George's: Dr. Ambrose.  
Morpeth, Northumberland: Major T. M. Allison; Captain Gerald D. Newton.  
Moseley, Birmingham: Dr. R. Dunstan.  
Stockport, Cheshire: Lt.-Col. F. E. Fremantle.  
University of London: Major-General Sir Wilmot Herringham.  
Universities of Scotland: Sir W. Watson Cheyne, Bt.; Dr. P. Macdonald; Professor W. R. Smith.  
University of Dublin: Sir R. H. Woods, M.Ch.Dub., F.R.C.S.I.  
University of Queen's of Belfast: Sir William Whitla, M.D.Q.U.I.  
Wallasey (Cheshire): Dr. B. V. P. McDonald.  
Western Isles (Inverness, Ross, and Cromarty): Dr. Donald Murray.  
Willesden: Dr. J. S. Crone.

#### THE ABOLITION OF GAS WARFARE.

THE cessation of hostilities brings with it the great problem of safeguards for the future. The numerous perplexing claims to be dealt with, all of them of great importance, may tend to overshadow certain aspects of the war which urgently demand recognition. Amongst these is the employment of lethal gases as a weapon of warfare. Its introduction by the Germans was a violation of the principles of morality which had hitherto exercised some guiding control over civilized warfare. It was further a violation of the spirit of the second Declaration attached to the Regulations of the Hague Convention, ratified in 1907, which states: "It renounces the use of projectiles the sole object of which is the diffusion of asphyxiating or harmful gases."

The Allies were forced in self-defence to employ the same method, but now that the need is over, fresh safeguards must be devised to prevent any nation ever again employing gas as a weapon.

The use of gas is self-condemned for the following reasons:

It is an uncontrollable weapon, whose effects cannot be limited to combatants.

It is an "unclean" weapon, condemning its victims to death by long-drawn-out torture.

It opens the door to infinite possibilities of causing suffering and death, for its further development may well lead to the devising of an agent which will blot out towns, and even nations.

As members of the medical profession, we necessarily know more than any others the suffering entailed by the use of gas. Most of us have seen its victims on the field and in hospitals at home, since the time when the first deadly wave of chlorine was let loose on our troops. We therefore feel it our duty to bring the question to the notice of the allied nations and of their representatives who will attend the Peace Conference.

Are the best efforts of science to be chiefly devoted to devising more and more potent methods of causing death by chemical agencies, instead of to the service of industry and the increase for mankind of beneficent knowledge?

Surely in the coming Comity of Nations it ought to be decided to abolish for ever such a malignant weapon. Let those to whom will be entrusted the drawing up of peace conditions have the knowledge that one such condition must be the abolition of all forms of gas warfare.

**NORMAN MOORE,**  
President, Royal College of Physicians of London.

**GEORGE H. MARINS,**  
President, Royal College of Surgeons of England.

**R. MCKENZIE JOHNSTON,**  
President, Royal College of Surgeons of Edinburgh.

**A. FREELAND FERGUS,**  
President, Royal Faculty of Physicians and Surgeons, Glasgow.

**JOSEPH O'CARROLL,**  
President of the Royal College of Physicians of Ireland.

**JOHN B. STORY,**  
President, Royal College of Surgeons in Ireland.

**WILLIAM OSLER,**  
Regius Professor of Medicine in the University of Oxford.

**T. CLIFFORD ALLBUTT,**  
Regius Professor of Physics in the University of Cambridge.

<sup>1</sup> *Boston Med. and Surg. Journ.*, 1918, LXXVII, 318-323.



# THE WAR.

## INDIA AND THE WAR.

THE dispatch from Sir Charles Monro, Commander-in-Chief in India, published in the *Gazette* of November 26th, is a brief account of the work done in India, including the Native States, during the first three years of the war.

At the date of the declaration of war (August 4th, 1914) the army in India was distributed to meet hot weather conditions: the bulk of the British troops were temporarily located in the hills, a large percentage of the Indian troops were on furlough, and the usual proportion of civil and military officers were on leave out of India. Nevertheless the first convoy sailed for France on August 25th, 1914, and was followed at a few days' interval by others conveying troops not only to Europe, but also to East Africa, Egypt, and Mesopotamia. During the winter 1914-15, the British forces in India were further depleted by the dispatch to England of a number of regular units, so that at the beginning of 1915 the British garrison was largely composed of territorial troops sent to replace the regulars withdrawn. The continuing necessity to dispatch large drafts of officers and men overseas to replace wastage in the units fighting in France, Gallipoli, Egypt, Mesopotamia, East Africa, and the Cameroons, caused a very heavy strain on the Indian army, and at the same time the various expeditionary forces dependent on India continued to expand.

After a short sketch of the measures taken for recruiting and of the formation of the Indian Defence Force (which succeeded the Volunteers), the dispatch continues as follows:

The sick and wounded dispatched to India from overseas theatres of war, as well as those invalided from Waziristan and other theatres of frontier operations, have been adequately and sympathetically cared for. A number of war hospitals have been formed, other hospitals have been expanded and improved, and ruling chiefs and others have generously provided hospitals and convalescent homes in Bombay and elsewhere in which everything possible has been done for the comfort of the sick and wounded. The satisfactory health of the troops, both in the field and in India, affords striking testimony as to the value and efficacy of these measures, and the skill, forethought, and administrative capacity of the medical services.

A compliment is paid to the Home Department, India, for its action in maintaining internal security and encouraging recruiting, and in releasing medical officers in large numbers from civil employment for service with the troops. The dispatch concludes with acknowledgements to the ruling princes and chiefs, and to the British and Indian communities, for their contributions of men, money, and material towards the prosecution of the war, and also to the Indian Branch of the Order of St. John of Jerusalem, the British Red Cross Society, the various relief funds, and the organizations formed in every province to supplement the equipment of hospitals and provide comforts for the troops, work in which ladies and gentlemen, both official and non-official, laboured with conspicuous devotion. Appended to the dispatch is a list of those whose services have been of particular value; it includes the following medical officers:

Colonels: W. E. Jennings, I.M.S., W. Molesworth, C.I.E., I.M.S., A. W. Sheen, R.A.M.C.(T.F.).

Lieut.-Colonels: J. M. Crawford, O.B.E., I.M.S., T. Jackson, I.M.S., W. G. Johnston, C.I.E., I.M.S., C. F. Wainhill, R.A.M.C., J. W. Watson, I.M.S.

Majors: G. I. Davys, I.M.S., H. Halliday, I.M.S., J. C. Kennedy, R.A.M.C., G. F. Rugg, R.A.M.C., A. E. Walter, I.M.S.

## RETURNING PRISONERS.

It appears that after the armistice had been concluded the German prison authorities turned the British prisoners loose to make the best of their way to the frontier, without clothes, food, or means of conveyance, and without any regard to the state of their health. The British Government addressed a remonstrance to the German Government, which Sir Douglas Haig transmitted by telephone on November 21st to General Haking at Spa for transmission to the German High Command. Sir Douglas Haig reported on November 22nd that steps had been taken to assist the returning prisoners.

Motor ambulance convoys and cars sent ahead of advancing British armies to carry food forward and bring back the weak

to collecting centres, whence evacuations are made to base by ambulance transport. In army collecting centres released prisoners of war are bathed and re-equipped as far as possible before transfer to base reception camp, where all is provided during temporary stay of twenty-four hours awaiting evacuation to United Kingdom.

British Mission with French and American G.H.Q. taking all possible steps in collecting centres established on these fronts. British motor ambulance convoys and British officers and men to organize the centres also dispatched to French and American fronts, and ambulance transports arranged to evacuate to Calais. All cases once admitted to hospital are evacuated to England as hospital patients. All local machinery working satisfactorily.

## TOTAL CASUALTIES.

### NAVAL CASUALTIES.

STATISTICS of the naval losses have been issued by the Secretary of the Admiralty for the period from the outbreak of war to November 11th, 1918. They include officers and men of the Royal Navy and the Royal Naval Air Service to March 31st, 1918, and the Royal Marines, but exclude the Royal Naval Division, the losses in which were included in the figures published by the War Office. The figures include a number of officers and men of the British merchant service and fishing vessels, serving on board His Majesty's ships and auxiliaries, and other commissioned vessels. The number of dead, including those who have died from wounds and other causes, is 33,361 (officers 2,466, other ranks 30,895). The number of wounded is 51,183 (officers 805, other ranks 4,378); the number of missing is 47 (officers 15, other ranks 32). The number of interned and prisoners of war is 1,175 (officers 222, other ranks 953). The total is 39,766 (officers 3,508, other ranks 36,258). In addition, whilst pursuing their ordinary vocations, 14,661 officers and men of these classes have lost their lives through enemy action, and 3,295 have been captured and detained in enemy countries as prisoners of war. The very high proportion of dead to wounded in the navy is striking; roughly it is 30 dead to 5 wounded. In the army it is about 9 dead to 30 wounded. This was only what was foretold, for when a fighting ship is sunk by enemy action there are no, or few, survivors.

### CANADIAN CASUALTIES.

From an official statement issued by Canadian Headquarters it appears that the casualties in the Canadian Overseas Forces to November 5th were as follows: Killed, including those who have died from wounds and other causes, 50,585; wounded, 154,361; missing, including prisoners and men whose death has been assumed, 8,322.

### AMERICAN CASUALTIES.

It is officially announced that the total casualties of the American Expeditionary Forces up to the signing of the armistice were: Dead, 52,169; wounded, 179,625; prisoners and missing, 3,323.

## CASUALTIES IN THE MEDICAL SERVICES.

### ROYAL NAVY.

#### *Died on Service.*

SURGEON LIEUTENANT J. F. HOWELLS, R.N.

Surgeon Lieutenant John Francis Howells, R.N., was reported as having died on service, in the casualty list published on November 23rd. He took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1917, after which he joined the navy as a temporary surgeon, and was recently serving at the Royal Naval Hospital, Chatham. He was the elder son of Dr. John Howells of Swansea.

SURGEON SUBLIEUTENANT J. D. GEAR, R.N.V.R.

Surgeon Sublieutenant J. D. Gear, R.N.V.R., was reported as having died on service, in the casualty list published on November 23rd.

### ARMY.

#### *Died of Wounds.*

CAPTAIN J. GASTON, M.C., R.A.M.C.

Captain James Gaston, M.C., R.A.M.C., was reported as having died of wounds, in the casualty list published on November 18th. He was educated at Queen's College,



Belfast, and graduated M.B., Ch.B., and B.A.O. of the Royal University, Ireland, in 1906, after which he went into practice at Carabeg, Clough Mills, co. Antrim. He took a temporary commission as lieutenant in the R.A.M.C. on December 28th, 1914, was promoted to captain after a year's service, and received the Military Cross on November 26th, 1917. He was attached to the Suffolk Regiment (12th Foot).

*Died on Service.*

COLONEL S. C. PHILSON, A.M.S.

Colonel Samuel Cowell Philson, Army Medical Staff, died of pneumonia at Karachi, Sind, on November 13th, aged 58. He was born on September 14th, 1860, the son of the late Dr. W. Philson of Cheltenham, and educated at King's College Hospital, London, taking the diplomas of M.R.C.P. and the L.R.C.P.Ed. in 1883. He entered the R.A.M.C. as surgeon on May 30th, 1885, became surgeon-major on May 30th, 1897, lieutenant-colonel on May 30th, 1905, and colonel on March 1st, 1915. From February 21st, 1901, to April 16th, 1902, he was on the staff of the Governor-General of Australia. He served in the Burma campaigns of 1886-89 and 1891-92, receiving the medal, and with a general hospital during the Tirah campaign of 1897-98 on the North-West Frontier of India.

LIEUT.-COLONEL P. S. O'REILLY, C.M.G., R.A.M.C.

Lieut.-Colonel Patrick Stanislaus O'Reilly, R.A.M.C., died at Eltham on November 18th, aged 41. He was born on May 25th, 1877, educated at Dublin in the medical school of the Royal College of Surgeons in Ireland, and took the diplomas of L.R.C.P. and S.I. in 1899. Entering the R.A.M.C. as lieutenant on November 17th, 1899, he became captain on November 17th, 1902; major on August 17th, 1911; and lieut.-colonel on December 26th, 1917. He served throughout the South African war, 1899 to 1902; in the Orange River Colony, the Transvaal, and Cape Colony; took part in the actions at Paardeberg, February 17th to 26th, 1900; Poplar Grove, Driefontein, Kari Siding, Vet River and Zand River, and in those round Johannesburg and Pretoria, and received the Queen's medal with four clasps, and the King's medal with two clasps. On June 4th, 1917, he received the C.M.G.

LIEUT.-COLONEL W. M. STURROCK, R.A.M.C.(T.F.).

Lieut.-Colonel William Malcolm Starrock, R.A.M.C.(T.F.), died at Birmingham on November 21st. He was the son of the late William Starrock of Cupar, and was educated at Edinburgh, where he graduated M.B., Ch.B. in 1883. After serving as assistant medical officer at St. Pancras workhouse and infirmary he became medical officer of the Birmingham workhouse. He held a commission in the R.A.M.C.(T.F.), serving in the 1st South Midland (Birmingham) Field Ambulance, in which he became lieutenant-colonel on November 2nd, 1914, and was recently in command of the 1st Field Ambulance, 61st South Midland Division.

MAJOR G. G. ANDERSON, R.A.M.C.

Major G. G. Anderson, R.A.M.C., was reported as having died on service, in the casualty list published on November 22nd. He took a temporary commission in the R.A.M.C. as lieutenant on August 16th, 1914, and was promoted to captain after a year's service, and recently to major.

MAJOR C. IRVINE, R.A.M.C.

Major Robert Charles Irvine, R.A.M.C., died at No. 10 Red Cross Hospital in France, of pneumonia, on November 10th. He was the second son of Mr. Irvine of Clontibret, County Monaghan, and was educated at Edinburgh University, where he graduated M.B., Ch.B. in 1913. He took a temporary commission as lieutenant in the R.A.M.C. on October 17th, 1914, was promoted to captain after a year's service, and to an acting majority early in 1918. He was attached to the 63rd Field Ambulance.

MAJOR W. S. MACDONELL, C.A.M.C.

Major W. S. Macdonell, Canadian Army Medical Corps, was reported as having died on service, in the casualty list published on November 23rd.

CAPTAIN R. S. COCKE, R.A.M.C.

Captain Robert Sturgeon Cocke, R.A.M.C., died in London on November 16th, aged 44, of disease contracted on service in the East. He was educated at King's College Hospital, London, and took the diplomas of M.R.C.S., L.R.C.P.Lond. in 1900, and the F.R.C.S.Edin. in 1906. After acting as assistant resident medical officer of St. Pancras Infirmary, and as house-surgeon and anaesthetist in the aural department at King's College Hospital, he went into special practice in London, holding the appointments of senior aural clinical assistant at King's College Hospital, surgeon to the Royal Ear Hospital, Soho, and lecturer to the Deaf and Dumb Institute, Fitzroy Square. His commission as a temporary captain in the R.A.M.C. was dated January 4th, 1915; he had served as aural surgeon, first at the Cambridge Hospital, Aldershot, and then with No. 17 General Hospital, B.E.F.

CAPTAIN H. P. CROW, R.A.M.C.(S.R.).

Captain Henry Paterson Crow, R.A.M.C.(S.R.), died of influenza at Jhansi, Central India, on November 9th. He was the son of Mr. John Crow of Biggar, late of Glasgow, and was educated at Glasgow University, where he graduated M.B., Ch.B. in 1915. He took a commission as lieutenant in the R.A.M.C. Special Reserve on April 19th, 1915, and was promoted to captain after a year's service.

CAPTAIN J. DOW, I.M.S.

Captain John Dow, Indian Medical Service, died of influenza at Shiraz, Persia, on November 5th, aged 29. He was the son of Mr. Peter Dow of Elgin, and was educated at Elgin Academy and at Aberdeen University, where he graduated M.A. in 1910, and M.B., Ch.B. in 1914. After acting as house-surgeon in Aberdeen Royal Infirmary he took a commission as lieutenant in the R.A.M.C.(T.F.) in the 2/1st Highland Casualty Clearing Station in 1915, and was nominated to the I.M.S. as lieutenant from March 13th, 1916, being promoted to captain after a year's service. He had served in India and Mesopotamia, and had been for about eighteen months at Shiraz as medical officer of the Duke of York's Own Lancers (Skinner's Horse, the old 1st Bengal Cavalry). One of his brothers, Captain D. E. Dow, Seaforth Highlanders, died of wounds in May, 1917; another, Lieutenant D. J. Dow, M.C., is serving with the Indian army.

CAPTAIN A. M. JUKES, I.M.S.

Captain Andrew Monro Jukes, I.M.S., died of neuritis and heart failure after rheumatic fever in Egypt, on October 18th, aged 36. He was born on September 24th, 1882, educated at St. Bartholomew's Hospital, and graduated M.B., B.S.Lond. in 1906, and M.D. in State Medicine in 1908, also taking the D.P.H. at Cambridge in 1908. After acting as casualty house-surgeon of Hull Royal Infirmary he entered the I.M.S. as lieutenant on January 30th, 1909, passing in first, and became captain on January 30th, 1912. Before the war he had filled the posts of medical officer in charge of the Brigade laboratory at Shillong, in Assam, and of deputy sanitary commissioner of the Presidency Circle, Bengal; and in the first year of the war served as medical officer of the 128th Pioneers, in Indian Army Expeditionary Force E. He was the only son of Dr. Andrew Jukes, Church Missionary Society (retired).

CAPTAIN M. S. K. RAO, I.M.S.

Captain Mysore Seshagiri Krishnaswami Rao, Indian Medical Service, was reported as having died on service, in the casualty list published on November 23rd. He got a temporary commission in the I.M.S. on September 16th, 1916, and was promoted to captain after a year's service.

CAPTAIN H. G. F. SPURRELL, R.A.M.C.

Captain Herbert George Flaxman Spurrell, R.A.M.C., died of pneumonia, following influenza, in No. 10 General Hospital, Alexandria, on November 8th, aged 41. He was the son of the late Herbert Spurrell of West Norwood, and was educated at the London Hospital and at Oxford, where he graduated M.A., M.B., B.Ch. in 1907, also taking the diploma in tropical medicine of the London School in 1912. For a year he was assistant professor of physiology at the University of Orleans, and subsequently lived in the wilds of West Africa and Colombia, where his passion for natural history led him to the discovery of



several new zoological species, with the result that the London Zoological Gardens has rarely been without specimens sent by him, notably in the reptile and monkey houses. For his valuable work in this connexion he was elected a Fellow of the Zoological Society. He was the author of a number of scientific monographs, and published last year a work on social evolution with the title "Modern Man and his Forerunners." He was a man of outstanding character, with a most original and versatile mind. After acting as temporary medical officer of Obuasi, South Ashanti, in 1916-17, he took a temporary commission as lieutenant in the R.A.M.C. in 1917, and was promoted to captain after a year's service.

#### CAPTAIN L. A. WINTER, R.A.M.C.

Captain Laurence Amos Winter, R.A.M.C., died of pneumonia after influenza, aged 50, on November 15th, in No. 20 General Hospital, in France. He was educated at St. Bartholomew's Hospital, taking the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1892, and graduated M.D.Durh. in 1912. After acting as clinical assistant in the skin department at Bart's, as clinical assistant in the East London Hospital for Children, and as assistant house-surgeon of the Kent and Canterbury Hospital, he went into practice at Farnborough, but subsequently removed to Sheerness.

#### Wounded.

Major D. H. Russell, M.C., R.A.M.C. (temporary).  
Major H. D. Smythe, R.A.M.C. (T.F.).  
Captain C. N. Coad, M.C., R.A.M.C. (temporary).  
Captain J. Pryce Davies, R.A.M.C. (temporary).  
Captain J. J. B. Edmund, R.A.M.C. (S.R.).  
Captain A. W. Raymond, M.C., R.A.M.C. (temporary).  
Captain G. Robinson, R.A.M.C. (temporary).  
Captain J. Scott, R.A.M.C. (temporary).  
Captain S. Singh, I.M.S. (temporary).  
Lieutenant W. H. Ross, R.A.M.C. (temporary).

#### DEATHS AMONG SONS OF MEDICAL MEN.

Clark, Theodore Preston, Lance-Corporal Royal Fusiliers (City of London Regiment, 7th Foot), reported as wounded and missing on August 19th, now presumed killed on that date, only surviving son of the late Dr. A. W. Clark of Wisbech, aged 24.

Fox-Russell, Henry Thornbury, M.C., Captain Royal Air Force, late 6th Royal Welsh Fusiliers (23rd Foot), third son of Dr. Fox Russell of Holyhead, killed in an aeroplane accident on November 18th, aged 21. His brother, Captain John Fox-Russell, V.C., R.A.M.C. (T.F.), was killed in action on November 6th, 1917, winning the V.C. at the time of his death.

Irving, Alfred, Second Lieutenant Indian army, 15th Sikhs, youngest son of Dr. M. H. C. Irving, Colonial Medical Service, killed in Mesopotamia, October 26th, aged 20.

Moore, Morgan Edward Jellett, M.C., Lieutenant Royal Irish Rifles, only son of Dr. E. E. Moore, Asylum House, Letterkenny, reported missing March 24th, 1918, now reported to have died of wounds in a German field hospital at Flavry le Martel on March 27th, aged 24. He was educated at Glenalmond, and entered King's College, Cambridge, in 1913, but left to take a commission in the 13th Battalion Royal Irish Rifles (Ulster Division) in the autumn of 1914. He received the Military Cross for gallantry at Thiepval Wood, and was twice wounded in the battle of the Somme in 1916. He returned to France, with a commission in the regular army, in the 2nd Irish Rifles, and served in Flanders in the heavy fighting at Ypres and Westhoek in August, 1917, and at the battle of Cambrai in November, 1917.

Webster, John, M.C., Lieutenant 14th Squadron Royal Air Force, only son of Dr. J. A. Webster, late of Launceston and Sorell, Tasmania, killed in Palestine September 21st.

Woollett, J. C., Captain Royal Air Force, son of Dr. Woollett of Streatham, died of pneumonia at Hythe on November 16th.

#### MEDICAL STUDENT.

Henry, John A. G., Second Lieutenant R.A.F., killed in aerial combat September 28th, aged 19, was the youngest son of Councillor Stephen J. Henry, J.P., Glasgow, and a medical student of Glasgow University, 1916-17. He was a member of the Glasgow University O.T.C., obtained his commission in the R.F.C. in January, 1918, and went to France August 17th, 1918. His brother, Captain F. J. Henry, M.C., R.A.M.C., is still on service, while another brother, Dr. Stephen J. Henry, after two years' service in France, resigned his commission on account of ill health.

[We shall be indebted to relatives of those who are killed in action, or die in the war for information which will enable us to make these notes as complete and accurate as possible.]

## HONOURS.

### FOREIGN DECORATIONS.

A SPECIAL Supplement to the *London Gazette*, dated November 22nd, contains a further list of decorations conferred by the President of the French Republic for distinguished services rendered during the course of the campaign. The Croix de Guerre has been awarded to the following officers of the R.A.M.C.:

Lieut.-Colonel (temporary Colonel) Fitzgerald G. Fitzgerald, D.S.O.

Major James S. Y. Rogers, D.S.O. (attached Royal Highlanders).

Captains (acting Lieut.-Colonels): Edgar Percival, D.S.O. M.C., Frank Worthington, D.S.O.

Captains (acting Majors): Richard P. Ballard, M.C. (S.R.), Daniel Dougal, M.C. (S.R.).

Temporary Captain (acting Lieut.-Colonel) Robert Svensson, M.C.

Temporary Captains (acting Majors): Philip Carney, M.C., James A. Douth.

Temporary Captains: Lawrence Gameson, James F. McLay, Stanley A. W. Munro, Denis J. Stokes.

Lieutenant William A. Fraser (S.R.).

The Croix de Guerre has also been conferred upon thirteen warrant officers and privates of the R.A.M.C.

## England and Wales.

### LIVERPOOL MEDICAL INSTITUTION.

At an ordinary meeting on November 21st, the President, Mr. W. Thelwall Thomas, in the chair, proposed on behalf of the council, the foundation of an oration in memory of the late Hugh Owen Thomas. Mr. Thomas alluded briefly to the career and life-work of Liverpool's most distinguished surgeon. His surgical genius had been more fully recognized during the past four years by the medical world than ever before. The time was ripe for some movement which would perpetuate the memory of this great surgeon. The members present adopted the proposal by acclamation, and decided that a bust in marble should be placed in the hall of the institution. A subcommittee of the council was approved, to which Dr. R. Caton was co-opted, to undertake the necessary steps. It is felt that surgeons from all parts of the world would like to participate in such a laudable object, and the subcommittee will bring the proposal to their notice in due course. Dr. Charles J. Macalister read a paper setting forth some interesting observations on allantoin. He showed by lantern slides the stimulating action of allantoin on bulbs and the enhanced production of inflorescence. Its action as a stimulant of cell proliferation in wounds and its sanative effect in the process of healing were illustrated by short cases. Sir Dyce Duckworth, Bt., gave an interesting and suggestive address on therapeutic subjects with notes on some well approved old remedies. Mercurial and arsenical preparations were touched upon. Warburg's tincture, tincture of musk, and turpentine among many others were mentioned as remedies most useful, and not necessarily to be discarded in favour of newer ones. The experience of the fathers of medicine was not lightly to be brushed aside because their knowledge of etiology was imperfect, or even wanting. Many of their clinical observations still held good, and the medicaments they employed were still as efficacious as ever when their use was based on clinical observations. There was a danger of these being swamped by pathological theories ill sustained by facts.

### READING PATHOLOGICAL SOCIETY.

At the 800th meeting of the Reading Pathological Society on November 21st the following resolution was proposed by the president and carried unanimously:

That the Reading Pathological Society desires to place on record its thankfulness to Almighty God for the victory that has been vouchsafed to the Allies; to His Majesty the King for the splendid services he has rendered during the war; and to our soldiers, sailors, and airmen for their courage and fortitude which have safeguarded our shores and preserved our empire.

### PUBLICITY ARRANGEMENTS AS TO VENEREAL DISEASES.

The London County Council, on the recommendation of the Public Health Committee, has agreed to assist the National Council for Combating Venereal Diseases by subsidizing that part of the propaganda which takes the form of press advertisements. It was stated that the National Council was in a position to advertise in nearly 100 papers circulating in London and adjacent areas at a



total cost of £2,000. The net cost to the London County Council, after allowing for the Government grant of 75 per cent. in respect to the total expenditure, would probably not exceed £350. The Finance Committee, in supporting the recommendation, said that the venereal diseases scheme had matured during the war, and therefore the limitations applied to other branches of the Council's activities might be relaxed in this instance. The cost is to be apportioned as between the Council and neighbouring authorities on the basis of relative populations. All the authorities participating with the Council in the joint arrangements for the provision of facilities, except the Essex, Hertfordshire, and Surrey County Councils, have agreed to contribute to this publicity campaign.

#### CENTRAL MIDWIVES BOARD.

A special meeting of the Board was held on November 21st, Sir Francis Champneys presiding. Six final reports, five interim reports, and six fresh cases were considered. Out of these, seven midwives were struck off the roll on charges of negligence in cases of ophthalmia neonatorum, puerperal fever, and torn perineum, and for general breaches of the rules. Judgement was postponed in one case. The application of a midwife to have her name restored to the roll was granted. The Board held its ordinary meeting on the same day. In reply to a letter from the Local Government Board it was decided to state that the Central Midwives Board, having considered the question of framing a new Rule E.22 (1) (f) in terms similar to the corresponding rule of the Central Midwives Board for Scotland, is prepared to submit such a rule for the approval of the Privy Council. Fourteen midwives were removed from the roll on their own applications on account of old age, ill health, and inability to comply with the rules.

## Ireland.

#### DISPENSARY DOCTORS' SALARIES.

THE Ballymena Guardians have held a special meeting to consider an application from the eight dispensary medical officers in the Ballymena Union for a graded scale of salaries. The application stated that the Irish Medical Committee, the central body which represented and controlled the profession in Ireland, had recently considered the question of the salaries paid to Poor Law medical officers, and had fixed a minimum scale applicable to the whole of Ireland, namely, in dispensary districts an initial salary of £200 per annum, increasing to a maximum of £300 after fifteen years' service, with retrospective application in the case of existing officers. A further letter was received from Dr. J. Armstrong, Secretary of the County Antrim Medical Committee stating that at a meeting of the Committee in Ballymena it was unanimously decided that steps should be taken immediately and simultaneously in all the unions in the county to have a graded scale of salaries for Poor Law medical officers in accordance with the decision arrived at by the meeting of delegates of the profession in Dublin. A motion to adjourn the consideration of the question for three months was carried. At a recent meeting of the Kilkenny Board of Guardians the following scale was approved by 24 votes to 8: "That the initial salary be £180 per annum, to be increased by £10 every three years until it reaches the maximum of £250, and to be retrospectively applied." The Roscrea (co. Tipperary) Board of Guardians recently approved graded scales with the maximum of £250 a year for the larger dispensary districts of the union.

#### MARRIAGE, BIRTH, AND DEATH RATES.

From the fifty-fourth annual report of the Registrar-General of Marriages, Births, and Deaths in Ireland for the year 1917 it appears that the marriage-rate (4.86 marriages per 1,000 of the population) for the year 1917 is the lowest recorded for Ireland since 1900, being 0.27 per 1,000 under the low rate for 1916 and 0.38 under the average for the ten years 1907-16. The rate (19.9 per 1,000) represented by the births registered during the year was the lowest on record. It was 1.2 under the rate for 1916 and 2.9 under the average for the decennium 1907-16. The total number of births (86,370) registered in 1917 was 5,067 under the

number for the preceding year, 12,436 under that for 1914, and 15,286 (or 15 per cent.) below the average for the ten years 1905-14. The death-rate from all causes in 1917 was 16.8 per 1,000 of the population, or 0.3 above that for the preceding year, but 0.2 per 1,000 under the average for the ten years 1907-16. The mortality from all forms of tuberculosis during the year was equivalent to 2.23 per 1,000 of the population, being 0.08 per 1,000 above that for 1916, but 0.05 under the average for the ten years 1907-16. Deaths from all forms of tuberculosis disease registered in Ireland during the year 1917 numbered 9,680, being equivalent to 2.23 per 1,000 of the estimated population. The infant mortality-rate (deaths of infants under 1 year of age per 1,000 births registered) for the year 1917 was 88 as compared with 83 in 1916 and an average of 92 for the ten years 1907-16.

## Correspondence.

#### MEDICAL REPRESENTATION IN PARLIAMENT.

SIR,—I have read with interest the extracts from the *Lancet* on medical representation in Parliament which you published last week. With a bill for the institution of a Ministry of Health on the tapis, and coming forward early in the next Parliament, it is extremely important that there should be as much medical representation in the House of Commons as possible. Not only a bill for a Ministry of Health, but many other subjects most intimately affecting the profession, are sure to come to the front during the process of reconstruction. It is extremely difficult for a layman quickly to appreciate points which to a medical practitioner are as clear as daylight. I have a very distinct recollection of my attempts to coach a gentleman, distinctly in intellect above the average of the ordinary M.P., on a question of great medical importance, and the horror with which I heard the failure of those attempts.

To attain this representation it appears to me that it is essential that the whole profession should work in unison. I am afraid that so far as this present election is concerned very little more can be done than to assist the candidature of some few of the doctors who are standing, either by money or in other ways which may become apparent after the nomination day. But it is by no means sure that the new Parliament will be very long-lived, and therefore it behoves us to keep our armour bright so that we may take our proper part in the following election, which may not be far off.

The Council of the British Medical Association has, rightly or wrongly (for my part, I consider unwisely), determined in this matter that the Association should act on "its lonesome," but I hope that this decision may not preclude amicable relations, and conferences, if necessary, with any other committee or body having the same objects in view. A doctor must of course, be elected to Parliament as a citizen, subscribing to the tenets of one of the various parties into which that House will be divided, but judging from the experience I have had during the past few years in addressing a great many thousand men and women on the subject of venereal disease and other health matters, I feel sure that in any constituency where the normal party vote is fairly balanced, a doctor who, in addition to his Liberal or Conservative opinions, stood on a comprehensive and progressive health programme, would carry the vote of a very large number of the new electors, and more especially of the women. It is to be hoped therefore that the work of none of those committees which are dealing with this matter will cease immediately after the next election, but that they will be continued, and hold themselves ready to deal with any emergency which may turn up, either in the shape of an early general election or any by-election, in which it might appear that a medical candidate stood a chance of election.—I am, etc.,

London, W., Nov. 26th.

E. B. TURNER.

#### SECURITY OF TENURE OF PUBLIC HEALTH OFFICERS.

SIR,—As the time is now approaching when, I think, an application might be made to the Local Government Board for the issue of the Order referred to in the enclosed



letters. I send you the correspondence for publication.—  
I am, etc.,  
November 23rd.

PHILIP MAGNUS.

Local Government Board,  
Whitehall, S.W. 1,  
30th December, 1915.

My dear Magnus,

In accordance with the decision of my predecessor, which was contained in his letter to you of February last, my Department have prepared an Order giving security of tenure to whole-time medical officers of health and inspectors of nuisances in the future.

I entirely agree with the decision at which Mr. Samuel arrived and am strongly in favour of security of tenure for these officers, but I must confess that my own feeling is that the present is hardly the most appropriate time for the issue of such an Order, in view of the fact that so many of our best men have given up local work for service with the Army or Navy and that the conditions are now quite abnormal.

Perhaps you would kindly let me know what your views are, and whether in the circumstances you would see any objection to the issue of the Order being further postponed.

Yours sincerely,  
(Sgd.) WALTER H. LONG.

Local Government Board,  
Whitehall, S.W. 1,  
7th January, 1916.

My dear Magnus,

Many thanks for your letters with respect to the tenure of office of medical officers of health and inspectors of nuisances. I felt sure you would agree that there were good grounds for postponing the intended change.

I see no objection at all to your publishing our correspondence.

Yours sincerely,  
(Sgd.) WALTER H. LONG.

I am very grateful to you for your most valuable and friendly co-operation.—W. H. L.

#### A.M.S. AND S.M.S.

SIR,—I am flattered that the scheme of State medical service that I outlined in *The Hospital* has been thought worthy of so much criticism in your columns. I fear, though, it is not correctly apprehended. I do not suggest that the army system should be applied *holus boius* to the whole civil population. I only suggested that the only medical service that performed functions such as I imagine a State medical service will be called upon to perform is the Army Service, and therefore that such part of its organization as suited civil conditions might be used as a model. I have not advocated State medical service. I have only suggested a possible organization for a State medical service if the peoples of Great Britain decide they wish to have a State medical service.

The service I have outlined is a possible organization. I do not say it is the best possible, but I do say that if the nation asks for a service the medical profession should be ready with carefully considered plans, and I invited constructive criticism. If the possible organization outlined is not acceptable to the public nor to the medical profession, it is for the critics of it to suggest another. The thing to avoid is a *non possumus* attitude of the medical profession in the face of a demand by the public, for if the medical profession, instead of guiding opinion, obstructs desire, the result may be a defeat of the profession and a service sullenly served.

These are days for statesmanship. All men must pull together, and be ready to give and take. I come of one of the oldest medical families in England. I myself did three years' general practice with my father before I joined the army. Naturally I am intensely interested in the future of the medical profession, and I see great changes looming in the future. Changes must come, and it is only wise for the medical profession to prepare itself so that the new order may be acceptable to medical men and beneficial to the nation.

I should like to see other organizations than mine set forth for comparison, or alterations that will better mine suggested. I wish you had recognized that in *The Hospital* article a good deal of space was devoted to attempts to prevent stagnation and to stimulate effort and ambition, for such are the life blood of progress.—I am, etc.,

Brighton, Nov. 23rd.

G. T. K. MAURICE.

SIR,—In your leader this week on a State medical service you refer to one modelled on the R.A.M.C. I have

just left the army after holding a temporary commission for three years, and I can assure you that there are few of us who are not very adverse to army methods being introduced into civil life.—I am, etc.,

Hove, Nov. 24th.

ALEXANDER ORLEBAR.

SIR,—I see by your leading article of the 23rd that an army medical officer is seriously urging the organization of the entire medical profession of this country on the lines of the R.A.M.C. I am glad to read, side by side with this proposal, Sir Wilmot Herringham's opinion regarding it. But there is another aspect of the matter which has not yet received sufficient attention. It is this. In the next great war is it not desirable that the mobilized medical profession shall be medically controlled by its own leaders?

Colonel Maurice evidently starts from the assumption that the regular military medical services are patterns to the profession. I wish we could agree with him, but sad experience lends no support to that assumption. The plain fact, indeed, needs stating that the great medical achievements of this war (and they have been remarkable) have been almost wholly the work of the civil profession, whilst its great medical catastrophes (and they have been terrible) lie entirely at the door of the regular military medical services.

It is clearly inadmissible to claim pre-eminent excellence for an organization responsible for such catastrophes as those of Mesopotamia and Gallipoli, and, worse still, for the retention in high command of those officially responsible for them, as well as for the waste and misapplication of the superb medical man power placed at its disposal on the outbreak of hostilities.

Sir Wilmot Herringham tells us that the system of the regular R.A.M.C. would be the worst for civil life that can well be conceived; that it prevents independence and discourages originality; that it wastes time seriously; that its officers have little opportunity of being otherwise than uniform; that it makes it difficult to get rid of the incompetent, and that it would greatly lower the standard of practice if applied generally to the civil profession. This, from one so well qualified to judge, is a grave indictment. But it agrees with the pronouncements of other careful men.

In one respect the R.A.M.C. has been under a disadvantage. The army medical reforms carried out at the instance of the civil profession in 1898 had been rendered essential by the failure of the A.M.S. to attract men of adequate ability in adequate numbers. When those officers who entered the service after 1898 are fully in charge of its administration I believe we shall see an improved state of affairs.

But, in view of the experience of this war, the country would be ill advised to take for another war the risks of such breakdowns as Mesopotamia and Gallipoli, and of similar misapplication and waste of medical man power. It will be observed that Sir Wilmot Herringham regards the evils he speaks of as inherent in the system.

Obviously a further reform is needed in the interest of the army and the medical officers, as well as of the country and of the medical profession. I have already indicated it. When the functions of the new Ministry of Health are more fully elaborated I would strongly urge that they should include the medical control of the military medical services, and ensure in time of war the administration of the mobilized profession by men of recognizedly the highest medical capacity. The mere contact with other branches of medicine which such an arrangement would bring about could not fail to be advantageous to the services. The mistaken idea cherished by some less wise R.A.M.C. officers that a military medical officer should be a soldier first and a doctor afterwards must give place to the realization that he must be first of all a "good doctor."

I am sorry to have to write otherwise than in whole hearted praise of a service which includes, besides some world-famous discoverers in tropical medicine, many gallant officers and several valued friends. But such proposals as those to which you have drawn attention appear to me so pernicious that I must put forward my opinion and recommendation in plain terms.—I am, etc.,

Dorset, Nov. 24th.

W. GORDON.



# THE CAPITATION FEE AND THE PANEL CONFERENCE.

SIR,—Dr. Lyth piquantly describes the debate on the capitation fee at the late conference. He might have been there. But he misses the essential point of the want of confidence in the Insurance Acts Committee which would have been shown had the Sunderland resolution been carried. The Committee had been authorized or instructed at the previous meeting to carry out a certain policy which they were in fact, actively engaged in doing. Faced with a directly contrary instruction their position would have been untenable. Now, with the prospect of an early peace, the whole question can be approached *de novo* and steps taken to bring the question to an issue before entering into the contracts for 1920.

Undoubtedly we are in shoal water and drifting on to the rocks. If we think we are underpaid we must have the courage of our convictions, and decline a contract on the present terms. After all, men in other occupations bravely face infinitely greater difficulties. The weakness of Dr. Lyth's argument is that he relies on bluff. That will not do. We must be prepared for medical benefit coming to an end and the Government using every means for our defeat. It is not for us to assume that they can only do so and so; they may spring surprises on us. We shall have to be prepared to rely indefinitely if necessary on private practice. In my opinion this attitude involves very little, if any, sacrifice. If our contention as to the present capitation fee is sound we ought to be better off.

The difficulty in organizing combined action is the great inequality of reward under the present system. Density or sparseness of population; differences of occupation of the insured, salubrity or otherwise of certain districts, local customs and varying attitudes to contract practice, are all factors making for inequality of profit. Besides, there is the size of the panel itself making for inequality, the rule being the larger the panel the greater the relative profit.

I wish I were as confident as Dr. Lyth of the readiness of the men to forego their panel cheques. I hope he rightly gauges the determination to end an intolerable situation. In any case active and concentrated preparation will be necessary if we are to sustain the struggle with dignity and success. No energy or money must be dissipated in vain efforts to deceive the electorate into electing our agents. Every penny and every ounce of force will be required in the fight, honestly and above board, for just terms.—I am, etc.,

Gatehead, Nov. 24th.

JOHN L. SPEIRS.

# THE MENINGOCOCCUS OF WEICHSELBAUM.

SIR.—Mr. Ramsbottom appears to think that I am still anxious to convince the world that the giant meningococcus is a parasitic fungus. And this notwithstanding my letter in the BRITISH MEDICAL JOURNAL of September 7th, which clearly showed that I have no such ambition, and that my chief desire was to demonstrate the fact that this organism is not a simple bacterium exclusively dependent on equal binary fission for reproduction. As I there stated, I only provisionally placed it amongst the Hemiascomycetes because in many respects it more closely resembles these than it does the lower bacteria, and I made it perfectly clear that I kept an open mind on the subject of its proper classification. I unreservedly confessed, moreover, that I know nothing of mycology, and fully accepted Mr. Ramsbottom's reputation as a mycologist at his own valuation. I find it difficult therefore to understand the motive for his present letter. I did, it is true, suggest that no mycologist, however eminent, should give a dogmatic opinion on the subject without first-hand study, and pointed out that much of Mr. Ramsbottom's criticism missed its mark for this very reason. As if to give point to this warning my critic now confesses that he has not studied the organism at first hand, and suggests that a little simple staining might enable the observer to arrive at greater certainty. Now if there is one thing certain in an uncertain world, it is that nothing has in the past retarded the study of the morphology of the lower bacteria so much as addiction to stains. After staining several hundred meningococcal films in the last four years I can testify to the truth of this in the case at least of the giant forms of meningococci.

With regard, finally, to the true position of the Hemiascomycetes, my point was not whether mycologists do or

do not believe that they belong to the Phycmycetes or Ascomycetes proper. My indictment of Mr. Ramsbottom lay on very different grounds—namely, that he was not entitled, when addressing those who profess no knowledge of mycology, to present as fully proven that which has not yet been fully proven. Every one knows that the proof has been completed in many cases. But until it has been proved to be true of all the claimants restraint is wise, even when fighting an opponent who is—even on what still appears to Mr. Ramsbottom as the main issue—perhaps inclined to agree.—I am, etc.,

London, W., Nov. 22nd.

EDWARD C. HORT.

# THE CURSE OF IMMOBILIZATION.

SIR,—It is to be hoped that Mr. Dowden's article (November 23rd, p. 570) on the above subject will initiate not only the discussion it deserves, but the establishment of some means whereby the curse might be ameliorated. I have to thank him for an absolutely normal finger treated by passive congestion and "mobilization" when he was my chief fourteen years ago. The joint surfaces were visible, and pus could be seen oozing out between them. The finger is now, as I say, absolutely normal. It is not, however, my own personal experience I wish to speak of, but to bear out Mr. Dowden's contention.

For many years I have been especially interested in the injured workman, and if asked the cause of prolonged incapacity after injuries to bones and joints, I would unhesitatingly reply "immobilization." The war has transferred this from a purely industrial question to one of national importance. Our wounded soldiers receive pensions in accordance with the degree of their disabilities. There must be many thousands of such men whose original disability has passed off, and who must now receive pension for the disability resulting from immobilization of their injured limb. I am not talking at random when I say "thousands." I have had charge of over 200 beds in a war hospital. I have x-rayed certainly hundreds of joints for other surgeons, in order to find out if the existing stiffness is due to actual ankylosis, or simply to adhesions. I am at present almost daily examining wounded soldiers who have come to the Pensions Medical Board for assessment of their disabilities. Even after seemingly trivial injuries it is fairly common to find that the disability is due to lengthy immobilization and to nothing else. No examination of an injured limb is complete until all the joints of that limb have been tested for their range of available movement.

The injured man has a diminished wage-earning capacity which he might possibly have escaped. He is prevented from enjoying the full amenities of life. His disability is disheartening to the civilian, however heartening or lucrative it may be to the bone-setter, and in addition it is costly to the tax-payer.

The "costly" curse of immobilization, if I may make the addition to Mr. Dowden's title, is one demanding immediate attention. So widespread are its after-effects that it would seem almost necessary to establish (in addition to our existing orthopaedic hospitals) centres for the breaking down of adhesions, and the overcoming of contractures.—I am, etc.,

ARCHIBALD MCKENDRICK, F.R.C.S. Edin.

Edinburgh, Nov. 25th.

# DISCHARGED TUBERCULOUS SOLDIERS.

SIR,—I think it would be advisable for the Ministry of Pensions to devise some better method of dealing with soldiers and sailors who have been incapacitated by pulmonary tuberculosis. If they recover sufficiently to be able to work they are, under existing conditions, very unwilling to start work, because if they do their pension will be immediately cut down, and then in time taken away altogether. No one can blame them for believing that there is a considerable chance of the disease again breaking out, and as things stand at present they will then be entitled to nothing.

I would suggest that when these men are able to earn a reasonable living they should be encouraged to do so; their pensions might be cut down to 5s. a week for life. If later they break down from tuberculosis they should receive the full pension until they have recovered. A man suffering from tuberculosis of the lungs is probably in



much worse case than a man who has lost one of his feet, but who quite rightly receives a recompense for his loss.—I am, etc.,

EDWARD E. PREST.

Ayrshire Sanatorium, New Cumnock.

\* \* We understand that the official view is that a man's actual earnings are not taken into account in any estimate or revision of his pension; the disability alone is considered. Under an alternative scheme, however, a man who so desires may have his pension calculated on a comparison of his present earnings with what he earned before enlistment. Members of Pension Boards are directed not to ask a man's present earnings, except under the alternative scheme.

#### DUBLIN UNIVERSITY ELECTION.

SIR,—Now more than ever it is essential that medical men should be elected to Parliament. At the coming election a medical practitioner, Sir Robert Woods, will contest the representation of Dublin University.

It is important that those medical graduates of Trinity College, Dublin, who desire to exercise the franchise and are not already on the Register should at once send in their names to the Registrar at Trinity College with the registration fee of £1. Holders of the higher degrees—M.A., M.D., and M.Ch.—are already voters, but those who have only taken Bachelor degrees can now become entitled to vote at the forthcoming election by proceeding as above.—I am, etc.,

JAMES CRAIG,

Dublin, Nov. 26th.

King's Professor of Medicine.

#### BRITISH MEDICAL LITERATURE IN FOREIGN COUNTRIES.

SIR,—In your number for September 28th, page 352, I find some information, taken from the *Montpellier Medical*, as to certain methods used by German booksellers and publishers in order to introduce and propagate German medical literature in Holland.

The statement as regards the obliging ways of the Germans may perhaps be somewhat exaggerated; yet there are undeniably some points of great importance in the statement, and the medical profession in Norway can corroborate the fact, that the German business methods have done an exceedingly great deal to propagate German scientific literature, perhaps as much as the intrinsic good qualities which nobody can deny the German scientific literature.

The fact is that German books, pamphlets, and periodicals are much more easily attainable in most countries than books in any other foreign language. And this from two reasons.

First, because of the German publishers' system of sending out their publications "on approval" (sale or return terms) to booksellers in foreign countries, where the buyers can have a look at them, get an impression of their contents, their outfit and in this way avoid ordering from abroad books which may turn out to be entirely different from what was expected and wanted. German books can from this reason regularly be inspected whenever and wherever required.

But there is another and still more ponderous reason, namely, the splendid organization and co-operation of the German publishers, particularly their catalogues comprising all German publications concerning medicine as well as all other branches of science. When one asks a bookseller in this country for information about foreign publications on some particular topic, he will present one with the latest "compendium catalogue" comprising all German books on the subject which are at present on the market, containing all the necessary information about each individual book—namely, price, number of pages and illustrations, year of last edition, etc.

As regards English or French literature, one will be lucky if able to look at one of the three-yearly (or yearly) catalogues, which the bookseller may, or may not, have. No English or French books have been put at the bookseller's disposal on "sale and return" terms, and most buyers naturally take "the line of least resistance"—they buy the German books.

Readers in all foreign countries would undoubtedly highly appreciate if a similar arrangement—a periodically issued catalogue from all British publishers, containing not only the last year's publications, but all books on the

market—could be brought into life. One cannot insist too strongly that a co-operated effort of all English publishers on the lines indicated is needed in order to facilitate the access to the valuable English scientific literature.

It would be a great advantage to the scientific world abroad, and, one would think, no disadvantage to the British authors and publishers.

It is only fair to add that one firm of English publishers—the University of London Press—are taking steps to send books to Norway on "sale and return" terms, thanks to the representations that have been made to the publishers by the Secretary of the Royal Society of Medicine, and thanks to the kind interest which Sir William Osler and Dr. Monrad-Krohn have taken in the matter. Be it also mentioned that some other British publishing firms have during the last few years sent some works for reviewing in Norwegian medical periodicals.—I am, etc.,

F. G. GADE, M.D.,

Editor of *Norsk Magazin for Lægevidenskab*.

Kristiania, Nov. 12th.

\* \* The paragraph to which our correspondent refers was inserted in continuation of articles published at various times since March 6th, 1915. We called the attention of several leading British publishing firms to our first article and received several interesting replies. The subject was raised first in relation to Scandinavian countries, and Mr. John Murray, dealing in our columns on March 27th, 1915, p. 552, with the suggestion that the smallness of English trade in medical books in these countries is in a great measure due to the fact that very few copies are sent there for review, expressed the opinion that this was a case of putting the cart before the horse. "My experience," he wrote, "is that few review copies are sent to Norway and Sweden because the demand for English books is comparatively so small. . . . The Swedish booksellers want copies on 'sale or return,' and unless there is a steady and continuous demand this practice invariably spells loss for the publisher." Messrs. Macmillan expressed their interest in the suggestion, and stated that they proposed to act upon it in the future. Messrs. Longmans, Green and Co. stated that they had not overlooked the possibility of the demand for medical works in the English language in Scandinavia. As it was represented to us by other publishers—that medical periodicals published in Scandinavian countries were not known to publishers in this country, we printed on April 3rd, 1915, a list of such periodicals published in Sweden, Norway, Denmark, and Finland.

If we are to accept Mr. John Murray's opinion we are in a vicious circle. English publishers do not send medical books to Scandinavia because there is no demand, while Scandinavia and Holland do not demand English books because possible buyers cannot see the books before ordering and the publishers do not co-operate to bring them to not ce.

## Universities and Colleges.

### UNIVERSITY OF LONDON.

THE following candidates have been approved at the examinations indicated:

THIRD M.B., B.S.—Oliver Reidel (Honours), L. S. Banes, Irene Baskow, S. Batchelor, Althea J. Bolton, P. C. Conran, Hilda M. Denton, Susan A. Finch, L. G. Foxell, Maud Gossard, J. C. Gray, L. B. Goldsmith, C. H. Gould, W. H. Grace, Blanche A. M. Heideron, W. B. Heywood-Waddington, R. Hooper, E. A. Hutton-Attenborough, Mabel E. Landon, Janet McAl. McGill, M. W. H. Miles, L. M. Moody, P. G. Quinton, W. M. A. Rahman, Emil F. Singer-Davies, S. N. Sennett, J. H. Sheldon, A. L. Telling, GAOYS M. R. Webster.

B.S.—T. H. Smucker-on-Wells, M.D.

\* Distinguished in Pathology.

The following have passed in one of the two groups of subjects:

THIRD M.B., B.S.—Group I: S. C. de Silva Wijeyeratne, Alice M. Griffiths, Mar. L. Hounsfield, F. R. Ann, Annie Lloyd, T. D. Pratt, H. B. Russell, Group II: C. Y. Eccles, A. W. Holgate, I. H. Lloyd, Alice L. Lloyd-Williams, Adeline M. Matland, Emil M. Pfeil, M. C. Polhill.

### THE MEAGRE GOVERNMENT GRANT TO UNIVERSITIES AND COLLEGES.

THE Chancellor of the Exchequer and the President of the Board of Education received on November 23rd a deputation from the universities and institutions of university rank of Great Britain and Ireland to lay before the Government the need for further financial assistance to enable the universities to maintain the standard of their work, and to develop their activities. The deputation was introduced by Sir Donald



MacAlister, Vice-Chancellor of the University of Glasgow, and the general financial requirements of the universities were stated by Sir Oliver Lodge, Principal of the University of Birmingham; among the other speakers were Sir George Adam Smith, Principal of the University of Aberdeen, Sir Alfred Paving, Principal of the University of Edinburgh, Sir Bertalan Windle, M.D., President of University College, Cork, Professor C. M. Gillespie of the University of Leeds, Sir Alfred Dale, Vice-Chancellor of the University of Liverpool, Sir Gregory Foster, Provost of University College, London, Professor W. H. Bragg, Quain professor of physics, and Sir Bertrand Dawson, Dean of the Faculty of Medicine in the University of London. In reply, the Chancellor of the Exchequer expressed the Government's recognition of the vital importance to the nation of maintaining the efficiency of the highest form of education in the country, and promised sympathetic consideration of any recommendations that might be made to him by the President of the Board of Education. Mr. Fisher invited the universities to submit written statements, which he promised would receive careful consideration.

## Obituary.

SIR PHILIP SYDNEY JONES, M.D., F.R.C.S.,

Sydney.

Our correspondent in Sydney, N.S.W., writes:

Sir Philip Sydney Jones, the oldest and most popular medical practitioner in Sydney, died on September 18th in his 83rd year. He was born in Sydney in 1836, and received his early education in this city. He proceeded to England and completed his medical education at University College, London. In 1860 he graduated M.D. Lond., and in 1861 became a Fellow of the Royal College of Surgeons of England. He also spent some time in study in Paris. He returned to Sydney in 1861, and commenced practice. He was elected honorary surgeon to the Sydney Infirmary, as the present Sydney Hospital was then called, and held this office for twelve years. In 1876 he retired from general practice and confined himself to consultation work. In 1882 he was appointed a member of the Royal Commission to investigate and report upon the rearrangement of the quarantine station. He was President of the Australian Medical Congress which met in Sydney in 1892. It was, however, chiefly in connexion with the open air treatment of pulmonary consumption that Sir Philip was best known. He was the initiator and was mainly instrumental in the establishment of the Queen Victoria Homes for Consumption at Wentworth Falls and Thirlmere. He was the President of the Board of Directors of these Homes, and only resigned this position last January owing to failing health. He was one of the founders, and the first president of the National Association for the Prevention and Cure of Consumption in New South Wales. It was in recognition of his work in combating consumption that he was knighted in 1902.

Sir Philip was also keenly interested in medical education, and was a member of the senate of the university from 1887 till his death. He was vice-chancellor for two years. He was one of the first committee formed to establish the Royal Prince Alfred Hospital, and he was a director of that institution for nineteen years. He was also interested in the work of the Kindergarten Union in this State. He was a member of the board of management of the National Museum, and was for fifty-one years a member of the Royal Society of New South Wales.

Sir Philip was a widower, and leaves three sons and four daughters, one of his sons being in the medical profession in this city. The funeral took place at Rookwood Cemetery, and was largely attended by representatives of the various bodies with which he had long been associated.

N. C. MACNAMARA, F.R.C.S.E. AND I.,

Consulting Surgeon to Westminster Hospital; formerly Treasurer of the British Medical Association.

We regret to record that Mr. N. C. Macnamara died at his residence at Chorley Wood, Hertfordshire, on November 21st, at the age of 86. He was the son of Mr. Daniel Macnamara, surgeon, and entered the medical profession by taking the diploma of M.R.C.S. in 1854. He became assistant surgeon in the Indian Medical Service in the same year, surgeon in 1866, and surgeon-major in 1873. He was for many years civil surgeon of Mirzapur, and afterwards professor of ophthalmic surgery in Calcutta. While holding that post he founded and organized the Mayo Hospital, a large general hospital for Indians in Calcutta, of which he was the first surgeon-super-

intendent; the appointment has ever since been held as an additional charge by the ophthalmic surgeon. He served in the Sontal rebellion of 1855-56, and during the Mutiny was medical officer of the Tirhut Volunteers, but did not see active service in the Mutiny. He retired in 1876. While in India he published in 1866 a volume of lectures on diseases of the eye, of which a fifth edition appeared in 1891, and in 1873 lectures on diseases of the bone, of which a third edition was published in 1887. He also wrote a history of Asiatic cholera, and from 1871 to 1873 was editor of the *Indian Medical Gazette*. Later, while resident in London, he wrote the articles on cholera and tetanus in the first edition of Quain's *Dictionary of Medicine* (1882), and those of cholera and leprosy in Davidson's *Hygiene and Diseases of Warm Climates* (1893).

Macnamara became F.R.C.S. Eng. in 1875 and F.R.C.S.I. in 1887. He was appointed surgeon and lecturer on clinical surgery to the Westminster Hospital in 1875, and also surgeon to the Royal Westminster Ophthalmic Hospital; when he retired from active work in 1897 he was appointed consulting surgeon to these institutions. He was a member of the council of the Royal College of Surgeons from 1885 to 1901, and vice-president in 1893 and 1896. He delivered the Bradshaw lecture in 1895 on osteitis, and the Hunterian Oration in 1901. The subject he chose for the oration—the human skull in relation to brain growth—is an indication of the nature of the studies to which Macnamara devoted much of his leisure, both before and after his retirement. He contributed two volumes on the evolution of purposive living matter to the *International Scientific Series* in 1910, wrote books on the origin and character of the British people, and on human speech, and in 1900 published *The Story of an Indian Sept*. His last book, published about three years ago, was entitled *Instinct and Intelligence*; in it he showed how side by side with increasing complexity of structure there appeared a corresponding power of self-adaptation.

Mr. Macnamara was an active member of the British Medical Association. He was vice-president of the Section of Surgery at the annual meetings of 1881 and 1895, and president of the Section of Ophthalmology in 1891. He was treasurer of the Association from 1885 to 1887; he was also a member of the Council for several years, and in 1891 chairman of the Committee on the Eyesight of Railway Servants, which presented a valuable report. When president of the Metropolitan Counties Branch of the Association he directed attention to the unsatisfactory position of medical teaching in London, and he was chairman of the Committee of the British Medical Association on Medical Education and a Teaching University for London which reported in 1891. As a member of the old Parliamentary Bills Committee he took an active interest in the movement for obtaining army rank for medical officers and the formation of a Royal Corps, and was a member of the Departmental Committee of the War Office on the Army and Naval Medical Services which sat in 1889.

Enough has been said to show that Mr. Macnamara was a man of great energy, industry, and enthusiasm, but a further instance is afforded by the following account by Mr. J. Y. W. MacAlister of his part in securing for the Royal Medical and Chirurgical Society the house in Hanover Square, which it occupied for some years. Mr. MacAlister writes:

When I was appointed in 1887, and began to look into the affairs of the society, I saw that it was indeed in a parlous state. Its old lease at 53, Berners Street, had only fourteen years to run. For that house it was only paying £14 per annum. The annual accounts just barely balanced, and yet no provision had been made for what was to happen at the end of the fourteen years. I ascertained that when the lease expired the rent would be raised to certainly not less than £400, and probably £500 per annum, and that a large sum would be required for repairs. I had difficulty in getting those in authority to realize the seriousness of the position, and came to the conclusion that the best way out of the difficulty was to secure such a house as would provide accommodation for the society's own needs, and such extra accommodation as would enable it to live by taking in lodgers, or, in other words, by providing accommodation for other societies. At last I found 20, Hanover Square, which seemed to me just what was wanted. But, unfortunately, it had been acquired by speculators who had already let out contracts for rebuilding for their own purposes, and although at first they would not listen to me, ultimately they agreed to let me have the house for £23,000, which left them a fair profit on their expenditure, but they insisted that I must give



them an answer within a week, as the contractor was then engaged in his preliminary operations. A couple of days convinced me that it was hopeless to get the authorities to decide so promptly, and one morning when I was gloomily considering what should be done, Macnamara came into my room. I told him the whole story; he went round with me to No. 20, agreed that it was "just the thing," and there and then gave me a letter to his bank making himself responsible for the £23,000 if the council of the society did not take the opportunity. The next day the contract was signed, and as soon as possible thereafter, but not without a good deal of opposition and difficulty, the council of the society agreed to purchase the house on the understanding that I could raise the necessary money for purchase and alterations on debentures. I told the story at the inaugural dinner which was given in the new house under the chairmanship of Sir Edward Sieveking, but Macnamara reproved me for doing so! Nevertheless, whenever I had an opportunity I told the Fellows how much the society owed to his confidence and generosity, and I should be glad to have it recorded in your pages.

## Medical News.

THE Swiney lectures on geology, in connexion with the British Museum (Natural History) will be given during December and January by Mr. Thomas J. Jehu, M.D., F.R.S.E. The subject of the course, which consists of twelve lectures, is man and his ancestry. The introductory lecture will be delivered on Tuesday, December 10th. The course will be given at the Royal Society of Arts, John Street, Adelphi, at 5.30 p.m. on each day.

OF the compliments which Great Britain has endeavoured to pay to the imperishable genius of France, perhaps the most graceful is that of the University of Glasgow. It elected the President of the French Republic to be its Lord Rector in 1914; last year it extended the term of office for a fourth year, and now it has again extended it. It is rewarded by the promise of President Poincaré to visit Glasgow within a few months.

THE new President of the Local Government Board has issued a strongly-worded circular to local authorities, asking them to let him know without delay what they are doing with regard to housing. Sir Auckland Geddes declares it to be essential that local authorities should take immediate steps to submit all housing schemes to the Board. One of the questions he asks is whether any work, such as the development of housing sites and the construction of roads, sewers, etc., can be put in hand immediately demobilization begins without waiting for the final approval of the plans of the houses.

IN view of the continued prevalence of influenza the Local Government Board has issued regulations for preventing the spread of the disease. They have special reference to music-hall performances of a continuous character, and provide that the entertainments shall not be carried on for more than three consecutive hours; that there shall be an interval of at least thirty minutes between two successive performances; and that during the interval the building shall be effectually and thoroughly ventilated. With regard to cinemas, where notice has been given to the proprietor of a cinematographic exhibition that a public elementary school has been closed on account of the prevalence of influenza, children may not be admitted during the continuance of the closure of the school. By the latest order the period during which the entertainment may be carried on has been increased to four hours in the case of cinemas.

AT the meeting of the Zoological Society of London on November 6th Dr. R. T. Leiper gave a demonstration on the "new" rabbit disease. The chief cause of mortality was found to be a coccidial invasion of the intestinal wall or of the lining of the bile ducts. In many cases changes in the liver attributed to coccidiosis were the result of infection with *Cysticercus pisiformis*, the larval stage of the dog tapeworm *Taenia serrata*. Large swellings in the region of the head and neck, suspected to be cancerous, were due to *Coccyx serialis*, the larva of the dog tapeworm *Taenia coenurus*. The coccidial infections passed from infected to healthy animals through the faeces. When freshly passed the coccidial oocysts were not infective. They only became so after a period of delay in which certain developmental changes took place. These changes proceeded more rapidly in dry than in wet faeces. Prevention depended upon the systematic periodical removal and destruction by burning of all pellets and contaminated bedding, and the use of some fluid to destroy such oocysts as remained in the hutch. There would appear to be no risk of infection to man.

## Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitlovey*, Westland, London; telephone, 2631, Gerrard.

2. FINANCIAL, SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westland, London; telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Mediscora*, Westland, London; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### LETTERS, NOTES, ETC.

#### GOUT AS A PREVENTIVE OF INFLUENZA.

DR. W. JOHNSON SMYTH (Bournemouth) writes: The faulty chemical state of the blood in gout is rarely associated with tuberculosis. The present influenza pandemic has proved most aggressive in persons below the gouty age. The lowered consumption of nitrogenous foods all the world over has lessened, we may assume, the usual amount of uric acid and other azotized blood contents.

I suggest that these nitrogen-containing bodies may form a rampart against influenza infection. Though our military and naval forces may receive a normal supply of nitrogenous diet, yet we must bear in mind the exceptional activity and exposure of these forces, entailing a high degree of oxidation resulting in a less than usual approach to the lithaemic state. The influenza epidemic of 1890 was relatively localized and mild, so that some new factors must be found if we are adequately to explain the severity and widespread prevalence of the present infection.

#### HAEMORRHAGIC SPIROCHAETAL BRONCHITIS.

DR. H. G. WATERS, Chief Medical Officer, East Indian Railway Company (Allahabad, India), writes, with reference to the note published on June 29th of Violle's report of an outbreak of spirochaetal bronchitis at Toulon: This is the first confirmation of epidemic spirochaetal bronchitis I have seen. Castellani reported a case of bronchitis with spirochaetes a year before I discovered the epidemic at Tundla (1907) but no one else, so far as I have seen recorded, has come across the acute epidemic form. Isolated cases have occurred on the East Indian Railway at Delhi, Tundla, Allahabad, and Jamalpur, and White Robertson reported another two at Gya; all these cases were acute, with one or two relapses. I have not seen the chronic form recorded by Castellani as occurring in Ceylon.

\* \* Violle states that in the cases he described the evolution of the disease occurred on the average in one month. He does not state whether the spirochaetes persisted in cases which relapsed.

#### DIRECT SALE OF MILITARY MOTOR CARS.

CAPTAIN E. WILSON HALL, R.A.M.C., writes: May I suggest that facilities be made, after peace is declared, for general practitioners who have been serving in the navy or the army, to obtain motor cars from the navy, army, or British Red Cross Society direct, rather than through a third party? In this way a large number of really serviceable cars would be obtained by the profession, and the benefit derived by the direct transaction very great, both to the individual and the general public, as otherwise the price asked by the agents will, I am sure, place the car out of reach financially of many of us.

#### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	...	...	0 6 0
Each additional line	...	...	0 0 9
Whole single column	...	...	4 0 0
Whole page	...	...	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *sorte restante* letters addressed either in initials or numbers.



## THE BENT BACK OF SOLDIERS.

[WITH SPECIAL PLATE.]

BY

LIEUT.-COLONEL A. F. HURST, R.A.M.C.,

PHYSICIAN AND NEUROLOGIST TO GUY'S HOSPITAL, AND OFFICER IN  
CHARGE OF SEALE HAYNE MILITARY HOSPITAL, NEWTON ABBOT.

THE soldier, walking slowly and painfully with the aid of two sticks, bending far forward, his arms and legs often shaking with the effort, for all the world like the stage octogenarian, is becoming a more and more common sight. Though a large literature has grown up around him in France, where each author has amused himself by inventing a new name for him, such as *plicature vertébrale*, *campto-cormie* (Souques and Mdlle. Rosanoff-Saloff<sup>1</sup>), *campto-rachis* (Laignel-Lavastine and Courbon<sup>2</sup>), and *spondylose antalgique* (Sicard<sup>3</sup>), it is a curious fact that he has not yet formed the subject of a paper in English. This might be regarded as a matter for congratulation were it not for the fact that the true nature of the condition is only rarely recognized, with the result that many men who should be cured in a few minutes with psychotherapy drift from one hospital to another, receive treatment with electrical appliances of different kinds, spend many weeks undergoing hydrotherapy at various spas, and end by being invalided from the army as totally incapacitated, and convinced from the failure of treatment whilst in the army that treatment after their discharge will be equally unsuccessful. Considerable experience of the condition since I saw my first case at Lemnos in November, 1915, has convinced me that the bent back of soldiers, however variable its etiology, is constant in its pathology, being always hysterical in nature, and consequently always curable by psychotherapy.

*Etiology.*

The most common cause is a blow in the back, either due to the explosion of a shell hurling a man against the side of a trench or causing the parapet to fall on him, or to some accident which might equally well have occurred in civil life, such as being jammed against a wall by a lorry. Occasionally an actual wound is present, but this is always superficial, the spine itself having escaped. A history of "muscular rheumatism" is obtained almost as frequently, pain in the back having followed exposure to cold and damp, generally in the trenches, but occasionally at the base or even in English camps. In one case the condition followed the injection of antitetanic serum under the skin of the abdomen in a patient with localized tetanus, which never spread beyond the right arm, and in another it was first observed after an attack of malaria, in which the patient had been semicomatose for a week. Lastly, one patient developed it after an operation for acute appendicitis. Several of our patients appeared to be predisposed by having always walked with a slight stoop or by having had previous attacks of lumbago. The father of the boy I saw at Lemnos was a "martyr to rheumatism" and walked with a bent back, but this probably predisposed more by the mental association than by any inherited physical condition.

*Pathogenesis.*

The one common factor in these various causes is pain, generally in the back, but occasionally in the abdomen (as in the case of tetanus and that of appendicitis), which is relieved by bending far forward. The patient finds he can only stand and walk with some degree of comfort in this position, and at first he generally lies in bed curled on his side. After a time the pain caused by the blow on the back, the rheumatism or other exciting cause, diminishes or disappears. The patient can now often rest comfortably lying flat on his back, but he continues to stand or walk in the same bent position. He does not realize that this posture was originally adopted voluntarily in order to relieve his pain, and he regards both the posture and the pain as direct and independent results of the injury or disease which they followed. The pain has gone, but the posture, adopted with the object of relieving it, remains. Unfortunately the medical officer frequently makes the same mistake as the patient, and prescribes treatment with kataphoresis, diathermy, radiant heat, whirlpool

baths, massage, or other elaborate method in an electro- or hydro-therapeutic institute, with the result that the notion of some serious disease is still further impressed upon the patient's mind, the original auto-suggestion being thus reinforced by hetero-suggestion. How little benefit follows such treatment unless it is given as a form of suggestion is proved by the fact that the spa physicians with whom I have discussed the question tell me that they do not know of a single soldier with a bent back who has been cured as a result of spa treatment.

Numerous investigations with the x rays have shown that there is no organic spinal lesion, even in those cases which follow a severe blow on the back. Unfortunately, however, the spine is not easy to skiagraph satisfactorily, and an indifferent plate requires exceptionally skilful interpretation. I have seen several cases, in which the radiographer has reported a "doubtful" spinal deformity, fracture or other pathological condition, which further examination and the course of the disease have proved to be non-existent. But the patient often sees or hears the report, with the result that the difficulties in the way of successful psychotherapy are much increased.

The bruising which results from an injury and the obscure pathological process, whether a nodular fibrositis or interstitial myositis, which is the basis of so-called muscular rheumatism, myalgia, and lumbago, are true organic lesions, but they quickly disappear, and the condition which persists for weeks or months afterwards is either entirely hysterical, or in rare cases is hysterical with a small but more or less permanent organic element in addition.

It is true that the patient generally complains of more or less pain in his back, but though very prone to exaggerate his symptoms, he is generally ready to admit that the pain is less severe than it was at the onset of his illness. Whatever part of it is genuine is probably the result of constantly stretching the small muscles and ligaments of the spine, which in normal individuals is bent for a few minutes at the most instead of for the greater part of each day. That this is true is shown by the immediate improvement or even disappearance of the pain when the patient is taught to assume a correct attitude.

*Symptoms and Diagnosis.*

The appearance of the patient is so characteristic that the diagnosis is at once obvious, as there is no organic condition which in any way resembles it except spondylitis deformans, which, however, never affects young men. Moreover, the position assumed in the latter is the same whether the patient lies down or stands, whereas the bent back of soldiers almost invariably disappears entirely, or almost entirely, on lying down. Other diseases of the vertebra are excluded by the absence of tenderness over the spine though the muscles may be sensitive to pressure. French writers have described in detail the folds which are observed in the skin of the abdomen and back of the neck, but these do not differ in any way from those which develop when a normal individual acts the part of a very old man—bending forward, and throwing his head back so that he can look straight ahead.

In the large majority of cases uncomplicated kyphosis is present, but we have also seen cases of lordosis, lateral curvature, and of combined kyphosis and lateral curvature of similar origin. The following case, under the care of Captain G. McGregor, was the best example of the latter condition which I have seen.

*Combined Antero-posterior and Lateral Curvature of Twenty Months' Duration Cured by Re-education in an Hour and a Half.*

Pte. D., a New Zealander, aged 39, with over two years' service, was digging a trench in April, 1917, when he "felt something give" in his back. He has had pain there and his back has been bent ever since. He carried on until June, 1917, when he was partly buried by a shell. He was sent to the base, where he remained until July, when he was transferred to England for discharge. Captain H. A. Davies, recognizing the hysterical nature of his condition, sent him from the New Zealand Discharge Depot to the Seale Hayne Hospital. On admission there was a lateral curvature of the spine to the left in the dorsal region and to the right in the lumbar region, with corresponding prominence of the left shoulder and right hip; very marked lordosis was also present. He swayed violently backwards and forwards when standing with his feet together. The faulty position disappeared on lying down and was easily corrected by manipulation on standing. After an hour and a half's re-education under Captain McGregor he had



no further difficulty in keeping his spine in a position free from curvature, both when standing and walking, and was discharged from hospital a fortnight later.

In the following case, under Captain C. H. Ripman, in which recovery followed treatment by persuasion, the kyphosis was associated with curvature in a horizontal plane, the shoulders being thrown far forward, an appearance of severe pigeon-breast resulting.

*Hysterical Kyphosis Associated with Curvature in a Horizontal Plane.*

Pte. B. was wounded on March 21st, 1918. On admission in August he had a superficial scar three inches long, running diagonally across his back opposite the third dorsal vertebra. He showed very marked kyphosis, which produced two deep horizontal folds across his epigastrium, below which the abdomen was round and prominent. His chest was also hollow from side to side, with very marked prominence of the points of his shoulders. He breathed very badly, with no abdominal movement and very little expansion of the lower part of his thorax. He looked so pigeon-breasted that the deformity was considered by some observers to be organic and due to adenoids, though he himself said he was absolutely straight until he was wounded. Unlike the majority of cases, the curvature did not disappear on lying down. But with persuasion his body was gradually straightened out, his shoulders being pressed back until both the kyphosis and the side to side curvature, together with the hollowing of his chest, had disappeared. After prolonged persuasion he was able to move freely, and the depression of his epigastrium and the prominence of his abdomen with the horizontal furrows across his epigastrium disappeared. Three weeks later, being quite fit, he was sent back to duty.

In the following case, under Lieutenant S. H. Wilkinson, lordosis instead of kyphosis followed burial. The patient's posture and gait closely simulated that of pseudo-hypertrophic paralysis.

*A Case of Pseudo-pseudo-hypertrophic Paralysis Cured by Persuasion after lasting for Ten Months.*

Rfm. P., aged 20, had had six months' active service in France when he was buried by a shell in September, 1917. He was not dug out until four hours had elapsed. He felt none the worse for it, except for a slight pain in the back, but he was sent to hospital the following day with a diagnosis of trench feet, his feet being very blue and cold. He was kept in bed for a month and then transferred as a cot case to a hospital in England, where he remained for two months. He was kept in bed the whole time, the only treatment given being for his feet. He was then sent to an auxiliary hospital. At the end of a week he was allowed out of bed for the first time, when he found that he could only walk with difficulty. In spite of treatment with electricity and massage, his gait became more and more difficult. He was transferred to Seale Hayne Military Hospital on July 15th, 1918. On admission he presented many of the characteristics of pseudo-hypertrophic paralysis. His gait was slightly waddling, very marked lordosis was present; he was unable to bend forward, sit or lie down without help, and if he lay flat on his back he was unable to get up. As there was no atrophy of any of his muscles, and no family history of paralysis, it was recognized that the condition was hysterical. After continuous treatment for two hours by persuasion he had greatly improved, and with further persuasion during the following three days he completely recovered.

In some cases, especially when the exciting cause is a blow on the back, the gait is stiff, each step requiring a great effort, and a generalized tremor may be present; the patient sweats excessively, and has an anxious and haggard expression.

*Treatment.*

All forms of treatment except psychotherapy are useless. Thus electricity, unless employed as a means of suggestion, massage, and fixation in a plaster jacket after straightening the spine under an anaesthetic, as recommended by certain French writers, do no good, and may do harm, by fixing the idea of disease more firmly in the patient's head.

Any form of psychotherapy is likely to be efficacious. I hypnotized my first patient, a 19-year-old soldier, whose back had been bent for two months after rheumatism contracted at Gallipoli. He walked quite erect whilst hypnotized, and I woke him up whilst he was still walking. Though it had been arranged for him to embark for England the next day, he asked to be allowed to stay at Lemnos, as he was now cured, and a week later he returned to the peninsula at his own request. In spite of this success I have not again employed hypnotism in such cases, as I prefer to use simpler methods, which are just as effective. Until recently we had never failed to obtain a very rapid cure by means of persuasion and re-education, in most cases very rapidly. We explain to the patient how the position he assumes on standing and walking is simply a bad habit, contracted when the originally severe

pain in his back could only be relieved by bending forward. He is made to realize that the fact that he can lie down with his back straight proves that there is nothing serious the matter with his spine, and that he would in fact lose such pain as he has on standing, if he were to relax his muscles and stand erect. He stands with his back to a wall with his heels touching it, and his shoulders are then gently but firmly and persistently pushed back till they also touch the wall. He is told that the pain he feels whilst this is being done will disappear directly he is erect, and the less resistance he offers the quicker he will be cured. In most cases relaxation rapidly follows, and in a few minutes he finds he can stand erect without support. He is then taught to walk in the same position, and recovery is complete. I cured a discharged soldier in this way in a quarter of an hour without admitting him to hospital; he was to return to his home in Australia a few days later, and the condition had existed for eleven months in spite of all kinds of treatment. The following is the only case in which simple persuasion and re-education failed, but a cure resulted from treatment with a back-board.

*Hysterical Kyphosis of Five Months' Duration Cured by Back-board.*

A man, aged 31, who had always stooped slightly and had suffered from lumbago for twelve years, developed a very severe degree of kyphosis (Special plate, Fig. A) as a result of falling out of a buggy whilst home on leave. He was treated by massage, blistering, and immobilization for two and a half months, and then by thermal baths and massage for two months at Bath without any benefit. After this he was admitted to Seale Hayne Hospital, but resisted our ordinary methods of treatment by persuasion and re-education for five weeks. He refused to believe that his condition was curable, and disciplinary measures, such as the strictest isolation without receiving or sending letters, with nothing to read and nothing to smoke, and a limited and monotonous diet, only rendered him more stubborn and resistant to treatment. I therefore had a board made with a footpiece fixed at right angles to its lower end. He lay flat on the board with his feet on the footpiece without difficulty, as he had all along been able to lie down with his spine fully extended. The upper end of the board was then very slowly raised, the lower end resting on the floor (Fig. B). He was encouraged to remain lying on the board with his muscles relaxed and his arms lying loosely by his sides. The upper end of the board was raised higher and higher, until at length the board was perpendicular and the footpiece was resting on the floor. As he did not alter his position in relation to the board, he was now standing quite erect. He was told to walk off the footpiece, which he proceeded to do without bending his back (Fig. C), and he was delighted to find that at last he was cured by an absolute painless method after the complete failure of all previous attempts, many of which had caused him severe pain. There was no relapse, and the cure of his physical condition was immediately followed by a complete change in his mental outlook; instead of being morose, depressed, and disagreeable, he became cheerful, happy, and grateful for all that had been done for him.

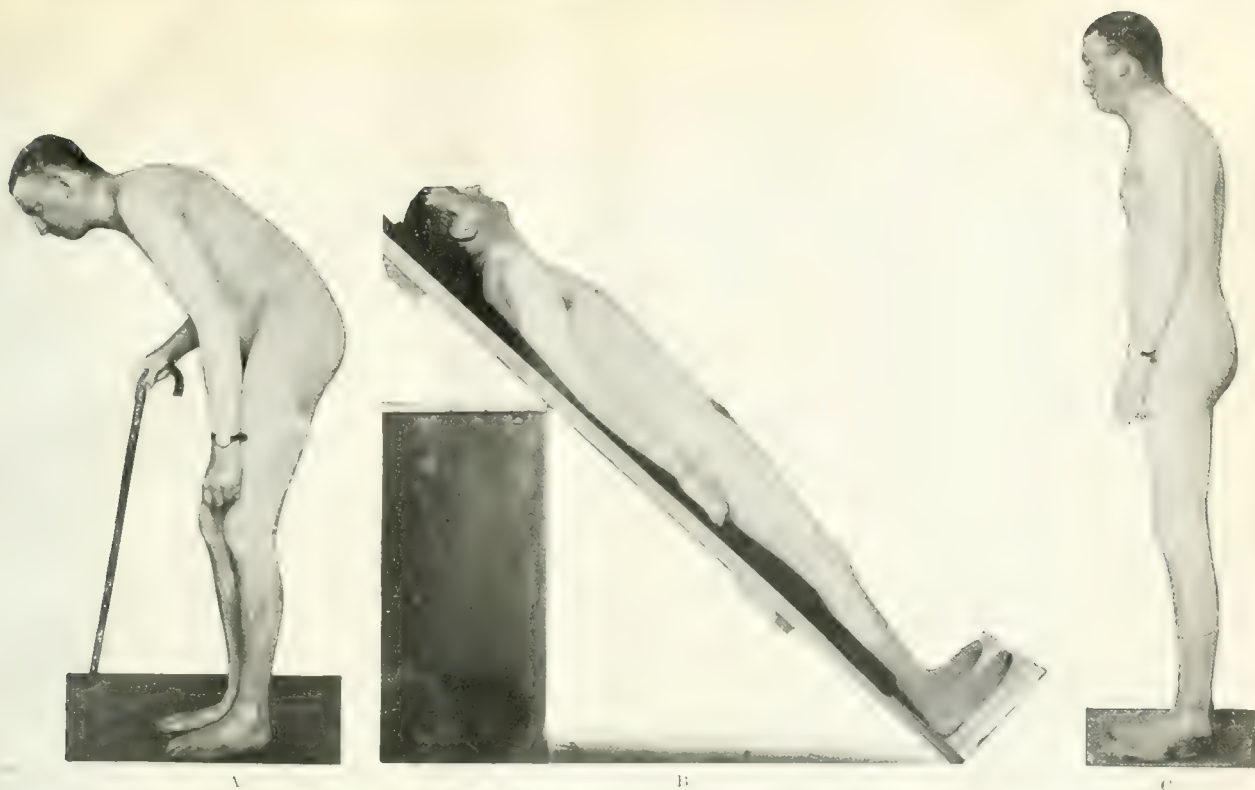
The rapidity and painlessness of the cure in this case suggest that the same method should often be adopted for soldiers with bent backs. If it meets with equal success it would not only save the patient needless pain, but would save the medical officer both time and the expenditure of much physical energy in the more resistant cases. After the preliminary explanation has been given to the patient, the duration of treatment would rarely exceed a quarter of an hour.

*Bent Back in Civil Life.*

The following case, for the description of which I am indebted to Dr. W. Gordon and Mr. E. J. Donville of Exeter, shows that some, at any rate, of the cases of bent back in middle-aged and elderly people, which have hitherto been regarded as due to spondylitis deformans, and consequently as incurable, are really examples of hysterical postures.

Louisa C., aged 49, had been in bed all the winter with her "back bowed," her head bent on her chest, and her arms and legs firmly flexed. She had been unable to use her hands for twelve months. On July 3rd, 1918, she was admitted into the Devon and Exeter Hospital under Dr. Gordon and Mr. Donville. The next day, with gentle persuasion and firm pressure, the legs and arms were straightened, but the head remained flexed on the chest. On the third day the same treatment was applied to the head, and the neck was straightened. The patient then dressed herself and walked about the ward, and began to occupy herself with knitting. By August 12th her condition was still improving; she now helps in laying the table for the other patients, and is always knitting or doing other work, but she still has a tendency to keep her head bent forward, although she raises it well when she has her daily drill.





Bent Back of Five Months' Duration. A, Before treatment. B, Under treatment with "back-board." C, After treatment.

D. NOËL PATON, L. FINDLAY, A. WATSON.  
THE CAUSE OF RICKETS.

MAJOR W. F. BROOK: VANGHETTI'S OPERATION.



FIG. 1.

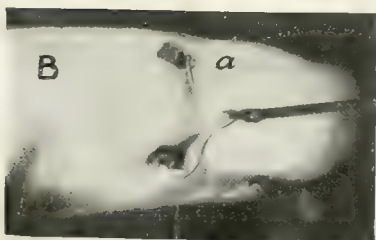
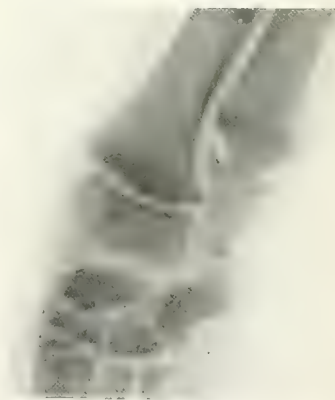


FIG. 2.



FIG. 3.



A



B

X-ray photographs of wrist-joints of A, pup kept in the country and free of rickets, and P, kept in laboratory and markedly rachitic.



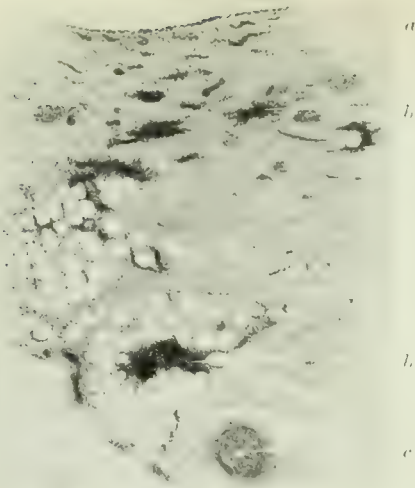


FIG. 1. Showing inflammatory changes in the synovial membrane and capsule. *a*, Synovial membrane. *b*, Group of inflammatory cells. *c*, Thickened blood vessel.

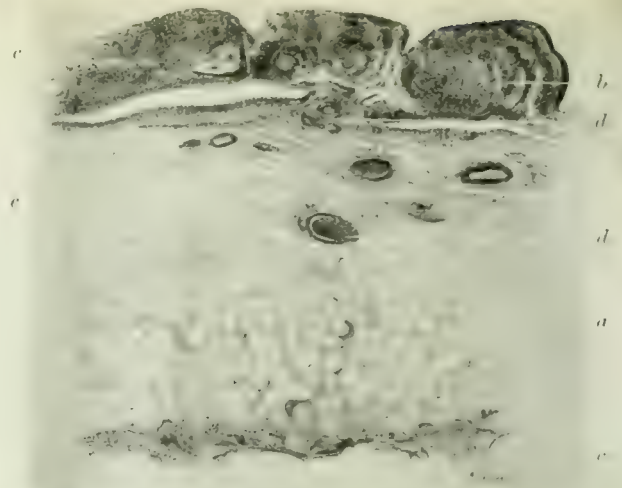


FIG. 4. Showing inflammatory tissue invading surface of articular cartilage. *a*, Articular cartilage. *b*, Inflammatory tissue. *c*, Superficial bone trabeculae. *d*, Blood vessels and inflammatory cells. *e*, Cartilage cells which appear to be taking part in the formation of the fibrous tissue.

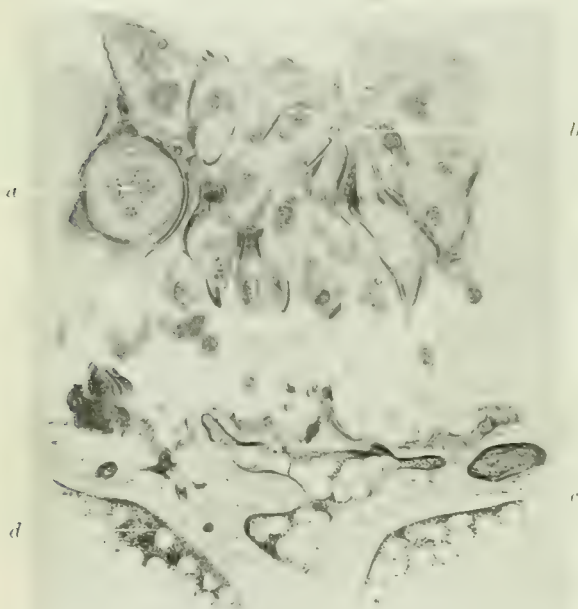


FIG. 2. Showing fibrillation of articular cartilage. *a*, Group of proliferated cartilage cells. *b*, Fibrillation of cartilage. *c*, Superficial bone trabeculae. *d*, Marrow.

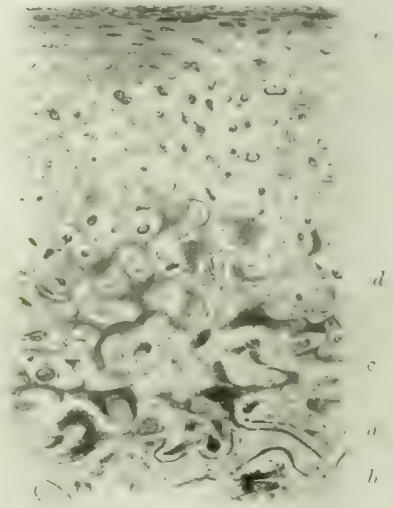


FIG. 5. Showing inflammatory tissue from the superficial marrow spaces invading and replacing deeper layers of articular cartilage. *a*, Superficial marrow space. *b*, Group of inflammatory cells. *c*, Inflammatory tissue replacing cartilage. *d*, Young blood vessel. *e*, Superficial layer of articular cartilage.

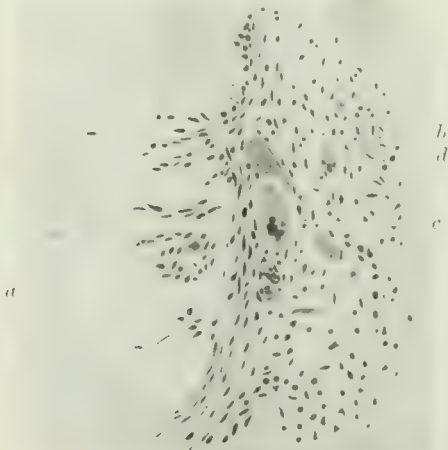


FIG. 3. Showing replacement fibrosis of necrotic hyaline cartilage. *a*, Necrotic cartilage. *b*, Fibroblasts invading necrotic cartilage. *c*, Multinucleated cell. *d*, Young blood vessel.

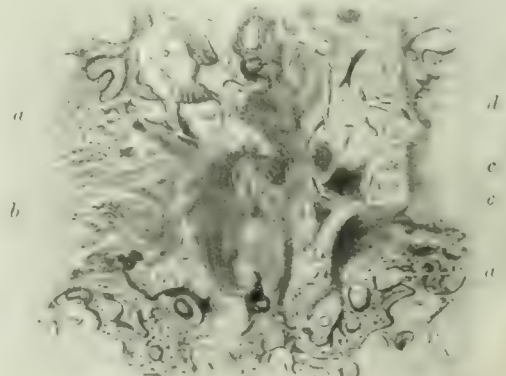


FIG. 6. Showing ankylosis due to inflammatory changes. *a*, Newly formed bone. *b*, Ankylosed hyaline cartilage. *c*, Ankylosed fibro-cartilage. *d*, Young connective tissue cells and new blood vessels. *e*, Group of inflammatory cells.



DEC. DEC.

Similar cases of bent back are not very rare in workmen after accidents, but they have always proved very resistant to treatment. Perhaps the use of the board described in this paper will in the future afford a rapid means of curing civilians as well as soldiers.

## REFERENCES.

- 1 Souques and Mille, *Rosier-Saloff*: *Rev. Neur.*, xxii, 937, 1915.
- 2 Langlet-Lavastine and P. Courton: *Revue Générale de Pathologie de Guerre*, p. 1, Paris 1918. 3 J. A. Sicard: *Bull. et mem. de la Soc. Méd. des Hôp. de Paris*, xxxix, 582, 1915.

## Some Remarks

ON THE

## MORBID ANATOMY AND HISTOLOGY OF RHEUMATOID ARTHRITIS.\*

[WITH SPECIAL PLATE.]

BY

T. P. S. STRANGEWAYS,

LECTURER IN SPECIAL PATHOLOGY IN THE UNIVERSITY OF CAMBRIDGE  
(From the Laboratory of the Cambridge Research Hospital.)

THE following is a summary of a report giving a detailed description of the changes found in joints of patients suffering from that form of chronic arthritis at present recognized clinically as rheumatoid arthritis. The report referred to was submitted to the Medical Research Committee, which made a generous grant in aid of the work from the funds at their disposal.

Most of the specimens which furnished the material for the report were obtained during *post mortem* examination of over 2,000 joints of patients suffering from one or the other of the following forms of chronic arthritis—namely, rheumatoid arthritis, osteo-arthritis, chronic gout, or Charcot's disease. I am indebted to a large number of doctors in practice in Great Britain and Ireland for the clinical and pathological material from which this report was prepared, and I wish to express my gratitude to them for allowing me to conduct the necessary *post mortem* examinations. The anatomical and microscopical specimens prepared to demonstrate the various changes in such joints are preserved at the Cambridge Research Hospital, where they are accessible for inspection to any interested. The revised summary here given has been written in the form of categorical statements.

The term "rheumatoid arthritis" as at present used includes several forms of arthritis which are clearly due to different causes, although clinically they may show several points of similarity.

The crippling and deformity associated with rheumatoid arthritis, or what is taken as such, are largely of muscular origin, which may be (a) of the nature of an involuntary contraction brought about by pain referred to the joint of the crippled limb; (b) due to an involuntary muscular spasm caused by pain on movement of the damaged joint; (c) due to actual atrophy and shortening of some of the muscles connected with the diseased joint. This atrophy is usually associated with disuse and long-continued muscular spasm.

In other cases the deformity is due to changes in the joint itself, such as (a) distension of the capsule by an excess of synovial fluid; (b) dislocation of the bones of the articulation; (c) changes in the shape of the articular surfaces owing to formation of new bone or to erosion of the original.

Some joints which clinically appear to be damaged show very little morbid change on *post-mortem* examination, although symptoms of arthritis with crippling deformity have been present for many years.

Cases are observed in which the capsule of the joint has been distended for a long period by an excess of synovial fluid, accompanied by more or less deformity, but in which on *post-mortem* examination no marked changes are discovered. In some examples of this type the fluid ultimately diminishes. Fibrotic changes may then be present in the capsule, and the articular cartilages may have undergone fibrillation or atrophy.

A considerable proportion of the joints show distinct inflammatory changes in the synovial membrane, in the capsule, or in the bones of the articulation; in any joint

the articular cartilage may be also involved. These inflammatory lesions may be present in one or all of the above mentioned structures, and be either acute, subacute, or chronic.

In a few cases the processes are obviously of infective origin, and are associated with marked inflammatory changes in the synovial membrane and the formation of thick fleshy villi, and vascular adhesions. Microscopically the inflamed tissues show large collections of inflammatory cells and new capillaries. Erosion of the articular cartilage and bones may also be present.

The changes found in a joint affected with what is termed rheumatoid arthritis are usually of an inflammatory nature, but their severity and extent vary considerably in different cases and in different joints from the same case. The changes may be present in a part only of the articulation.

The inflammatory process may originate either in the synovial membrane, in the capsule, or in the superficial cancellous spaces of the epiphysis, or in all three of these structures.

The inflammatory process, if severe, is associated with proliferation of the connective tissue cells, the development of new blood vessels, the accumulation of leucocytes, and sometimes with the extravasation of red blood corpuscles. The inflammatory tissue may originate in the synovial membrane or in the capsule and invade the articular cartilage and bone, or lead to the formation of inflammatory adhesions in the joint cavity. This inflammatory tissue tends in the course of time to become organized and converted into fibrous tissue and may bring about fibrous ankylosis either between the adjacent surfaces of the capsule or between the cartilage, or even between the bones of the articulation if the original cartilage has been destroyed.

In some cases the arthritis is of a subacute type from the onset and the inflammatory changes, although often progressive, are not so marked. In this type the changes may originate in the synovial membrane (Fig. 1), the capsule or the superficial marrow spaces of the epiphysis, from any of which they may spread to the articular cartilage; the process leads to the formation of fibrous tissue in the affected areas, and this, when present in the capsule, causes the latter to contract. The movements of the limb are in consequence restricted, and the articular cavity decreased in size. Fibrous adhesions also develop in these joints, and in some cases fibrous, cartilaginous (Fig. 6), or bony ankylosis.

The changes in the superficial marrow spaces lead to resorption or erosion of the osseous trabeculae, which may be associated with the invasion and replacement of the articular cartilage by the inflammatory tissue (Fig. 5).

Other joints show a slowly progressive inflammatory fibrosis of the capsule often associated with degenerative changes in the cartilage and proliferative changes in some of the superficial marrow spaces. In these joints areas of cartilage may be invaded, either superficially from the capsule, or from beneath from the superficial marrow spaces.

The inflammatory reaction of the marrow of the superficial cancellous spaces of the epiphysis may be of an acute, subacute, or chronic type. In any type the connective tissue cells of the marrow proliferate and new blood vessels form. In many specimens the new connective tissue cells are of stellate form. In other specimens the connective tissue cells appear more fibroblastic, especially such as be near the edges of the bone trabeculae, but in all cases these cells show a tendency to form adipose tissue as the inflammatory process subsides. In those cases where the superficial osseous trabeculae are eroded and the zone of calcified cartilage invaded, the connective tissue cells and vessels form a definitely organized fibrotic tissue, the cells of which do not show the same tendency to form adipose tissue.

In no instance has it been possible to demonstrate periarticular changes of an inflammatory nature around the affected joints, and it is doubtful if there is such a condition as periarticular rheumatoid arthritis.

The changes in the cartilage vary considerably in different joints from the same case, and even in the same joint.

The articular cartilage may show signs of atrophy accompanied by modifications in the staining reaction of the matrix.

\* Read at a meeting of the Medical Society of London, October 28th, 1918.



The articular cartilage may show proliferation of its cells which results in the formation of cell groups usually surrounded by an unstained zone.

The cartilage may become definitely fibrillated, and with this change there is usually evidence of proliferation and the formation of groups of cartilage cells (Fig. 2). The fibrillation begins as a rule on the free surface, and may extend to the deepest parts of the articular cartilage.

The hyaline cartilage may become converted into a modified fibro-cartilage, but in such specimens there is usually evidence of some inflammatory process in the neighbourhood of the altered structure. This process seems to be due to proliferation of the cartilage cells, but in some specimens the connective tissue cells of the inflammatory tissue also appear to take part in the formation of fibro-cartilage.

Areas of the articular cartilage may become necrotic; this necrosis may be found where inflammatory reaction has taken place. The edges of the necrotic mass often show a beautiful "replacement fibrosis" (Fig. 3), which may eventually lead to the complete removal of the necrotic tissue.

In some joints portions or even the whole layer of the articular cartilage may be infiltrated and replaced by a more or less vascular inflammatory tissue (Fig. 4) owing to the cartilage having been invaded by new blood vessels and connective tissue cells. In certain specimens the cartilage cells proliferate, and appear to take part in the formation of the new tissue which has replaced the cartilage (Fig. 4). This replacement of cartilage may begin either on the free surface from an inflammatory process spreading from the synovial membrane or capsule, or in the deeper parts of the cartilage by the extension of an inflammatory process from the subjacent marrow spaces (Fig. 5).

The articular bone may show atrophy, rarefaction, resorption, or erosion.

The superficial osseous trabeculae underlying those portions of the articular surface in which advanced atrophy, fibrillation, or complete wearing away of the cartilage has taken place often show increase in size and density owing to the formation of new bone, brought about by continued use of the limb notwithstanding the joint changes. The amount of the new bone formed appears to depend upon the reaction of the tissues to pressure, and this increases in proportion to the weight and friction on the affected area. In those instances where the cartilage is absent and the superficial bone exposed this process leads to polishing of the superficial surface of the sclerosed bone. Associated with this increased density of the osseous trabeculae minute fractures are often seen; these are probably of traumatic origin. In the neighbourhood of these fractures there is generally callus formation with a combined process of resorption and repair around the injured area. These changes are common in osteo-arthritis and chronic gout, but are not common in rheumatoid arthritis.

In those instances in which the inflammatory changes are confined to the synovial membrane active changes are not observed in the bone marrow or osseous trabeculae, but there is often atrophy of the osseous trabeculae in the neighbourhood of the affected joint; this appears to be due to disuse.

When an inflammatory process attacks the articular cartilage, or bone of a joint, inflammatory changes do not, except in rare instances, involve the whole of the epiphysis, but are usually strictly confined to the quite superficial cancellous spaces and superficial osseous trabeculae (Fig. 5). As a rule these changes are not found over the whole of the articular surface, but only in isolated areas; they vary greatly in intensity and extent in different joints or in different parts of the same joint. The process may be a chronic, slowly progressive resorption of bone accompanied by new formation of bone in the neighbourhood. In such areas very few or no multinucleated osteoclasts are observed. When the process is more active, proliferative changes are found in the bone marrow with congested blood vessels, multinucleated osteoclasts, and inflammatory cells. This process often leads to erosion of the articular cartilage and the underlying bone; with very rare exceptions the formation of new bone can be seen taking place in the affected area. In some cases the resorption of bone is more rapid than the new formation, in others formation of new bone is in excess, and may lead to the formation of bony outgrowths on or around the articular surface.

The development of new bone in a damaged joint may take place (a) in the articular cartilage, (b) in altered articular cartilage, (c) in the zone of calcified cartilage, (d) on the edge of pre-existing bone trabeculae, (e) in inflammatory connective tissue in the cancellous spaces, (f) in fibrous adhesions.

The development of new bone in hyaline cartilage may be due to changes in the cartilage cells; these changes are usually preceded by a deposition of calcium salts in the surrounding matrix. This is followed by proliferative changes in the cells and the gradual development of new bone around the modified cartilage cells.

The development of new bone in altered hyaline cartilage—for example, fibro-cartilage—may occur through changes similar to those described in the hyaline.

The development of new bone is sometimes seen in areas of vascular inflammatory tissue which have invaded and replaced a portion of the articular cartilage. The new bone in this case may either be formed by cartilage cells as above described, or from the fibroblastic cells of the inflammatory tissue.

The development of new bone in the zone of calcified cartilage may be due to changes similar to those described in the hyaline.

In rheumatoid arthritis the development of new bone on the edges of pre-existing bone trabeculae is usually accompanied by proliferative changes in the marrow, which lead to resorption of bone in the neighbourhood of the new formation. The two processes occur simultaneously, and appear to depend upon some irritant causing increased blood supply, which brings about resorption, and upon pressure on the affected area from use of the limb, which causes the development of new bone.

When new bone develops in inflammatory tissue which has replaced the marrow and osseous trabeculae it appears to be formed from fibroblastic cells in this inflammatory tissue.

New bone in fibrous adhesions appears to be formed from the fibroblastic cells of the fibrous tissue.

In all the above instances the development of new bone is associated with the formation of cancellous spaces and marrow tissue. The new marrow usually consists of adipose tissue. The formation of the cancellous spaces appears to be due to the development of new blood vessels, to changes in the vascular supply, and to the development of stellate connective tissue cells which ultimately form adipose tissue.

Limitation of movement in a joint may be due to (a) muscular spasm, (b) shortening and atrophy of muscles and tendons, (c) fibrotic changes in the capsule leading to contraction, (d) alteration in shape of the articular surfaces, (e) ankylosis which may be fibrous, cartilaginous, or osseous.

Where the limitation of movement in a joint is due to muscular spasm it can be overcome by deep anaesthesia, but it returns when the effect of the anaesthetic has passed off.

The forcible movement of a joint in which shortening and contraction of the muscles and tendons is suspected should not be lightly undertaken, as it is often associated with fatty changes in all the tissues of the joint, and fracture of any or all the tissues around the joint may take place.

Fibrotic changes in the capsule associated with contraction may be so extreme that the joint cavity is completely obliterated and the joint surfaces lie in close contact with the fibrous capsule moulded tightly around the articulation.

Fibrous ankylosis is due to adhesions formed by the organization of inflammatory tissue which may originate either in the synovial membrane, the capsule, or in the superficial marrow spaces. These adhesions may partly or completely occlude the joint cavity. They may consist of long processes of more or less vascular fibrous tissue, which thus allow limited movement to take place in the joint, or of dense contracted fibrous tissue which firmly unites the articular surfaces of the two bones (fibrous ankylosis).

The articular cartilage may become ankylosed by the matrix of the two layers of the hyaline cartilage becoming fused into one continuous layer, or the two layers may unite and be transformed into a modified fibro-cartilage (Fig. 6). The ankylosed cartilage may be



invaded and replaced by an inflammatory fibrous tissue (Fig. 6, *d*) or new bone may develop in the ankylosed cartilage and thus bring about osseous ankylosis.

Osseous ankylosis takes places by the development of new bone either in ankylosed cartilage or in the fibrous tissue which has already produced fibrous ankylosis.

Ankylosis may occur between the two zones of calcified cartilage, but this form of fusion shows a tendency to become replaced by one of true bone.

Villous outgrowths are found in some joints. These may be due to (*a*) overgrowth of normal villi; (*b*) inflammatory changes in the synovial membrane or in the capsule.

Villous outgrowths in a joint may consist of (*a*) vascular fibrous tissue, (*b*) dense fibrous tissue, (*c*) fibrous tissue enclosing groups of fat cells, (*d*) inflammatory tissue with dilated capillaries and groups of inflammatory cells, (*e*) degenerated or necrotic tissue, (*f*) connective tissue showing vessels deeply congested owing to obstructed circulation.

Villous outgrowths may become detached by rupture of the fine pedicles, and so form a loose body in the joint cavity. The detachment may be preceded by necrosis.

Microscopic villi formed of cartilage are occasionally found on the surface of altered articular cartilage. These may be formed of hyaline or fibro-cartilage.

No constant changes are found after death in the organs or tissues of patients who have suffered from rheumatoid arthritis.

## OBSERVATIONS ON THE CAUSE OF RICKETS.

WITH SPECIAL PLATE.

BY

D. NOEL PATON, LEONARD FINDLAY,

AND

ALEXANDER WATSON.

(From the Physiological Laboratory, University of Glasgow.)

In the course of an investigation on metabolism in rickets the difficulty of getting satisfactory material from children induced us to produce rickets in a certain number of young dogs, while keeping others free from the disease.

The previous experiences in this laboratory had shown that rickets may almost certainly be induced in the great majority of pups of certain breeds of dog by simply keeping them in the animal house of the department, while the experience of every keeper who breeds dogs is that if pups are to be reared without rickets developing they must have abundant exercise in the open air. One of us (L. F.) has already published an experimental investigation on the etiology of rickets in young dogs, in which he records that puppies freely exercised when fed on bread and water, oatmeal and water, etc., did not develop rickets, but became marasmic and died. On the other hand, puppies fed on oatmeal porridge and milk, if allowed to run about, remained free of the disease, but if confined developed it.

In the large series of experiments made by Mills Renton and Madge Robertson<sup>2</sup> in this laboratory on the influence of thymusctomy on the production of rickets, all the pups were kept on the same diet of oatmeal porridge and milk with bones for them to gnaw. Some became rickety, some remained free of the disease, their immunity seeming to depend rather upon the breed than upon their mode of life. Thus, all the collies developed rickets; of the retrievers one remained normal while two became rachitic; the two fox terriers showed slight signs of rickets, while the two greyhounds remained normal. Thymusctomy had no effect on the onset of the disease. One collie which had suffered severely from rickets made a complete recovery, and was alive and well except for deformities at the age of six months. The diet had not been altered, but the animal had been kept outside during August and September for most of each fine day.

In 1913 Casimir Funk<sup>3</sup> suggested that rickets may be due to absence of some "vitamine" from the food, but his arguments in favour of this view are far from convincing.

As is well known, Bland-Sutton maintained that by the administration of fat the development of rickets in young carnivores kept in confinement might be prevented. But the general experience of zoological gardens at present is that no amount of fat in the food will prevent rickets if the cubs are confined.

Hess and Unger<sup>4</sup> record observations on negro children in the negro quarter of New York where a very high proportion develop rickets, which tend to show that cod-liver oil has a prophylactic action.

E. Mellanby, on January 26th, 1913, gave a short communication to the Physiological Society reviving Funk's vitamin theory and maintaining that he had demonstrated by experiments on pups that—

"1. Rickets is a condition primarily due to lack of an accessory factor in the diet.

"2. This accessory factor is found in 1. extractives, especially meat; 2. fats, especially butter, but not in linseed oil.

"3. Lack of exercise may play some part, but not a primary part, in the development."

Till his evidence has been published it is of course impossible to estimate the value of the observations. The present vogue of "vitamines" and "accessory factors" seems to have led to a somewhat premature adoption of this theory.

The very extensive study of the "Social and Economic Factors in the Causation of Rickets" by Margaret Ferguson from this laboratory<sup>5</sup> gives little support to the theory that the disease is due to a dietary deficiency. The tables given on pp. 68 and 69 seem to show conclusively that the difference in diet between rachitic and non-rachitic families is small and that the overlap is large, and indicate pretty clearly that some other factor than feeding is involved in the causation of the condition. The very striking difference in the air space of the houses and in the extent to which the two groups of children had opportunities of free egress to the open air seems to show that in some way these conditions exercise a marked influence upon the immunity to the development of rickets.

### Present Observations.

As already stated, the present observations were not undertaken primarily to investigate the etiology of the disease, but to give us a certain number of normal controls, and a certain number of rachitic animals for the study of calcium metabolism.

Since seventeen pups were involved an opportunity was afforded of checking and extending our previous experience.

Two litters were used, both collies, a breed peculiarly liable to rickets. The first litter of eight was received on March 30th, 1918, just after they had been weaned at seven weeks old. They were of a small black collie strain. When they arrived they were in poor condition and verminous. The vermin were destroyed, and they improved in condition. They were fed on oatmeal porridge and milk, and were killed at 13 weeks old.

The second litter of nine, of a rough working collie strain, were received with their mother on March 22nd, 1918, at 14 days old. They were all in good condition, and were suckled till about March 28th, and then put on oatmeal porridge and milk.

They were killed when about 11 weeks old.

### A. Pups Sent to the Country.

Of the first litter a dog and a bitch were sent to the country on April 12th, 1918, when 9 weeks old. They were in poor condition when they left the laboratory. In the country they were kept in a large loose-box in a stable, and they had the run of a stable yard and garden under the personal observation of one of us (D. N. P.). They were sent back to the laboratory on May 12th and killed at the age of 13 weeks. They were strong and healthy and showed no signs of rickets. (Special plate, Fig. A.)

Of the remaining six of the first litter one was sent to the country on April 19th, 1918, in charge of another laboratory worker, but it did not get the same amount of exercise as the other four, and was returned on May 2nd, looking thin, after which it was allowed to run about in the laboratory. When killed at 13 weeks old the body was well nourished. X-ray and post-mortem examination failed to show definite signs of rickets at the ends of the bones, although the femur was soft and split easily with a knife.

Of the second litter a dog and a bitch were sent to the country on April 18th, 1918, at 5½ weeks old, and were kept under the same conditions as the first litters till June 3rd, when they were returned to the laboratory free of rickets and killed at the age of 11 weeks. Both sets of checks were fed upon oatmeal porridge and skimmed milk, the average amount consumed by each pup per day being: Oatmeal 150 grams, milk (skimmed) 280 c.cm. Taking the fat content of skim milk at even 1 per cent.—it is generally given at 0.3 per cent.—this gives 2.8 grams of fat per day.

### B. Pups Kept in the Laboratory.

The remaining five of the first litter were kept in the laboratory in a large airy room. Four were as far as possible kept confined in a stall about 3 ft. by 3 ft.

One was allowed the run of the room, but being alone it took little exercise.

The food consisted of oatmeal porridge and whole milk—oatmeal 175 grams, milk (whole) 100 c.cm.—till May 21st, when,



as the pups were larger, 200 c.cm. were given. Taking 3 per cent. as the average amount of fat in milk, this is equivalent to 5 grams per day, and later to 6 grams.

During life the wrist-joints were examined and photographed by x rays, and careful necropsies were made after killing with chloroform and bleeding. All showed marked rachitic changes, and the femur split easily with a knife. (Special plate, Fig. B.)

The remainder seven of the second litter were allowed to run about in the laboratory till May 21st. One died on May 6th. After May 21st three were confined in a small stall, while the other three had the run of the room. Those in the stall were constantly trying to get out and took almost as much exercise as the others.

Ten grams of butter were given daily, from May 9th, to one of those confined and to two of those running about. One of the latter died on June 3rd, and showed signs of rickets. The others had the same food less the butter. The food was the same as that of the first litter.

Those without butter were getting about 3 grams of fat at first, then 6 grams of fat, while those with butter during the latter period were getting, say, 6 grams plus 8.5 = 14.5 milk fat per day, equivalent to about 450 c.cm. of milk. As was to be expected, they showed a somewhat more rapid growth than the others. All were killed, along with the checks, on May 15th at the age of 11 weeks. They were examined and photographed by x rays, and careful post-mortem examinations were made.

All those kept in the laboratory showed signs of rickets to a greater or less degree. One which had been confined and had had butter (Dog 2) was most markedly affected. It was unable to walk. Another of the confined animals which had had no butter was least affected. No difference could be detected between the others. All showed marked splaying of the fore feet, distinct rachitic changes of the wrist joints, and softening of the femur, so that the bone cut easily with a knife.

#### LITTER I.

Weight in kilos.

In Country.				In Laboratory.			
				Confined.			Running Free.
Date.	D2.	B1.	B2.	D3.	B5.	B3.	B4.
1918.							
April 1 ...	2.19	1.75	1.65	1.77	1.90	1.65	2.53
" 8 ...	2.15	1.85	1.77	1.80	2.00	1.77	2.45
" 15 ...	—	—	1.75	2.32	2.15	2.00	2.72
" 22 ...	1.90	1.90	—	2.25	2.30	2.00	2.95
" 29 ...	2.78	2.90	—	2.46	2.27	2.20	3.00
May 6 ...	—	—	2.30	—	—	—	—
" 13 ...	4.90	3.95	2.40	2.80	2.60	2.40	3.15
Gain: Total ...	1.90	2.20	0.75	1.03	0.70	0.75	0.62
" Per week (average)	0.31	0.36	0.12	0.17	0.12	0.12	0.10

D2 and B1 were sent to the country on April 12th, 1918, and were returned to the laboratory on May 12th. B2 was sent to the country on April 19th, and was returned on May 2nd.

#### LITTER II.

Weight in kilos.

In Country.			In Laboratory.						
			Confined.				Running Free.		
Date.	D1.	B2.	B1.	B4.	B5.	D2.*	B3.*	B6.	B7.
1918.									
April 1 ...	0.88	1.17	0.68	0.93	0.70	0.87	0.80	0.66	0.77
" 8 ...	1.00	1.30	0.72	1.04	0.71	0.97	0.84	1.00	0.90
" 22 ...	—	—	1.07	1.42	1.00	1.45	1.18	1.45	1.42
" 29 ...	—	—	1.23	1.62	1.07	1.56	1.34	1.6	1.55
May 13 ...	2.55	2.85	1.37	1.82	Died	1.85	1.25	1.70	1.70
" 21 ...	—	—	1.60	2.20	—	1.85	1.40	2.20	1.92
" 27 ...	—	—	1.75	2.20	—	2.10	1.30	2.15	1.95
June 5 ...	4.00	4.05	1.95	2.35	—	2.65	Died	2.50	2.15
Gain: Total ...	3.12	2.88	1.27	1.42	—	1.78	—	1.84	1.38
" Per week (average)	0.35	0.32	0.14	0.16	—	0.20	—	0.20	0.15

\* These three animals were given 10 grams of butter daily from May 9th.

D1 and B2 were sent to the country on April 18th, and were returned to the laboratory on June 3rd.

The pups, both those sent to the country and those retained in the laboratory, were weighed at regular intervals. (See accompanying tables.) It will be seen that the onset of rickets is not associated with periods of active growth.

#### Conclusions.

Pups kept in the country and freely exercised in the open air, although they had actually a smaller amount of milk fat than those kept in the laboratory, remained free of rickets, while the animals kept in the laboratory all became rickety.

The observations seem to show that some other factor than diet is the prime cause of rickets in *D. m.* and afford no evidence that milk fat (butter) contains any accessory factor protecting against the development of rickets.

#### REFERENCES.

<sup>1</sup> BRITISH MEDICAL JOURNAL, July 4th, 1908, p. 13. <sup>2</sup> *Journ. of Path. and Bact.*, 1916, xxi, p. 1. <sup>3</sup> *Ergebnisse der Physiologie*, Dreizehnter Jahrgang, 1913, p. 197. <sup>4</sup> *Journ. Amer. Med. Assoc.*, 1917, vol. xlix, p. 1533. <sup>5</sup> Medical Research Committee Special Report, Series No. 20, 1918.

## VANGHETTI'S OPERATION.

[WITH SPECIAL PLATE.]

BY

W. F. BROOK, F.R.C.S., MAJOR R.A.M.C.(T.),

SURGEON, 3RD WESTERN GENERAL HOSPITAL.

In the recent article dealing with the utilization of stump muscles as advocated by Vanghetti<sup>1</sup> the writer rightly finds fault with Sauerbruch's method of providing the loop motor, for this is all tunnelization amounts to, on the score of "difficulties in maintaining the nutrition of the long flap (in which the lines of blood and nerve supply are largely cut across) and in bringing together the edges of the gap caused by its removal without dangerous tension and inconvenient traction upon neighbouring parts."

During the last eight to nine months I have, when occasion arose, been making use of Sauerbruch's method with more or less success, getting over the above difficulties by—

1. Cutting the flap in the long axis of the limb of ample width (that is, not less than one-third of its length) and with a good lining of subcutaneous tissue.

2. Avoidance of pressure on the skin tube by leaving in it at the time of operation nothing larger than a probe, and by making the muscle canal of ample capacity.

3. Leaving a layer of subcutaneous tissue on the raw surfaces from which the flap is lifted, and covering in with a Thiersch's graft instead of drawing the edges together.

Even so, however, the range of movement is poor owing to another and fundamental defect which underlies the whole method. On referring to Fig. 8 in the article mentioned and to the majority of the illustrations in Sauerbruch's monograph it will be seen that the tissues tunnelized are not only muscle and skin, but fascial sheaths of muscle as well.

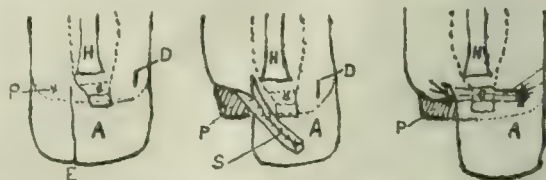


Diagram showing tunnelization of biceps in face of stump during amputation; biceps tunneled at C. H., Humerus; A, anterior flap split at E and punctured at D; P, posterior flap; S, skin tube fashioned; S', ditto in situ.

The continued traction of the working muscle will very soon mobilize skin if free from scar tissue, but on the other hand, fixation of the skin tube to fascial sheath will more or less effectively anchor it and largely defeat the object of the operation. Still, to give the Devil, and even the Hun, his due, the following brief note shows that tunnelization of muscles with a skin tube is likely at times to prove useful in Vanghetti's operation.

I recently had occasion to amputate above the elbow, and was fortunately able to save the whole of the biceps muscle and an ample anterior flap of skin. The musculotendinous stump of the biceps was isolated and tunnelled half an inch from its end (see diagram). The anterior flap



was split vertically at about the junction of its outer and middle thirds and the outer portion, fashioned into a tube, was drawn through the tunnel in the biceps and fixed in a small skin incision, as at D. Though primary union has occurred in the skin tube in spite of a septic focus at the back of the stump, it is too soon as yet to speak with certainty, but I hope in this case to combine the large range of movement of Vanghetti's peg motor with the advantage of his loop.

I have recently seen again a man whose stump muscles I treated as described some six months ago, and two months after amputation above the elbow. The resulting range of movement in the biceps, as shown in the photographs, is fairly satisfactory—that is,  $1\frac{1}{2}$  in.; that of the triceps is not more than  $\frac{3}{4}$  in. Care was taken here to canalize the muscles as close as possible to their cut ends. The detrimental influence of the muscle sheath is less in the arm than in the forearm and increases as the muscle is canalized further from its cut end. In the special plate Figs. 1 and 2 show the extremes of relaxation and contraction of the biceps under elastic traction; *a* is the grafted surface from which the flap for the anterior skin tube was raised. Fig. 3 shows a simple contrivance kindly made for me by Mr. Peacock, of the Dan-y-caled Auxiliary Hospital (associated with the 3rd Western General Hospital), the object of which is twofold—namely, (1) to provide exercise for the muscles pending the fitting of the artificial limb, and (2) to supply as far as possible the normal degree of tension of the muscle at rest, the elastic traction being easily graduated. I had hoped that the latter might, with care, have been maintained continuously—that is, by night as well as day—but find that in this case the skin tube will not tolerate the continuous pressure however slight. This may after all not be essential.

## REFERENCE.

<sup>1</sup>BRITISH MEDICAL JOURNAL, July 20th, 1918, p. 68.

## HYSTERICAL TREMOR.

BY

W. JOHNSON, MAJOR R.A.M.C.S.R.

THE tremor which I propose to deal with here is not the ordinary fine tremor affecting hands and head, so commonly seen in neurasthenia, but a coarse, severe form, somewhat resistant to treatment, exhibited by soldiers, and described by them as "shaking all over." The importance of studying this group of cases—one of the many distinct groups into which so-called shell shock is clinically divisible—will be seen when the question of treatment comes to be considered; unless carefully treated, there is a great tendency in these cases to develop an intractable state by the time they reach England. In the early days thorough treatment yields excellent results.

## ETIOLOGY.

Judging purely from the clinical side and from the severity of the condition in the first few days, it was felt that there must be some organic injury responsible. Investigation of individual patients has, however, shown definitely that this is not so. Some, indeed, have come on immediately after the explosion of a shell at such close proximity that aerial concussion cannot be absolutely excluded as an etiological factor. These cases form a minority, and I have found that most of those I have seen have resulted from severe emotional shock, with no shell-burst near enough to have produced any physical effect. Often it has occurred in a man who has undergone the prolonged strain of heavy fighting, with its consequent loss of sleep and irregular food, simply from the "sights he has seen" or the fact of casualties occurring amongst his friends. The condition falls, therefore, under the heading of "manifestations of fear," hysteria being the cause of the clinical establishment and persistence of the symptoms.

A noticeable feature is that I have not found the condition become established in the case of any officers or senior non-commissioned officers. Rather it seems liable to occur in young poor-looking individuals and to attain a more resistant stage in them than in the few who were older. Therefore, not only is the temperament of the patient

concerned, but his "ego," as influenced by rank, seems to play an important rôle. This I have observed amongst many other types of hysterical disorders.

## SYMPTOMS.

Seen within a few hours of the onset the tremor is often general all over the body, and coarse, almost clonic, in character. The patient often has a trick of keeping his head covered by the blanket, and of blinking spasmodically if this is removed. He is also extremely emotional, and any attempt to question him may result in an outburst of weeping. He should therefore be handled and troubled as little as possible on admission. In a large number of cases two or three days in bed with a dietary not erring on the meagre side brings the patient to the stage when it is obvious that his tremor is not going to persist. In other cases (those with which I am dealing here) it is found that while the tremor has diminished in the legs the patient presents a violent coarse movement of the head and upper extremities. Altogether I have had thirty such cases. When reckoned in ratio of the total number of psychoneuroses admitted, they indicate that the condition is fairly rare. In common with other hysterical disorders, the patient's general state improves all round the while his hysterical symptom becomes worse. He soon walks comparatively well, but the shaking of his head and shoulders seems to become more hopeless each day. The movement chiefly affects the muscles of the neck, shoulder girdles, and pectoral regions. When lying undisturbed the shaking becomes less coarse, and it disappears entirely during sleep. In the waking state it never entirely ceases, and any slight suspicion of danger may aggravate it to an extreme degree. These relapses, however, I have found fairly amenable to treatment.

Examination of the muscles affected brings out a few points of great importance. The patient gradually assumes a "fixed attitude," varying with the severity and distribution of the tremor. The head may be turned to one or other side, or bent backwards, and the shaking carried on from this position. The shoulders are slightly raised, and the movement of the points of the shoulders during the shaking is often considerable. The arms are flexed at the elbows, and the hands in a position between pronation and supination; the tremor is a slight up-and-down movement of the forearm.

These positions, which I have referred to as "fixed attitudes," are the result of a state of mild tonic contraction of the muscles concerned. This condition is readily recognized on palpation with the hand, especially in situations like the neck and forearm, where the hands can loosely encircle the anatomical part. It can also very readily be demonstrated in the trapezius and cervical spinal muscles. This tonic condition of the muscles tends to diminish during the first three or four days, giving place to an increased coarseness in the tremor. It may be of interest to remark that the normal person is able to assume voluntarily this tonic state, but one finds more difficulty in performing, for even a short time, the extensive coarse movement which these patients are able to keep up continually in the later stage.

*Irregular Types.*—The head, shoulder, and arm movements form the common type. In a few cases these cease rapidly, and leave an irregular movement of the facial muscles—chiefly of the orbiculares palpebrarum and oris—associated with slight head tremor. In one case the movement became localized to the left platysma, the whole of which could be plainly seen contracting beneath the skin; this patient had had a slight twitching in this position years before. He improved under treatment, but relapsed badly after a fright. Major T. T. Higgins, who saw him eventually, from the point of view of surgical treatment, pointed out that there was a marked hypertrophy of the platysma on the affected side. I have remarked neither muscle wasting nor hypertrophy in any other cases. More rarely the tremor has become localized to one or other arm, but these cases are of a fairly mild type.

## TREATMENT.

(a) In the first few days before the general shaky condition has settled down into the definite coarse hysterical tremor, the patient is kept in bed, fed fairly generously, and, purgatives excepted, no drugs are given. On the second or third night a mild hypnotic may be called for, if the patient shows any insomnia, but my experience is



that this is seldom needed. The change from trench life to a comfortable bed is usually sufficient to induce sleep, and I hold there is strong reason to avoid the administration of soporifics in these cases. Much more important than drugs at this stage is psychic treatment. The patient finds himself in a ward where the "atmosphere" of cure is strong. He sees other men rapidly recovering from conditions similar to his own. His medical officer visits and talks to him daily, and tries to obtain his intelligent co-operation. I have found that the least hysterical type of patient is able voluntarily to relax his muscles more or less completely. He is told to let himself go as "though he were dead"; and if this is done with any success it is then demonstrated to him that his limbs can be "flopped" about and that at the same time his tremor practically disappears. This mild exhibition of suggestion I have found of great value. On the fourth or fifth day he is got out of bed and enters on a course of mild graduated physical exercises under a special instructor.

(b) Once the typical uncontrollable tremor has been thoroughly established, rigid intensive treatment will alone give good results. Psychic treatment again plays the greater part, and in its name most of what follows is used.

Each case is placed in a cubicle, the lines of treatment explained to him, and his co-operation enlisted. He is kept lying down in as relaxed a position as he can assume, although, as a rule, he does not succeed too well in this. He is seen daily and his efforts commended. The diet is light and given at stated intervals. A mixture containing valerian is given night and morning, or, where indicated, iron and arsenic. Active local treatment of the muscles involved is given twice daily and consists in five minutes' rubbing, followed by five minutes' exercises. Odorous liniments are more successful than the inodorous. The rubbing is done by a professional rubber who used to train men for athletics, and whose methods accordingly are singularly applicable to this type of case. The exercises to follow this are valueless unless the "fixed attitude" of the patient is forcibly corrected while they are being carried out. For instance, where the shoulders are habitually kept raised (that is, in the shrugged position) the patient should be seated near two handles by grasping which he is able to pull his shoulders well down. If necessary, an assistant can aid him by pressing down on his shoulders at the same time. In this position the patient is instructed to perform strong head turning, bending, and rolling movements in regular sequence.

Suitable exercises and suitable positions in which they are to be done must be devised for the individual case. If the shoulders are carried forward, as in marked pectoral tremor, a long stick under the arms will serve to restore their position. If there is a wrong position of the head, this can be counteracted by an assistant pulling the head in a diametrically opposite direction. The resistance experienced in counteracting these attitudes will be found to diminish with each occasion the patient is treated.

As an adjunct in aiding a patient to correct his "fixed attitude," a mirror may be placed in front of him. By this means visual reinforcement is supplied to the voluntary effort, which, as is well known, is deficient in these cases. A looking-glass, too, will be found essential for the performance of the facial exercises in face tremor.

Finally, patients must never be allowed to lose heart during their treatment. A slight modification in routine may be found to suit the mental kink of a particular patient, and this short road to recovery should always be kept in mind.

I have had no failure amongst my cases with the exception of the one case with a pre-war history. If treated from the commencement little trouble is to be anticipated. The average time in the cubicle has been ten to fourteen days. In one or two instances, where the desire for recovery has not been the most prominent point in the case (*les malades invétérés* of the French), treatment has had to be extended up to three weeks and then suddenly the malady has vanished. Here there must be no misplaced sympathy: their treatment should consist, in the aphorism of Sir George Savage in a recent article, of "sympathetic but judicious neglect."

At the annual meeting of the American Surgical Association held at Cincinnati in June 16th to 18th Dr. Lewis S. Pilcher was elected president for the ensuing year.

## PRELIMINARY NOTE ON THE COMPLEMENT DEVIATION IN CASES OF MALARIA:

A NEW AID TO DIAGNOSIS.

BY

J. GORDON THOMSON, CAPTAIN R.A.M.C.(T.C.).

This preliminary note is published in advance of the full paper being prepared on the subject, because the details as to technique which it contains may enable other workers to make collateral studies on an aid to diagnosis in malaria which may prove important. It is especially required to find if possible a test sufficiently delicate to indicate complete or nearly complete recovery from infection.

War Office,  
28th November, 1918.

RONALD ROSS, Colonel,  
Consultant in Malaria.

This research work was undertaken under the direction of Colonel Sir Ronald Ross, K.C.B., K.C.M.G., F.R.S. The difficulty of definitely diagnosing chronic cases of malaria in which parasites cannot be found in the peripheral blood has always been a serious one; and considerable doubt is often held whether a patient has ever had malaria or not.

The effect of treatment by quinine after the disappearance of the parasites from the peripheral blood is gauged by the continued improvement of the patient's health; but there is really no accurate means of determining a permanent cure.

The fixation of complement depends on the presence of antigen and antibody; if either of these is absent the complement remains untouched. Until the present research was undertaken investigators were unable to obtain a satisfactory specific antigen for malaria, without which it was impossible to examine serums by these methods.

After a large number of experiments a specific antigen for malaria has been prepared in the following manner: Make a culture of malaria parasites from as heavily infected a case as possible according to the method described by J. G. and D. Thomson (1913).<sup>1</sup> After twenty-four to forty-eight hours' incubation, pipette off the supernatant serum, and add an excess of distilled water to the remaining corpuscles. Shake up and centrifuge, removing the supernatant fluid each time. This process can be repeated until the fluid is quite free from haemoglobin. The sediment at the bottom of the centrifuge tube consists of the bodies of malarial parasites, the washed envelopes of red cells, and leucocytes. Dissolve this sediment in as small a quantity of decinormal sodium hydrate as possible, and a straw coloured viscid fluid is obtained. Neutralize this by adding normal hydrochloric acid solution drop by drop. The more numerous the malarial parasites and the less fluid used in dissolving them, the stronger the antigen will be. Dilute this solution ten times with normal saline and test its anticomplementary action by titration with varying dilutions of guinea-pig's serum. Carry out further dilutions until an antigen is obtained which does not of itself prevent the action of complement.

The best antigen obtained in these experiments acted well diluted 1 in 30 with normal saline. Experience has shown us that the anticomplementary powers of this antigen varies enormously, and it has been found necessary sometimes to dilute our original antigen one hundred times before it could be used. The higher the dilution of course the weaker the antigen becomes, and it should be the aim of the experimenter to obtain as strong an antigen as possible which is not too anticomplementary. Recently we have used an antigen composed of ten different strains of benign tertian malarial parasites with satisfactory results, and this gives a positive reaction with known cases of benign or malignant tertian malaria.

The antigen must be titrated before use to estimate the minimum dose of complement we require to use in the test. The patient's serum is diluted 1 in 10 with normal saline. Put up for each serum four tubes, three of which contain antigen, the fourth being the serum control.



Into the three tubes containing antigen we introduce two and a half, three, and three and a half doses of complement, and two and a half doses are added to the serum control. An antigen control is put up with each series. Each batch of malaria serums tested has introduced into the series at least two known negative serums and two known positive serums. The method used is long fixation in the cold, the tests being kept overnight in the ice chest. In the morning the sensitized red cells are introduced, and the results read after fifteen minutes in the water bath at 37° C. The reading of the results must be carefully done and taken immediately after the negative controls; serum and antigen controls show complete haemolysis.

By using antigen prepared as above described I have performed tests on the serums of 200 known cases of benign and malignant tertian malaria, with or without parasites in the peripheral blood, and at all stages of treatment by quinine.

After short courses of treatment the blood serum gives positive results, and in many cases we have obtained positive results after a considerable amount of treatment; but the reaction tends usually to become weaker. After very prolonged treatment and in cases where there has been no attack of malaria for many months the blood serum usually gives a negative result.

As the doses of complement used are small and the reaction often weak, it is obvious that the tests have to be carried out with great care, and serum, antigen, negative and positive controls introduced into every series of tests done. The serum should in every case be drawn with aseptic precautions into sterile tubes, and it should be used as soon as possible after being taken from the patient, or fallacious results will be obtained.

It is interesting to note that the serums of syphilitic patients give a positive result with this antigen, and it is necessary to exclude this disease.

How far this test will be of use in the future for the diagnosis of chronic cases of malaria liable to relapse we are unable to state, as experiments have not been in progress long enough, but there can be no doubt that with an improved specific antigen a more definite reaction not so liable to error will be obtained, and thus a new and useful test added to the clinical pathology of malaria.

I wish to thank Sir Ronald Ross for all his kind help and encouragement, and Captain David Thomson and Sergeant Denny, without whose aid I could not have made such progress in these observations. Captain Gardner and Dr. Jamieson gave me great assistance in every way during the investigation.

#### REFERENCE.

<sup>1</sup>The Growth and Sporulation of the Benign and Malignant Tertian Parasites in the Culture Tube and the Human Host, *Proc. Roy. Soc. B.* vol. LXXXVII, 1913, and *Ann. Trop. Med. and Parasit.* vol. vii, No. 4, 1913.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### THE SUPRARENAL GLANDS IN INFLUENZA.

With reference to the report on the influenza epidemic in the British armies in France, 1918 (November 9th, p. 505), it would be of general interest to know if the suprarenal glands showed any abnormality.

In view of the marked decrease of blood pressure in the majority of the cases of fatal bronchopneumonia, the suprarenals were specially examined at the 4th Northern General Hospital in three typical cases. Besides the morbid changes, which are noted in the report, the suprarenals were found to be very disintegrated by haemorrhages, which were most marked at the cortical medullary junction. Sections showed extensive haemorrhages throughout the three layers of the cortex, most marked at the cortical medullary junction, and extending to a slighter extent into the medulla; the cells showed marked cloudy swelling, and many cells of the cortex showed a fatty change, as shown by staining with scarlet red.

E. S. WINTER, Captain R.A.M.C. (T.F.),  
In charge Pathological Department, 4th Northern  
General Hospital, Lincoln.

### LIGHT CHLOROFORM NARCOSIS FOR TRANSPORT.

THE administration of chloroform in the firing line is often clearly indicated. If it is not more often performed it is, I think, because many medical officers do not realize how easily it can be done. A man in severe pain may be put under chloroform more easily than a woman in childbirth. Above all, there is, in my experience, no active excitation period with singing or shouting which might draw the enemy's fire if the wounded man happens to be lying in the open at night.

A few drops of chloroform are put on a handkerchief which is held to the patient's face. He takes three or four slow breaths, finds that the pain is diminishing, and then breathes rapidly and deeply, simply drinking in the chloroform. In little more than thirty seconds the conjunctival reflex disappears.

The injured man may then perhaps be got free from the wreckage of a dug-out, or broken bones fixed in a favourable position, without pain and consequently without increasing the severity of the original wound shock. He is then lifted on to a stretcher and carried back to the regimental aid post, usually remaining in a semi-conscious condition for the whole journey. On arriving at the aid post he may be given tea, hot soup, or, if advisable, a little solid food. The anaesthetic given as described does not induce vomiting. In the warmth of the aid post the patient again soon becomes drowsy, and he finally departs for the casualty clearing station showing very little signs of shock and in as good a condition as one could hope for.

H. M. STEPHENSON, M.C.,  
Temporary Captain R.A.M.C.

### HERNIA OF OVARY AND TUBE.

A CHILD, aged 12 weeks, was brought to the Tynemouth Jubilee Infirmary, North Shields, on account of a painful swelling in the right groin which it was stated, had been present since birth, and increased considerably in size on coughing or other exertion. A small elastic swelling about the size of a pigeon's egg was noted in the right inguinal region; it was dull on percussion, expansile and reducible. A diagnosis of hydrocele of the canal of Nuck was made.

A small incision, parallel to Poupart's ligament, was made, and the sac, which was firmly adherent to the round ligament near its fundus, opened. It contained a small quantity of pale straw-coloured fluid; the right tube and ovary were adherent just beyond the neck. There were several small petechial haemorrhages. The adhesions were separated by gauze dissection and the ovary and tube replaced. The sac was ligatured with catgut and removed, and the wound closed in the usual manner. The child was allowed to go home with its mother after the operation, a collodion dressing being applied. Recovery was uninterrupted.

CYRIL H. CUFF, M.B., B.S. Dunelm.,  
Lieutenant R.A.M.C.

### ABDOMINAL OR BILOCULAR HYDROCELE.

THE following case is a comparatively rare condition. A previous case in this hospital was operated on by the P.M.O., Mr. F. O. Lasbrey, in 1916, and reported by him in the *BRITISH MEDICAL JOURNAL* of August 26th, 1916. This case differs from that in the remarkable size attained.

The patient was an Egyptian peasant, aged about 45, who was admitted to the C.M.S. Hospital, Old Cairo, on August 20th, 1918, complaining of a swelling of the abdomen and scrotum. He attributed the condition to a blow in the groin with a pole some years previously, as after that the scrotum became distended, and later the abdomen also. At the time of admission the abdomen was enormously distended with fluid right up to the costal margin, the lower ribs on either side being widely separated from the middle line. The right side of the scrotum was also very large. On percussion a flat note was obtained over the whole of the front of the abdomen, right up to the ribs, with resonance in the flanks. Communication of fluid between the scrotal sac and that in the abdomen was quite free. A fluctuation impulse could be obtained between the two swellings, and pressure on either increased the tension in the other. The appearance and physical signs of the abdomen were very similar to those in a woman with a very large ovarian cyst.



The patient had to be kept in hospital some time before operation owing to an ulcerative condition of the abdominal wall, the result of native attempts at treatment in his village.

On September 7th an incision about 4 in. long was made on the antero-lateral aspect of the right side of the scrotum, and the hydrocele sac was separated from its coverings and delivered. The neck of the sac was freed as much as possible. A second incision, about 5 in. long, was made vertically on the abdominal wall, over the right rectus, with its lower end about 2 in. above the pubic crest. After cutting through both sheaths of the rectus and retracting the muscle, peritoneum was encountered but not opened. The sac was post-peritoneal, as is, I believe, usually the case, a double layer of peritoneum covering a large part of its anterior surface. This was dissected up. It was very thick, and numerous adhesions had to be tied in freeing it. The fluid contents of the sac were then drawn off through the scrotal incision by means of a trocar and cannula, two pails being filled with the fluid. The hole made by the cannula was clamped, and the whole bilocular sac freed and delivered without rupture. The vas deferens and the vessels of the cord were so elongated and stretched that it was deemed necessary to remove the testicle with the sac. Both incisions were closed in the usual way, and the two wounds drained by a tube in the lower one. The patient made a good recovery.

The fluid contents measured 27 pints, and were of a dark brown colour rich in cholesterine. The sac was later inflated with air and is an interesting specimen, hour-glass in shape, the larger sac being about four times the size of a football.

I am indebted to my colleague, Mr. J. E. Bateman, for his valuable assistance at the operation.

ROBERT B. COLEMAN, M.B., Ch.B.,  
Church Missionary Society's Hospital,  
Old Cairo, Egypt.

## Reports of Societies.

### ACCIDENTAL HAEMORRHAGE.

At a meeting of the Section of Obstetrics of the Royal Academy of Medicine in Ireland, held on October 25th, with Sir JOHN MOORE in the chair, Sir WILLIAM SMYLY reported two cases of concealed accidental haemorrhage.

The first patient was admitted to the Rotunda Hospital on September 1st, 1917, early in the morning. Her two previous pregnancies had terminated normally at full term. This time she had noticed nothing unusual until the previous evening, when she was suddenly seized with violent abdominal pain and a feeling of distension, and noticed an increase in the size of her abdomen. On admission she was blanched and cold, temperature subnormal, and pulse scarcely to be felt; uterus very hard and tender to touch, no fetal parts to be felt, no visible haemorrhage; urine scanty, laden with albumin casts, some pus and blood cells. When the abdomen was opened the uterus presented a remarkable appearance, dark bluish purple, almost black in colour, with blood extravasated in patches over its surface; the peritoneal covering being in places raised in large blebs filled with blood, one of which on the posterior surface had burst; the rent was about an inch in length, and there was free blood in the peritoneal cavity. When cut through, the uterine wall showed blood extravasation throughout. The cavity was filled with blood and the placenta completely detached; the child was, of course, dead. After the uterus had been emptied and the wound closed in the usual manner, it contracted well after a dose of pituitrin had been injected hypodermically. There was no further haemorrhage, and she made a good recovery, the urine being free from albumin before she left the hospital.

The second patient, aged 31, was admitted to the Rotunda Hospital on December 7th, 1917, in the thirty-sixth week of her ninth pregnancy. Her first terminated prematurely at the eighth month in consequence of eclampsia, preceded by headaches and disordered vision, resulting in permanent injury to the sight of one eye. She had convulsions, and was unconscious for a week; the child was stillborn. The four succeeding pregnancies were normal and the children living, but the three following ended in abortion. On admission she said she had been ailing for about three weeks with headaches and impaired vision. Her urine was scanty and contained a large amount of blood and tube casts. The child could be easily palpated, its head presenting in the first position. The diagnosis was pre-eclamptic toxæmia, and she was treated in the usual routine method which has been adhered to for several years in the Rotunda Hospital. For the five days following there was

little change, the total quantity of urine passed in twenty-four hours varied from 20 to 30 oz., and the blood pressure was at least 200 mm. On the sixth day, an hour after taking some barley water and milk, she complained of violent abdominal pain and said she could see nothing. When seen shortly after she appeared to be collapsed. Her skin was pale, cold, and clammy, and bathed in perspiration, the temperature was subnormal, and a little reddish discharge flowed from the vulva. Her abdomen was evidently larger, the uterus swollen, hard and tender, and the fetus no longer palpable. The abdomen having been opened, the uterus presented the same remarkable appearance as in the former case, being much distended, dark bluish-purple in colour, with numerous patches of ecchymosis on its surface, and the wall, when cut through, showed blood extravasated throughout its substance. The placenta was completely detached, the cavity full of blood and clots, and the fetus dead. The operation was rapidly completed, the uterine wound being closed by a running catgut suture. She made a good recovery, but owing to her toxæmic condition was still restricted to water for three days after delivery, during which her urine rapidly improved both in quantity and quality, so that by the fourth day it was normal in colour and free from albumin.

Sir William Smyly said that both these women were in what was commonly known as the pre-eclamptic state, which was identical with eclampsia, and to which Dr. Bar had given the name of "eclampsisme." Most, if not all, the severer forms of accidental haemorrhage occurred in connexion with it; the actual cause of haemorrhage and of the separation of the placenta was thrombosis of the uterine veins. The condition had been aptly compared to that of an ovary tumour with a twisted pedicle. It was noteworthy that one of the patients subsisted for more than eight days upon nothing but water, and that in neither of them was it necessary to remove the uterus.

Dr. HASTINGS TWEEDY thought Sir William Smyly had emphasized three points of especial interest: (1) That the worst forms of accidental haemorrhage were of toxic origin; (2) that the haemorrhage occurred not only into the uterus, but also into its muscle wall and into the abdominal cavity; (3) that the removal of the fetus by Caesarean section resulted in a smaller mortality than if the entire uterus was also removed. It was usual to find the uterine wall retracted shortly after the removal of the afterbirth, and if this occurred haemorrhage would cease, and the shock to the patient would be lessened by an operation which preserved the uterus. He agreed that there was no better treatment than Caesarean section for these toxic haemorrhages where the patient could be treated in a well appointed hospital. For all other forms of accidental haemorrhage the vaginal plug provided a safer remedy, and he had recently been able to demonstrate beyond any doubt that such a plug actually stopped the circulation through the uterine vessels.

Dr. GIBBON FITZGIBBON said there appeared to be little doubt that a toxic type of *ante-partum* haemorrhage existed, and possibly the changes in the uterine blood vessels were allied to those occurring in the liver and other organs in other types of toxæmia. It was only since these cases were first reported by Williams and were operated upon by laparotomy that the true condition had been recognized and the facts explained which accounted for the severe results of haemorrhage in the absence of visible bleeding and often although relatively little blood was afterwards found in the uterus. As regards nomenclature, "toxæmic *ante partum* haemorrhage" appeared to cover everything and to be restricted to the proper type of case.

Dr. BETHEL SOLOMONS did not agree that eclampsism was a good name. It was unnecessary and would puzzle the student. He suggested that all conditions which showed signs of toxæmia—for example, albuminuria, raised blood pressure, etc.—should be grouped under "toxæmia," and that all non-toxæmic forms of haemorrhage should be grouped under "haemorrhage" as heretofore. He had seen one of the cases reported, and he agreed that while it appeared almost foolhardy to leave *in situ* the uterus and broad ligaments bleeding into the abdomen it was, in fact, the best treatment.

The CHAIRMAN said he was much impressed by the value of Sir William Smyly's views as to the close relation of toxæmia to many cases of accidental haemorrhage in pregnancy. The presence of albuminuria and of tube casts in the urine, together with the extremely high arterial pressure noted in one of the cases, pointed to an acute infection, or more probably to an auto-intoxication, from the intestinal tract. The haemorrhagic tendency reminded one of the condition of purpura observed in malignant cases of



typhus, of small-pox, and even of influenza as seen in the existing epidemic.

Dr. MADILL was sceptical regarding Dr. Tweedy's statement that pulsation in the uterine arteries could be stopped by tight vaginal plugging. He found it difficult to understand the effectiveness of induction of labour by plugging in concealed haemorrhage when the uterine wall showed the diseased condition described by Sir William Smyley.

## Reviews.

### AN ITALIAN HANDBOOK OF MALARIA.

PROFESSOR VITTORIO ASCOLI's treatise on malaria<sup>1</sup> is mainly useful, at any rate to those of other nations than his own, by reason of the classified bibliographies it contains. The study of malaria covers a very wide field in its relation not only to clinical medicine and pathology, but also such subjects as entomology, sociology, commerce, strategy, and economics. The literature of such a subject, besides running into thousands of items, is scattered through a large number of periodicals, some of them not accessible in most medical libraries. Had Professor Ascoli's sectional bibliography been fuller it would have been most welcome; unfortunately, it is too short; the whole subject of antimosquito work, for instance, is represented by only twelve entries!

The text of the book suffers from lack of condensation, and a general absence of summaries or any expression of the author's own opinion. The section on quinine prophylaxis, for instance, occupies fourteen pages; quotation of the opinions of thirty-five authors ensures that all sides of the question shall be represented, but there is nothing to indicate what Professor Ascoli himself thinks. Again, was it necessary to give a long general life-history of the malaria organism and then go over the same ground for each of the three species?

The entomological section of the book calls for comment. The author makes the common mistake of figuring egg and pupa of a *Culex* and an *Anopheles*, and then stating that the differences hold good for the two subfamilies as a whole. The broad differences between the larvae and adults of the Culicidae and Anophelinae are, of course, correctly given. It is difficult to see why four species of *Anopheles* are selected for fairly detailed treatment, while a number of quite important carriers of malaria are not even mentioned by name.

The great majority of the figures are not provided with any indication of the scale on which they are drawn. The index is sufficient.

### A TEXTBOOK OF GYNAECOLOGY.

It is just two years since, in reviewing Professor GRAVES's *Gynecology*<sup>2</sup> on its first appearance, we indicated that it was a volume in all respects worthy of the great medical school from which it came, and was likely to find wide acceptance amongst practitioners. The appearance of a second edition within two years seems to prove that this has been the case. We do not, however, wish to base any claims to peculiar discernment on the fulfilment of our expectations, for Professor Graves's book possessed many obvious merits well calculated to command success.

In the second edition the section on the relationship of gynaecology to the organs of internal secretion has been revised. Unfortunately, it seems also to have been elaborated, and this, in the case of a complex subject upon which even expert opinion is still fluid, appears to be a mistake. Those who wish to study the subject exhaustively will seek their material elsewhere than in a textbook of gynaecology.

The use of radium in both malignant and non-malignant growths receives very adequate attention, and the section on the application of radium to the female reproductive organs is the fullest and best we have seen.

<sup>1</sup> *La Malaria*. Parasitologia, patologia e clinica, epidemiologia, profilassi e importanza sociale. By Professor Vittorio Ascoli, Prof. di Patologia Medica, All' Università di Pavia. Torino: Unione tipografico-editrice Torinese. (Sup. roy. 8vo, pp. xvi + 1127; five plates, 143 figures in text.)

<sup>2</sup> *Gynecology*. By Wm. P. Graves, M.D., F.A.C.S., Professor of Gynecology at Harvard Medical School. Second edition. Philadelphia and London: W. B. Saunders Co. 1918. (Sup. roy. 8vo, pp. 885; 491 illustrations. 35s. net.)

In regard to menorrhagia due to "uterine insufficiency" the author refers rather disparagingly to the operation of hysterotomy. Apparently he is not familiar with the literature of this operation in Britain. Indeed, his unfamiliarity with European literature other than German is perhaps the most noticeable demerit of the whole work. Speaking generally, nine out of ten references are German and the tenth is American. One has to search for any reference to either British or French work; even in the most likely places the search is often unfruitful. Our only other criticism is that there is too much in the book. The introduction of a section upon Freud's views as to the sex impulse is unnecessary; and descriptions of operations for umbilical hernia and varicose veins should be left to textbooks of surgery—there is nothing "peculiar to women" in them. With these minor criticisms we endorse our views as expressed two years ago.

### NOTES ON BOOKS.

THE Federation of British Spas, which comprises Bath, Buxton, Cheltenham, Droitwich, Harrogate, Llandudno, and Woodhall, has published a handbook for medical men and health seekers. It has been prepared with the assistance of local medical committees, and is illustrated by pictures and maps. The title is *British Spas and Health Resorts*.<sup>3</sup> Dr. FORTESCUE FOX, in a short introductory chapter, confesses that it is not possible to forecast the future of the British spas, but it is, as he says, certain that nothing ever stands still, and it is therefore difficult to suppose that the British spas can remain in their present phase of development. Able hydrologists in other countries have, he says, in half a century built up a new science, which is included in the scope of their university teaching, but the subject is not taught in this country. Dr. Fox seems to look to the Government to encourage, assist, and in some measure co-ordinate the development of British health resorts, but we would have more hope in the Federation, though it does not yet include all British spas. The matter is really in the hands of the citizens of the various towns, and unless they recognize more fully that a health resort is a place for treatment controlled by medical experts we suspect that British patients will again begin to go abroad, and that their doctors will advise them to do so.

*Iowa's Handbook to the Charities of London* for 1918<sup>4</sup> has just been issued. It is comprehensive, has a well-classified table of contents, which for a book of this kind is better than an index, and has proved its worth by reaching its eighty-third year.

The *Transactions of the Sixth International Dental Congress*, compiled and edited by Mr. H. R. F. BROOKS, has been published by the Committee of Organization (Hanover Square, London, W.), price 30s. The Congress was opened by its president, Mr. J. Howard Mummery, on the fateful Tuesday, August 4th, 1914. On that day the delegates from France, Belgium, and Germany were not present, and it was necessary to bring the congress to a premature end on August 6th. Nevertheless a good many valuable papers were read, which have been collected into this quarto volume of nearly 800 pages.

<sup>3</sup> London and Cheltenham: Burrow and Co. 2s. net.

<sup>4</sup> London and Edinburgh: Sampson Low, Marston and Co., Limited. (Cr. 8vo, pp. lxx+254. 1s. 6d. net.)

### MEDICINAL AND DIETETIC PREPARATIONS.

#### *Polyvalent Influenza Vaccine.*

WE have received from Messrs. Burroughs, Wellcome and Co. a specimen of a mixed influenza vaccine prepared in accordance with the requirements stated at the War Office conference on October 14th (BRITISH MEDICAL JOURNAL, October 26th, p. 470). This preventive vaccine is made under scientific control at the Wellcome Physiological Research Laboratories, and it is stated that each cubic centimetre contains 60 million *B. influenzae*, 200 million pneumococci, and 80 million streptococci, and also that it includes more than twenty strains isolated from cases occurring during the present epidemic. It will be remembered that the conference recommended two doses to be given at an interval of ten days, the second being twice the strength of the first. With the "Wellcome" influenza vaccine, mixed, the first dose is 0.5 c.cm. and the second 1 c.cm. It is issued in phials of 1 c.cm. (price 3s.) and rubber-capped bottles of 25 c.cm.



# British Medical Journal.

SATURDAY, DECEMBER 7TH, 1918.

## MEDICINE IN THE GENERAL ELECTION.

APART from the extension of the franchise to women the most remarkable features of the reform act of this year and of the discussions it aroused were the retention of the representation of universities and the rejection of the principle of proportional representation, except in the case of the universities. Most persons who have gone into the matter with an unbiassed mind have become convinced that a true representation of the opinion of the country can only be obtained by some form of proportional representation. Among the statesmen who hold this view are men of such widely diverse opinion as Mr. Asquith and Mr. Balfour, Viscount Milner and Mr. Smillie, and Lord Robert Cecil and Mr. Gulland.

The university franchise is in addition to, and not in substitution of, the ordinary right to be on the register and to vote for the locality in which the person resides or has his place of business. A person may vote on his residence qualification and also in his university constituency, but it must be noted that, though a man is entitled to be registered on his residential qualification in one constituency and on his business qualification in another constituency, if he makes use of his university qualification he foregoes the right of claiming the business qualification. He may exercise only two votes, one in respect of residence qualification and one in respect of any other qualification—namely, business or university. The definition of "business" is held to include such qualification for registration as is afforded by the tenure of a surgery or consulting rooms in a constituency other than that of residence. A woman is entitled to vote for a university constituency if she has attained the age of 30 and if her name has been placed on the university register. Since in the case of women a business qualification is not recognized for registration a woman voter in a university will not be required to make the declaration that a male university voter must make to the effect that he has not voted at this general election in respect of any qualification other than a residence qualification.

Although the character of the contests in most of the university constituencies will not make the test of the method at all conclusive, it will be interesting to see how proportional representation works in them. It will apply in the University of Oxford, where there are three candidates for two seats, and also in the University of Cambridge, where Mr. Dampier Whetham is standing against the two retiring members, Mr. Rawlinson and Sir Joseph Larmor, F.R.S. It had been announced that Mr. Whetham was standing as a Labour candidate, but we are informed that this is incorrect; he is described by his supporters as "a progressive in university matters and a moderate tory in imperial politics." In the seven combined universities in England there are four candidates for the two seats, but no medical candidate. In the four combined Scottish universities, where a large proportion of the electors are medical graduates, there are six candidates for the three seats; of these three are medical—Sir Watson Cheyne, who sat for the Universities of Edinburgh

and St. Andrews in the last Parliament, Dr. Peter Macdonald of York, who stands as a Labour candidate, and Professor W. R. Smith. In all these cases the election will be by the system of proportional representation, known as the single transferable vote; that is to say, the voter will have the right to number the candidates in the order of his preference. In the Universities of London and Wales, with one seat each, the method does not apply. In the latter Mr. Herbert Lewis, who has been closely associated with the development of the university, is opposed by a woman Labour candidate. For the single seat of the University of London there are now five candidates, including Sir Philip Magnus, who has represented the University since 1906, and Sir Wilmot Herringham, physician to St. Bartholomew's Hospital. In Ireland there are four university seats. Dublin University has two seats, for which there are five candidates, of whom two are lawyers. Both the members in the last Parliament were lawyers, but there is good reason to hope, if the medical graduates rally well to him, that on this occasion one of the seats will be secured by Sir Robert Woods, surgeon to Sir Patrick Dun's Hospital, who, like the two lawyers who are opposing him, is a Unionist. For the National University of Ireland there are three candidates; two are Nationalists—Mr. J. P. Boland, who represented South Kerry in the last Parliament, and Professor Conway; the third candidate is Professor J. McNeil, a Sinn Féiner. For the single seat of Queen's University, Belfast, Sir William Whitla, physician to the Royal Victoria Hospital, and President of the British Medical Association when its annual meeting was held in Belfast, is opposed by Mr. John B. Dolan, M.A. (Sinn Féin). There are thus six medical candidates for the fifteen university seats. It is a matter of great regret that no medical candidate has come forward for the combined universities in England, as it seems extremely probable that such a candidate might have been elected as the colleague of Mr. Fisher, president of the Board of Education.

When we turn to the medical candidates for ordinary constituencies, it is found that there is a possibility of the medical representation in the new Parliament being considerably larger than on any previous occasion. Dr. Christopher Addison, Major W. A. Chapple, M.D., and Sir Auckland Geddes, who sat for constituencies in London, Scotland, and Hampshire in the last Parliament, are standing again. Among the medical candidates nominated elsewhere is Sir Thomas Flitcroft, who is standing for the Farnworth (Lancashire) Division as a Liberal Coalitionist. During his thirty-five years' practice in Bolton he has taken a leading part in the public life of the district, having been president of the Bolton Liberal Association for twelve years, and chairman of its election committee on two occasions. He is an active member of the British Medical Association, is chairman of the Bolton Division, has represented it on several occasions at the Representative Meetings, and has been president of the Lancashire and Cheshire Branch Council. At a meeting of the committee of the Bolton Division on November 26th a resolution was unanimously passed "That Sir Thomas Flitcroft will prove thoroughly acceptable to his fellow practitioners, and can be trusted to uphold to the utmost the dignity of the profession, and to maintain its unity in medico-political matters." Major A. C. Farquharson, R.A.M.C. (T.), who is standing for Leeds, North, has also done much good work for the British Medical Association, and is at the present time a member of the Central Council. The list of



medical candidates nominated, so far as we have been able to ascertain at the time of going to press, is published at p. 636, and in the SUPPLEMENT is a paragraph on the notes and questions for parliamentary candidates which have been forwarded to the secretaries of Divisions for their assistance in interviewing candidates. In view of the relatively small number of medical candidates, it becomes all the more important for the Divisions to take advantage of the opportunity to bring the views of the profession before parliamentary candidates and their immediate supporters in every constituency.

### PAST AND PRESENT.

THE reader of the graphic and entertaining lectures on the state of medicine in the reign of George III, which Dr. Arnold Chaplin delivered last year,<sup>1</sup> cannot have failed to institute a comparison between the standard of six generations ago and the level of professional culture in these times, much to the advantage of his contemporaries. Macaulay's boast (uttered nearly ninety years ago) that "there is not now a bricklayer who falls from a ladder in England who cannot obtain surgical assistance infinitely superior to that which the sovereign of Austria could command in the twelfth century," would, indeed, be equally true if we substituted "eighteenth" for "twelfth" in his sentence. But all good has its rateable proportion of evil and some phases of latter-day thought make it expedient to discuss whether the highly trained practitioner of 1918 may not be in danger of pitfalls his less sophisticated predecessors would have avoided.

This train of reflection is suggested to us by an article in a leading London evening paper dealing with the latest phase of the influenza epidemic, and commencing with the words (the italics are ours): "The influenza epidemic has now apparently been *definitely mastered* so far as London is concerned." We are ready to believe that these words are a mere turn of phrase, but we are not equally sure that the medical profession repudiates with sufficient steadfastness the power to bind and to loose with which the laity seeks sometimes to invest it. There is something too much of military metaphor in dissertations, both lay and professional, upon the public health; we are constantly hearing that only such or such a reform is needed for the "stamping out" of this or that epidemic disease, while "plans of campaign" against tuberculosis, infant mortality, and physical degeneration are endless. Some knowledge of the history of diseases is as useful to the medical reformer as is a training in civil history to the statesman. Perhaps in this respect alone the average practitioner of the twentieth century compares unfavourably with his ancestors, for, while the historical specialists of our generation far surpass in learning and acumen the antiquarians of the eighteenth and seventeenth centuries, the average medical writer's acquaintance with the earlier history of his art is similar to Sir Robert Walpole's knowledge of literature, which consisted, we are told, "of a scrap or two of Horace and an anecdote or two from the end of the dictionary." The reason is much the same—like Sir Robert, the practitioner is interested in other things.

But it is precisely in connexion with the stamping out, or mastering or campaigning against age-long diseases, that this ignorance is dangerous, and may lead to the encouragement of expectations which will not be fulfilled.

We can illustrate our argument from the case of our English Hippocrates, Thomas Sydenham. Paraphrasing Burke, we may ask, Who now reads Sydenham; who ever read him through? Certainly not many popular "experts." Yet a slight acquaintance with the writings of that great man would have saved some from committing very ludicrous blunders. Take the supposedly mysterious and obsolete doctrine of epidemic constitutions. It is easy to jeer at Sydenham, to object (as did Rogers in the eighteenth century) that he did violence to nature in an attempt to bring the succession of diseases in London into conformity with what Hippocrates observed in Thasos. But the fundamental notion that the general symptomatology of reigning epidemics undergoes variations in part intrinsic, in part dependent upon terrestrial conditions which lead to a convergence of types, a doctrine which can easily enough be expressed in current bacteriological phraseology (variations in virulence of the primary organism and differences in the type of secondary invader), had it been part of the ordinary practitioner's intellectual stock, would surely have saved us from much nonsense respecting the "new," "mysterious," and "unprecedented" epidemics of recent years.

Yet another aspect of Sydenham's teaching conveys a needed warning to this generation; his statement of the evolutionary principle in the succession of diseases is thus expressed: "I may be allowed to think, that diseases have certain periods for their remarkable, and hitherto undiscovered changes—changes which take place in the very bowels of the earth, according to its age and duration. Moreover, just as other diseases have existed long ago, yet have already either wholly been extinguished or else have become well-nigh worn out from age (leprosy, for instance, and probably others), so shall those diseases which now prevail, some time or other, sooner or later, become extinct, and in their extinction give way to new species, the natures whereof are beyond even our conjectures."<sup>2</sup>

The decline of plague and the rise of scarlet fever justified this prophecy generations before the dawn of a health age. The vicissitudes of scarlet fever, its virulence in the late eighteenth century, its benignity in the first quarter of the nineteenth, and again its murderous severity for so many years after 1830; the self-congratulations of the profession between 1800 and 1830, Graves's eloquent deduction of the moral that "in spite of our boasted improvements, we have not been more successful in 1834-5 than were our predecessors in 1801-2,"<sup>3</sup> are no mere archaeological curiosities but facts full of instruction for us now. The real triumphs of modern medicine, such as stand recorded in the history of, for instance, the mitigation of industrial lead poisoning, are so great that our profession must not stoop to assent even tacitly to the claims of politicians and other well-meaning but ignorant enthusiasts, that a reconstructed health service will within a few years make straight all that is now crooked. We are, indeed, wiser than our ancestors, but not so much wiser that we can, neglecting the teaching of their experience, accept the bills which are now being drawn so lavishly upon the credit of the medical profession.

Perhaps we can convey our moral in the guise of an apologue. Somewhere in the East a curiously fashioned clock has been set up. This clock will inevitably run down in a finite time, and will stop much sooner if its wheels are clogged by dust.

<sup>2</sup> *The Works of Thomas Sydenham, M.D.* R. G. Latham's translation from the Latin edition. The Sydenham Society, 1848. Med. Obs. v. 4, 15).

<sup>3</sup> Graves's *Clinical Lectures*, i, 304.

<sup>1</sup> BRITISH MEDICAL JOURNAL, 1917, vol. ii, pp. 637, 688, 721.



A prudent artificer who contracts to keep the clock in order while promising to do his best to keep the machinery clean, will point out to his employer that, from time to time, sandstorms have raged and filled the village clocks with dust, and that although he may make suggestions as to weather boarding, he is not in a position to control the whirlwind.

### THE UNIVERSITY CONSTITUENCIES.

THE number of parliamentary seats for the universities used to be nine—five in England, two in Scotland, and two in Ireland. There are now fifteen—eight in England, three in Scotland, and four in Ireland. The universities whose graduates exercise the university franchise for the first occasion at this election are the seven combined universities in England, the University of Wales, the National University of Ireland, and the Queen's University, Belfast. According to a table issued by the Local Government Board, showing the number of parliamentary electors on the first register under the new Act, it appears that the total number of electors in England and Wales is a little over seventeen millions. The university electors number a little over 30,000. The largest constituency appears to be the University of London, with 9,797 electors; next comes the University of Cambridge, with 9,282; and next the University of Oxford, with 7,907. In the seven combined English universities there are 2,357 electors, ranging from 886 in the Victoria University of Manchester to 70 in the University of Bristol. In the University of Wales there are 1,066 electors. The value of the university franchise, therefore, is very high, since 30,000 electors return fifteen members. We can only regret that a larger number of medical candidates have not come forward. We should very much like to see the University of Cambridge challenged. It has been in the habit of returning at least one member of academic and scientific distinction, and has probably the largest medical school in England. It is a matter of particular regret that no medical candidate has come forward on this first occasion for the representation of the combined universities.

### THE TREATMENT OF WAR PSYCHO-NEUROSES.

THE term "shell shock" has hindered the acceptance of a purely psychological explanation of the war psycho-neuroses, and its gradual disuse signifies the growth of a belief that the continuation of symptoms is not, save in a small proportion of cases, due to the physical effects of concussion or burial. Now that the psychical origin of the various symptoms is admitted, we find two methods of treatment which, though essentially different, seem to produce results that satisfy their advocates. In one method reliance is placed upon exercises, electro-therapy, and, it may be, drugs, such as bromides or valerian; the suggestive effect of physical treatment is usually admitted, and deliberate suggestion may be employed, with or without hypnosis. The patients are given employment in order to prevent introspection and are encouraged to forget their war experiences. By those who use the other method little regard is paid to the physical symptoms unless their immediate removal is necessary for practical reasons; thus mutism or paraplegia would be dealt with speedily in order to facilitate further treatment, but the thorough advocate of psycho-therapy would make no attempt directly to treat a stammer or a hysterical gait. All the symptoms are regarded as caused by unpleasant or terrifying experiences which the patient is unwilling or unable to recall; when these memories are brought back and the patient is taught to face them his symptoms are permanently removed. This method is applied to hysterical conditions, and especially to the less obvious but equally important group which includes the phobias, obsessions, and anxiety neuroses.

Its advocates claim that repression of varying degree is to be found in every case, a total amnesia for war experiences marking one end of the scale and a mere reluctance to speak of them marking the other. Hypnosis, word association, and dream analysis are among the means employed to revive the buried memories, and no patient is regarded as cured unless he can discuss his experiences freely and easily. The choice between the two theories is not confined to students of the psycho-neuroses. We all have the alternatives of forgetting our troubles or unburdening ourselves of them; we generally tend to suppress the recollection of unpleasant episodes, and to a certain extent we succeed and retain our peace of mind. Those, however, who hold the second of the two views stated above, consider it unwise to encourage a man to cultivate amnesia for occurrences which have probably been the most emotional events of his life, more especially as, in their opinion, evidence is accumulating which leads them to believe that the recall of buried memories results in cure.

### PHARMACOLOGY IN INDIA.

THE Government of Bombay has appointed a committee to prepare a scheme for a Pharmacological Laboratory and Research Institute for the investigation of drugs, and more particularly the indigenous drugs of India. The committee is in the first place to ascertain what has been done in this direction in other parts of India, so that developments in Bombay may be co-ordinated so far as possible with similar efforts elsewhere. It is instructed to recommend the place where a laboratory and institute could most suitably be established; to advise as to the nature, buildings, equipment and staff required; and to submit an approximate estimate of the cost, including maintenance charges. The committee, which was appointed at the instance of the Honourable Khan Bahadur Haroon Jaffer, is constituted as follows: Lieut.-Colonel A. Street, M.B., F.R.C.S., I.M.S. (chairman); Lieut.-Colonel W. Glen Liston, C.I.E., M.D., D.P.H., I.M.S.; R. Row, M.D., D.Sc.Lond.; N. F. Surveyor, M.D.Bomb., M.R.C.P.Lond., D.P.H.Camb.; Professor T. K. Gajjar; Hakim Syed Abu Yusuf Asfahani, Bombay; Sir Bhalchandra Krishna, L.M., and Mr. R. L. Mackenzie Wallis, Research Chemist to the Director of Industries. We learn from the *Madras Mail* that an informal meeting of medical men has been held at Delhi to decide upon the future of medical research in India, and the relation which should exist between the bacteriological and sanitary departments.

### THE DETECTION OF THE FEEBLE-MINDED.

DR. RICHARD BERRY, professor of anatomy in the University of Melbourne, and Mr. S. D. Porteus, superintendent of special schools in Victoria, have published<sup>1</sup> a useful paper entitled "A Practical Method for the Early Recognition of Feeble-mindedness and Other Forms of Social Inefficiency." The authors suggest that, to determine the prevalence and degree of mental abnormality in a population, a first sorting should be effected by measurement of the cranial capacity. Individuals whose cranial capacities greatly exceed or fall short of the average of their sex and age should then be subjected to a combination of the intelligence tests devised by modern experimental psychologists. A table is given showing the percentiles<sup>2</sup> of 2,104 public school boys and university students, and it is suggested that the mentally abnormal types will tend to be found below the 10 percentile or above the 90 percentile

<sup>1</sup> *Medical Journal of Australasia*, August 3rd, 1913.

<sup>2</sup> The word percentile is due to Galton; the percentiles mark the values of a character possessed by an assigned percentage of a sample. For instance, suppose 1 per cent. of a sample of men have incomes not exceeding £100, 2 per cent. not exceeding £150, 10 per cent. not exceeding £200, and 90 per cent. not exceeding £500. The first percentile is £100, the second £150, the tenth £200, and the fiftieth £500. Galton, however, generally used deciles—that is, the values which divided the total frequency into ten equal parts; the first decile marked the value of the character which was not exceeded by 10 per cent., the second decile that not exceeded by 20 per cent., and so on.



—that is, will be persons whose cranial capacity is exceeded by 90 per cent. of those at the same age or whose cranial capacity is greater than that of 90 per cent. of their fellows. Actually it was found that 50 per cent. of the microcephalics, as just defined were found to be at distinctly subnormal levels, only 5 per cent. being above the average intelligence; while of the macrocephalic group 14 per cent. were of subnormal and 25 per cent. of above average intelligence. The authors very fairly set out the advantages and disadvantages of their method, and we agree with them in thinking the importance of the subject great. The necessarily technical character of papers dealing with tests of mentality and their statistical analysis, and also, perhaps, the vehemence and acerbity with which distinguished eugenicists used to assail one another, have made most medical men a little shy of the subject. But, in these days, when politicians are suggesting that environmental reforms will suffice to create a sound nation, it is imperative for the profession as a whole to take a serious interest in the problem of social inefficiency. Such studies as those of Professor Berry and Mr. Porteus, which display the essential points at issue with a minimum of technical detail, are therefore timely.

#### THE FRENCH CONGRESS OF SURGERY.

THE French Congress of Surgery, which has been in a state of suspended animation since the outbreak of the war, held a well attended meeting in Paris from October 7th to 10th, under the presidency of Dr. Gabriel Maunoury of Chartres, brother of the famous general who won the battle of the Ourcq. The general secretary, Dr. J. L. Faure, in welcoming the foreign visitors, uttered a vigorous condemnation of the members belonging to enemy nations whose names would no longer appear in the lists of French societies. "We do not wish to see them again," he exclaimed; "we shall not see them. To be dishonoured it is enough that they are German." Lieut.-General C. H. Burtchaell, Director-General British Medical Service in France, thanked the medical corps of the French army for its care of the British wounded. Among the questions discussed was the treatment of remote results of nerve injuries by projectiles of war. The general feeling was in favour of free resection of the nerve stumps even at a late date; stress was laid on sufficiently prolonged after-treatment by electricity and mechano-therapy. Sencert of Nancy urged the employment of dead heteroplastic grafts when resection was not possible; he used the ends of the sciatic taken from still-born calves, preserved in alcohol, kept in sealed tubes and placed in sterilized water shortly before use. Dujarier said he had used homoplastic grafts with satisfactory results. Walther said he refreshed the divided nerve ends, resected the lateral neuromas, and tried to enucleate the central ones; he dwelt on the advantage of constantly keeping the nerve operated on in a bath of tepid physiological serum, and on the necessity, if the sutured or liberated nerve were enclosed in muscle, of placing it in non-vitalized muscular tissue, otherwise sclerosis would occur, and the nerve would be involved in the fibrous tissue. Maclaure said he surrounded the freed nerve with a fenestrated sheet of india-rubber; when the ends of the injured nerve could not be brought together he bridged over the gap by fixing in it a portion of a neighbouring nerve trunk. The other subjects discussed were the extraction of projectiles from the chest cavity, the removal of splinters, and the repair of losses of bone substance.

#### THE ABORTIVE TREATMENT OF SYPHILIS.

In a paper urging the necessity for legislative reforms Wassermann<sup>1</sup> deplors the ignorance still obtaining in Germany among the authorities, in the medical profession

as well as among the general public, concerning syphilis. Few realize, he insists, the significance of the serological proof that 12 to 15 per cent. of the population of large towns are syphilitic, otherwise certain legislative measures would have been taken. He would have compulsory serological tests in every maternity hospital, and compulsory treatment for the mothers and infants giving a positive reaction. Prostitutes also should, in his opinion, be legally bound to submit to the Wassermann test from time to time. He holds that a complete cure can be effected in practically 100 per cent. of all cases if salvarsan treatment is instituted on the demonstration of spirochaetes, before Wassermann's reaction has become positive. When this phase is reached the spirochaetes have been deposited in the tissues, and a complete cure cannot be anticipated with certainty. Short as is the interval between the discovery of spirochaetes and the reaction of the patient's serum to the infection, the fate not only of the patient but of all his family may turn on the institution of treatment during it.

#### THE FUTURE OF THE DISABLED MAN.

In the second number of *Revue*<sup>1</sup> the policy of including contributions of general literary merit is continued. Thus there is in the November issue a poem by Mr. Thomas Hardy, a story by Stacy Aumonier, a characteristic article by Mr. G. K. Chesterton, and an article by M. Brieux, the French dramatist, on our duty to blinded soldiers, which forms a link with other articles of a more technical character. Thus the Director-General A.M.S., describes what the War Office is doing; he states that, in view of the fact that it was clearly beyond the powers of the Ministry of Pensions, for lack of accommodation and a trained staff, to treat the cases requiring orthopaedic treatment, the War Office agreed to help the Ministry of Pensions, which undertook afterwards to maintain the necessary institutions and continue the treatment, and meanwhile to erect annexes at each military orthopaedic centre. These annexes, which remain under the surgical supervision of War Office expert surgeons attached to the centre receive pensioner cases residing in their neighbourhood who still require indoor treatment; out-patient treatment is given to all pensioners at all special or general military hospitals. The War Office has placed temporarily 300 beds in its orthopaedic centres at the disposal of the Pensions Ministry, and has released some 2,300 beds in civil hospitals. The position, however, is still far from satisfactory. The editor of *Revue*, Mr. John Galsworthy, sounds a warning note in the most serious tone. He insists that pensions and monetary aid, though necessary, will not do what is wanted, for they will not stop the brooding and bitterness of the men who gave up their best energy in the prime of their youth. Occupation and the sense of usefulness alone will cure. The situation demands not only all our energy and co-operation now, but far sight into the future. He estimates that over 400,000 disabled men have already been discharged and that there are, perhaps, as many more to come. The question is whether so large a proportion of the men should be in this permanently disabled condition. It may seem a serious thing to say, but we believe that, had the Medical Department of the Pensions Ministry shown more foresight, a very considerable proportion of the crippled pensioners might have been cured or very greatly improved by efficient surgical treatment for their injuries, so that the work begun in the army could have been completed. The question, as Mr. Galsworthy says, is very serious, and a solution is urgently needed. Time is of the essence of the problem. The War Office offer is until the end of the war. In doing so much, it is really going outside its sphere, and it is clearly the duty of the Pensions Ministry to proceed at once to organize an adequate system.

<sup>1</sup> Zeit. für ärzt. Fortbildung, No. 9, 1918.

<sup>1</sup> H.M. Stationery Office, November, 1918, Pp. 634, 541.



## EPSOM COLLEGE.

As each year draws to a close it is our privilege to call the attention of readers of this JOURNAL to the claims upon their benevolence of the Royal Medical Foundation of Epsom College. This institution was founded sixty-five years ago by John Probert, a medical man. Its object is twofold—to provide pensions for medical men and their widows in reduced circumstances and an education of the highest class for their sons. The College Foundation, on which fifty boys are educated and maintained free of cost, is restricted to the necessitous sons of medical men, while outside the Foundation sons of medical men are received on lower terms than other boys. Hence the College always contains a nucleus of doctors' sons, and more, perhaps, than any other public school, it is a recruiting ground for the medical profession. Founded and supported largely by the efforts of medical men, Epsom College is thus directly linked up with each generation of practitioners. In order to maintain the fifty Foundation scholarships and the fifty pensions to aged and impecunious medical men or their widows, an annual sum of not less than £4,500 has to be raised by subscriptions. This task has proved more and more difficult during the past four years, and the problem of ways and means has been a source of ever-increasing anxiety to the Council. The work has nevertheless been carried on throughout this period of financial stress, and we feel sure that the appeal by the Treasurer, Sir Henry Morris, which we print at page 641, will not be made in vain. Increased subscriptions and new contributors are urgently needed.

SIR GEORGE NEWMAN's report of the Medical Department of the Board of Education for the year 1917 has just been published, and contains a record of the work carried out under the Board by the School Medical Service in England and Wales. The Ministry of Health Bill, introduced during the last days of the late Parliament, does not propose to transfer this function from the Board of Education to the new Ministry; but Sir George Newman indicates in his preface that the School Medical Service, while it must remain an integral part of the public system of education, could be effectively correlated with other health services. The report is of much interest, and we propose to consider it in an early issue of the JOURNAL.

## MEDICAL REPRESENTATION IN PARLIAMENT.

THE candidates nominated on December 4th for the forthcoming parliamentary election include the following medical men. We shall be glad to receive any corrections or additions to the list.

Basingstoke, Hants: Sir Auckland Geddes, M.D.  
Bishop Auckland, Durham: Dr. V. H. Rutherford.  
Cheltenham: Dr. Richard Davies.  
Chickmanman and Eastern: Stirling: Major W. A. Chapple.  
Derby, High Peak: Dr. Clifford Brookes.  
Farnworth, Lancashire: Sir Thomas Flitcroft.  
Leeds, North: Major A. C. Farquharson.  
Liverpool: Wavertree: Dr. Nathan Raw.  
Llandaff and Barry: Dr. C. F. G. Sixsmith.  
Llanelli, Carmarthen: Dr. J. H. Williams.  
London: Battersea: Colonel Arthur Lynch.  
Bermondsey: Dr. A. Salter.  
Shoreditch: Dr. Christopher Addison.  
Southwark (Central): Captain L. Haden Guest, M.C.  
Whitechapel and St. George's: Dr. R. Ambrose.  
Mansfield: Dr. N. M. Tarachand.  
Mayo, North: Dr. J. Crowley.  
Meath, North: Dr. P. J. Cusack.  
Morpeth, Middlesbrough: Major T. M. Allison; Captain Gerald D. Newton.  
Moseley, Birmingham: Dr. R. Dunstan.  
University (Queen's) of Belfast: Sir W. Whitla, M.D.  
University of Dublin: Sir R. H. Woods, M.Ch.  
University of London: Major-General Sir Wilmot Herringham.  
Universities of Scotland: Sir W. Watson Cheyne, Bt.; Dr. P. Macdonald; Professor W. R. Smith.  
Wallasey (Cheshire): Dr. B. V. P. McDonald.  
Western Isles (Scotland): Dr. Donald Murray.  
Wexford, South: Dr. James Ryan.  
Willesden, West: Dr. J. S. Crone.  
Wolverhampton, Bilston: Lieut.-Colonel J. Kynaston.

## THE WAR.

## A WET NIGHT.

BY

SIR ANDREW MACPHAIL,  
CANADIAN ARMY MEDICAL CORPS.

THE Ambulance had rested.\* We were now on our way from the Salient to the Somme. The news that kept drifting up from the south was not cheerful. In Belgium for the past year we had lived in a permanent line; in commodious cellars; in caves well roofed with timber, earth, and brick; under sound canvas or metal that defied the rain from above.

But now the talk was of "field service," in an area devastated of any habitation above the ground, and little chance of shelter, except a refuge in the warm heart of the earth. A blanket and a ground sheet was the most that was promised; but the first lesson of war is, that nothing is ever as bad—or as good—as it looks. So there was a cheerful cynicism in all minds.

We were out upon the world again, and orders were to live in the open, to sleep in the fields unless rain fell, rather than in houses unless it were fine. These two sets of alternatives are not identical. It is much easier to go out when it is fine than to discover a place of shelter when it rains. Someone else has always found it first.

Three things to the civilian are a marvel: how the soldier under all conditions of weather keeps well, clean, comfortable. A soldier falls into one of three categories: well, dead, in hospital. As armies do not carry their sick or their dead with them all soldiers on the march are well. A soldier is clean if his buttons, belt, and boots are clean, and he himself shaven; his clothes are already of the earth earthy. It is his business to appear comfortable, even if he is not so. For the men it is all very simple, because a man may bear upon his back as much as he likes for his protection against the weather, for his health, comfort, and cleanliness. He may carry a bundle of firewood and a kitchen stove if he has sufficient resolution.

For the officer things are not made so easy. He is allowed a weight of thirty-five pounds only on the baggage wagon, and very little on his person because he rides a horse. If he is not merciful to his beast, the transport officer is a most merciful man, and will see that the horses are not imposed upon.

And yet it is a delicate way of travelling, with everything under one's hand for any emergency of weather. Within certain limits each officer devises for himself a certain plan of equipment which will suffice for a campaign. He and his horse are one, and between them they carry all that is needful for the composite creature no matter what may befall.

The bridle is in part a head-stall, which is really a halter with a white rope attached to the ring and thrown over the horse's neck in form of a loop. The bits and reins can be removed, and the horse secured by the rope. On the left of the saddle is a picketing peg; beneath the saddle a blanket made fast by a surcingle; on the right is a shoe-case, a canvas bucket, and nose-bag in which 10 lb. of corn are carried. And so the horse is provided for.

For one's self: in the left saddle-bag is a leathern roll containing all toilet articles—razors, strop, soap, nail-brush, toothbrush, corkscrew, tin-opener, cigarette papers, scissors, nail file. A hair brush, towel, and steel mirror completes. In the right saddle-bag are a pair of socks, a metal flask of rum, which is useful for many purposes, a tin of tobacco, and small cleaning tools. Attached by a strap is a mess-tin with knife, fork, spoon, and silver cup. Upon the cantle is carried a ground sheet rolled, and in fine weather a waterproof cloak with hood, all ample



enough to cover horse as well as man when it rains. The officer carries slung a water-bottle, gas-mask, and haversack. The haversack holds food for twenty-four hours, one book, writing material, maps, and many small luxuries.

If one wears a greatcoat, it matters little if the baggage wagon goes astray, although it does carry a sleeping-bag in which are blankets, ground sheet, extra uniform, under-clothing, shirts, collars, and sleeping suit. There is also a dunnage bag for boots, sweater, brushes, candles, and various odds and ends. With this equipment wet or dry does not matter.

It was a sullen morning in early September. At sunrise there had been a gleam of light and an ominous rainbow in the west. The poplars shivered in the garden, and showed the pale under sides of their leaves. The pigs in the midden were carrying straw in their mouths, and the geese squawked with apprehension of discomfort. The area was alive with movement. The various units which compose a division were pouring out of their camps upon the little roads, and proceeding to the junction with a main thoroughfare, ready to take their places in the procession as it passed. An ambulance marches at the rear of its own brigade; in all brigades the order is the same, and position can be taken in the dark.

Within an hour the whole division was in motion upon converging lines; bands playing, columns sliding slowly along the landscape, but all details of the movement obscured by a mist which arose from the river. A division is at a standstill for a longer time than it moves. A train is crossing the front. A bridge is choked. A lorry breaks down. A team balks at a hill. The movement begins again, but the tale of miles is small when night comes.

But these pauses are not tiresome. One dismounts and lies by the road. There are late poppies to look at, which soften the lips of the serpiginous trenches, patches of purple kale, golden stacks of grain, roots in yellow piles covered with pale wilted leaves. And in all fields are the indomitable French women at work, without parade and without self-consciousness. In one field is a stout old woman following a harrow, drawn by a large grey horse and a small brown mule—so slowly. She used a stick to help herself over the heavy ground, and the big horse would not turn at the end of the field until he had rested for such time as he thought proper. Three younger women followed picking up the weeds in their aprons. Another woman was swinging a two-handed scythe, and her daughter-in-law, as one might surmise, was lifting the pitiful swath, and binding it into sheaves. Yet more were gathering potatoes. An old man was sowing seed broadcast, and a still older man with a child was holding some brown cows by strings so that they might crop the rich grass which grew rank in the ditches. None lifted their heads to see the passing show. The sight was too common, and all were quite heedless of the wet, which now began to fall in a drifting drizzle.

We descended the high ground to the river bottom, if one may describe as a river a rush-fringed watercourse overgrown with willows and dank osiers. We crossed a narrow bridge, and ascended the high ground towards a mass of trees that showed green upon the upland and on the map, and bore the mysterious name of *EPERLEQUES*.

Once more the sun came out, and after interminable travelling we found our bivouac in a level field at the southern border of the forest. It was void of buildings of any kind. There was, however, in the near distance a château, but it was already appropriated by a battalion of infantry. In this field we unhooked, unharnessed, watered, and fed the horses, and put them to their lines with the forage which we carried.

An ambulance is always in action. It picks up casualties on the march, and cares for them at the halts. Tents were pitched for the patients—a small marquee for operations, one for an orderly room, and one for the mess. By this time the cooks' fires were burning, and there was a

neat repast for all. The sun still shone, but with a treacherous brilliance, and the afternoon was free.

To a Canadian, at least, this was a new kind of forest. In Canada a forest means a forest, a place of rocky desolation choked with undergrowth; raw cut areas with the slash lying ready for conflagration; or a region of blackened stumps over which the fire has already passed. But this forest of *Eperlecques* was a heavily wooded park with clear springs, and shady groves, and sunny hills. As one wandered in its depths one would not be surprised to meet a rough satyr or a faun with cloven heel. There was the hut of a charcoal-burner in a clump of branching sunproof elms, where according to the story books one might meet a friar with a lanthorn; or at the proper time see pert fairies and dapper elves keeping their "merry wakes and pastimes." Indeed, the young major, as we walked, was casting a practised eye to right and left, as if he might encounter the wily glance of a nymph.

The light faded with a sudden finality. It was time to think of camp and some shelter for the night. The horses were happy. The drivers were already resting under their wagons. The motor ambulances were converted into boudoirs for those who were entitled to use them. The men suspected from the morning rainbow, from the mist, and drizzle, and sudden bursts of sun, that there would be a wet night. Each pair of mates found two short crotched sticks. They fastened them in the ground six feet apart. They laid a long stick in the crotches. They lashed their two ground sheets together with spun yarn, and laid the fabric for a roof, pinning down the edges to the ground with loops of yarn and splinters of wood. A slight ditch and drain completed the simple but secure habitation.

The rain yet kept off, and the officers manifested a fine unconcern. It was all a pretence. Each one had a design of his own, but it must be carried out with his own hands. In a field were stooks of rye in long sheaves. They might not be taken, they could not be bought. They would be rented for the night, so the owner allowed. He also added that "the glass was very bad."

In the corner of the wood was an immense tree, its trunk wreathed with ivy. The roots had heaved a mound upon the surface of the earth, which promised an escape for the waters which were about to fall. Upon this mound close against the tree the sheaves were laid in fours, with a space left into which a long low dog could bestow his sinuous length. The sleeping-bag was placed upon this mattress. Blankets were spread, and spare clothing formed a pillow against the prime log of the tree. Above the couch a ground sheet was stretched like a canopy from the saplings in the thicket, with a nice incline which would throw the water clear at the foot. Upon the tree were hung from a hook haversack, water-bottle, and such articles as could be hung in shelter of the roof.

Near at hand a stout stake was fastened from two small trees, and upon it the saddlery was placed with the dunnage bag laid lengthwise below, and over all was spread a ground sheet. The air was deadly still, and a candle end burned without a flicker to light the little woodland home.

A lovely bell from the tower of *Eperlecques* rang out seven o'clock. It was now dark in the woods, and the camp was soon asleep. This was the first time in a year that I had heard the night sounds of the country—the thud of an apple as it fell from the tree, a bird in distress, a small animal in its death agony, a fish leaping in the pond. From time beyond man's memory the path of the little creatures of the wood lay across the roots of this tree. There would be a patter of running feet, a pause at the unwonted obstruction, a quick-taken breath, a leap across, and a scamper into the woods again. These shy ones may really have been fairies at last.

In the still, heavy dark a crash, not of guns but of thunder unfortunately, and the rain began to fall. A



first it fell softly, and gave a delicious sense of comfort which soon passed into sleep. It must have been some hours later that one awoke with the awful certainty that the worst had happened. The rain was descending upon the trees with a reverberating roar. The dog, with a sense that he had been betrayed by trusting to a human being, was nosing his wet way into the blankets. Inside, the water was everywhere. In such circumstances there is nothing to be done but to do nothing, to lie still. The water was already warm. If it could be warmed as fast as it came in, no harm would follow. It was better to be lying down wet and warm than standing up wet and cold.

But after several awful uncertain minutes the cold and water had the best of the controversy, and I extricated myself from the clammy chill. It was easy to guess what had happened. The fabric had slipped away from the tree, and the canopy, which was fast, discharged its waters, and flooded the bed through an obscure rent in the cover. All was not lost. Boots, breeches, jacket, and under-clothing were dry beneath one's head. These were quickly put on; but to shave in the wet dark was a trial of courage. A candle does gutter.

I came on deck, as one might say. The level field was awash. The water overflowed the ditches, and stood within the tents, but the patients were yet secure upon their few inches of stretcher. There was smoke from the cooks' stoves. Where there is smoke there is fire, and where there is fire there is hot tea. Also there is sweetness, for that is the one standard which an army cook sets for himself. The men stood by and wished for the day, as if the day could make any difference.

Presently the wagons from the divisional train arrived, and dumped the forage and rations for the next twenty-four hours. In the lot were two cases with designation marks, which quite accurately disclosed the nature of the contents. They were consigned to a private owner, but the owner was sought out with one consent. Although the contents were little amongst such a multitude, there was two ounces apiece, and all confessed that they were warmed at least down to the waist.

Daylight came. Patients were evacuated by motor ambulance to the nearest stationary hospital. Tents were struck. Equipment was packed and loaded. The camp was cleaned of the last shred of debris. The horses were put to the wagons, and the transport dragged out of the mire on to the hard road, where it was left in column of route with the horses feeding at the splinter-bars ready for a clean start. Riding horses were saddled and the saddlery protected with a ground sheet. The infantry battalion was also afoot. Under a portico their band was playing the "Peer Gynt" suite. The bandmaster was more musician than soldier, and the "Death of Aasa" did not add to the cheerfulness of the morning.

The division was again upon the move, every day a little further towards the Somme. It was now nine o'clock. All the rain in the sky had fallen, but it took twelve hours to come down. The blackness vanished, and solid billowy clouds went before the wind. French children came into the roads, and cried, "Vous allez partir?" In an awed whisper one inquired further, "Pour les tranchées?" They had heard where their fathers were. We were going to them, and the children longed and wondered.

The sun came out, and a hot steam went up from the earth. The harness was rubbed dry by sheer force of arm, and horses were groomed until they shone. Chains were polished; brass wheel caps were brightened, and the ends of steel axles were made into shining discs. Wagons were rubbed with a greasy sock and covers drawn tight. The men shook the wrinkles out of their jackets, and with stick and brush made their buttons to shine.

Kits were adjusted. A whistle sounded. The Sergeant-Major said, "All correct, Sir." The Colonel said, "Field Ambulance—column of route—by the right—quick march."

We were on the road again. At the first turning the G.O.C. went by. "You are very well turned out this morning," he said. He knew it had been a wet night. We had had our reward. He said we were well turned out.

## INDIA AND THE WAR.

We published last week an abstract of the dispatch of the Commander-in-Chief in India on the work done there during the first three years of war. An official memorandum has now been issued on the forces contributed by India and on the number of casualties.

At the outbreak of war the strength of the army in India was: British, 76,953; Indian, 239,561. The number of Indian ranks recruited during the war up to September 30th, 1918, was 1,161,789, of which 757,747 were combatants and the rest non-combatants.

The number of officers and men sent on service overseas from India up to September 30th, 1918, was:

	British.	Indian.
To France ... ..	18,934	131,496
To East Africa ... ..	5,403	46,936
To Mesopotamia ... ..	167,551	588,717
To Egypt ... ..	19,166	116,159
To Gallipoli ... ..	60	4,428
To Salonica ... ..	66	4,938
To Aden ... ..	7,386	20,243
To Persian Gulf ... ..	968	29,457
	219,534	953,374
Total ... ..	1,172,908	

British ranks sent from India to England totalled 42,430, making with the above a grand total of 1,215,338.

The total Indian casualties in the same period were 101,439; in Mesopotamia there were 14,742 killed and 30,589 wounded. The next largest casualties were incurred in France, where 6,900 were killed and 16,380 wounded.

## CASUALTIES IN THE MEDICAL SERVICES.

### ROYAL NAVY.

#### *Died on Service.*

SURGEON SUBLIEUTENANT E. A. PEARSON, R.N.V.R.  
Surgeon Sublieutenant Eugene A. Pearson, R.N.V.R., was reported as having died on service, in the casualty list published on November 29th.

### ARMY.

#### *Killed in Action.*

CAPTAIN R. F. COPLAND, R.A.M.C.  
Captain Robert Ferguson Copland, R.A.M.C., who was returned as missing on March 21st last, has now been reported by the Geneva Red Cross as killed on that date aged 25. He was the youngest son of the late James Copland of Cromarty, and was educated at Aberdeen where he graduated M.B. and Ch.B. in 1915, after which he took a temporary commission as lieutenant in the R.A.M.C., and was promoted to captain after a year's service.

#### *Died on Service.*

LIEUT.-COLONEL M. HOLMES, N.Z.M.C.  
Lieut.-Colonel Mathew Holmes, New Zealand Medical Corps, died at Wellington, New Zealand, on November 15th. He was the son of James S. Holmes of Wellington, and was educated at Edinburgh, where he graduated M.B. and Ch.B. in 1902 and M.D. in 1908, also taking the diploma of F.R.C.S. Edin. in 1905. After acting as resident medical officer of St. Mary's Hospital for Women and Children, Manchester, he returned to New Zealand, and went into practice at Wellington, where he was honorary physician to the Wellington Hospital. He joined the New Zealand forces early in the war, and was promoted to lieutenant-colonel in 1916.



## LIEUT.-COLONEL J. M. REID, R.A.M.C. (RETIRED).

Lieut.-Colonel James More Reid, R.A.M.C. (retired), died suddenly on November 18th, aged 62. He was born at Newnham Stewart, Wigtownshire, on January 29th, 1856, and educated at Edinburgh, where he graduated M.B. and C.M. in 1878, and M.D. in 1880. Entering the R.A.M.C. as surgeon on February 2nd, 1884, he became surgeon-major on February 2nd, 1896, and lieut. colonel on February 2nd, 1904, retiring on January 29th, 1911. He served in the Tirah campaign in the North-West Frontier of India in 1897-98, and in the third China war of 1900, receiving the medals, and rejoined for service in the present war on January 17th 1915. He was a Fellow of the Royal Geographical Society and of the Institute of Public Health.

## MAJOR H. W. SYKES, R.A.M.C.

Major Harold Widdington Sykes, R.A.M.C., was reported as having died on service, in the casualty list published on November 29th. He was educated at the University of Durham College of Medicine, and graduated M.B. and B.S.Durh. in 1909, and M.D. in 1912. He then went to South Africa, and, after acting as resident medical superintendent of Grey's Hospital, Pietermaritzburg, Natal, took up the post of assistant medical officer to the sick fund of the Randfontein Estates, Transvaal. He took a temporary commission as lieutenant in the R.A.M.C. on June 7th, 1915, and was promoted to captain after a year's service, and subsequently to major.

## CAPTAIN (ACTING MAJOR) W. S. MACDONNELL, C.A.M.C.

Captain (acting Major) Winfred Smyth Macdonnell, C.A.M.C., whose death on service on November 15th we announced last week, was born at Port Hood, Nova Scotia, on December 25th, 1888. He graduated in medicine at Dalhousie University, Halifax, N.S., in 1910. He first served for seven months in the Royal Navy, and then with the R.A.M.C. at the front, in France, for one year. He was appointed to the C.A.M.C. in August, 1916, and after serving with the Duchess of Connaught's Hospital, Taplow, he was transferred to the London area. He was subsequently transferred to the D.G.M.S. branch, and was appointed D.A.D.M.S. in January, 1918.

## CAPTAIN B. W. CHERRETT, E.A.M.S.

Captain Bertram Walter Cherrett, East African Medical Service, died of pneumonia after influenza at Nairobi on November 4th. He was educated at St. Bartholomew's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P. Lond. in 1906, and the D.P.H. in 1909, also graduating M.B. and B.S.Lond., with honours, in 1907. After acting as assistant medical officer of Plaistow Hospital, he entered the East African Medical Service, in which he held the post of health officer at Nairobi, the capital of British East Africa. He received the temporary rank of captain on August 29th, 1914.

## CAPTAIN E. D. KEANE, R.A.M.C.

Captain Edward Dawson Keane, R.A.M.C., was reported as having died on service, in the casualty list published on November 25th. He was educated at Aberdeen, where he graduated M.B. and Ch.B. in 1901, after which he went into practice at Banff, where he held the appointments of assistant visiting physician to the County Asylum, Banff, assistant surgeon to the Chalmers Hospital, Banff, and assistant physician to Banff Dispensary. Subsequently he removed to London, and was in practice in North Kensington when he took a temporary commission as lieutenant in the R.A.M.C. early in 1917. He was promoted to captain after a year's service.

## CAPTAIN C. R. LISTER, A.A.M.C.

Captain C. R. Lister, Australian Army Medical Corps, was reported as having died on service, in the casualty list published on November 29th.

## CAPTAIN S. W. MATTHEWS, R.A.M.C.

Captain Samuel Wauchope Matthews, R.A.M.C., was reported as having died on service, in the casualty list published on November 29th. He graduated M.B., B.Ch., and B.A.O. of the National University of Ireland in 1917, took a temporary commission in the R.A.M.C. in September, 1917, and was promoted to captain after a year's service.

## CAPTAIN G. L. MAULE, R.A.M.C. (S.R.).

Captain Geoffrey Lamb Maule, R.A.M.C. (S.R.), died of pneumonia at Baghdad on November 15th, aged 26. He was the only son of the late Dr. William Maule of Birkdale, Southport, and was educated at Shrewsbury, at Christ's College, Cambridge, where he graduated B.A., and at Manchester University. He took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1916. After acting as house-surgeon of Manchester Royal Infirmary, he joined the Special Reserve of the R.A.M.C.

## CAPTAIN M. W. H. MILES, R.A.M.C. (S.R.).

Captain Maurice William Holt Miles, R.A.M.C. (S.R.), died at Streatham of pneumonia after influenza, on November 25th, aged 25. He was the son of Mr. W. Miles, and was educated at Merchant Taylors School, and at St. Thomas's Hospital, where he gained a scholarship. He joined the army at the beginning of the war, and served as a combatant in France, Egypt, Gallipoli, and India, after which he was released from service to complete his medical studies. He took the diplomas of M.R.C.S. and L.R.C.P.Lond. in January, 1917, and subsequently graduated M.B.Lond. After serving as house-physician at St. Thomas's, he took a commission as lieutenant in the Special Reserve of the R.A.M.C., but was invalided on account of ill health soon after his promotion to captain.

*Wounded.*

Major F. Henderson, M.C., R.A.M.C. (temporary).

Major H. D. Lane, M.C., R.A.M.C. (T.F.).

Captain W. G. Mackenzie, R.A.M.C. (T.F.).

*Previously Reported Wounded, now not Wounded.*

Captain W. G. Shakespeare, R.A.M.C.

## DEATHS AMONG SONS OF MEDICAL MEN.

Cox, James Nicol, late Royal Engineers, son of the late Dr. D. Charles Cox of Annan, died in hospital, November 24th.

Irving, Alfred, Second Lieutenant 15th Sikhs, youngest son of Dr. M. H. C. Irving of the British Guiana Medical Service, whose death in action in Mesopotamia, on October 26th, we announced in our last issue, was born in Demerara in April, 1899. He was educated at Epsom College, where he was captain of the cricket XI in 1916. He entered the Indian army in May, 1917, and was gazetted to the 15th Sikhs, but was attached to the 14th Sikhs at the time of his death.

Kirton, Ralph Imray, Lieutenant Royal Air Force, elder son of Dr. C. I. Kirton of Honor Oak, London, S.E., died at the Cambridge Hospital, Aldershot, on November 22nd, as the result of a flying accident, aged 25.

O'Malley, Coman Geoffrey, Lance-Corporal, Royal Dublin Fusiliers, fifth son of Dr. D. J. O'Malley, J.P., of Glennamaddy, co. Galway, killed in action in France on October 14th. He was brother of Captain V. D. O'Malley, M.C., Royal Dublin Fusiliers, Captain Cusack C. O'Malley, M.C., R.A.M.C., Lieutenant C. O'Malley, A.S.C., M.T., and of Lieutenant Wilfrid O'Malley, Connaught Rangers.

Smith, W. Robson, Captain R.F.A., son of Dr. James Smith of Newcastle-on-Tyne, died on November 19th at the New Zealand Stationary Hospital, St. Omer, France, from pneumonia. He was a student of medicine and dentistry at the Durham College of Medicine, Newcastle-on-Tyne. He joined the ranks when war broke out, went to France in April, 1915, and was commissioned in December, 1915. He returned to France in April, 1916, and had been on active service since then in France and Flanders.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]

## HONOURS.

THE names of the following medical officers appear in a long list of awards for conspicuous gallantry and devotion to duty, published in a special Supplement to the *London Gazette*, dated December 2nd:

*D.S.O.*

Captain David William McKechnie, No. 6 Field Ambulance, C.A.M.C.

While preparing an advanced dressing station in a village it was subjected to an intense bombardment, but he remained at his post dressing the wounded, and refused to take underground cover.

Major Stanley Graham Ross, M.C., 6th Field Ambulance, C.A.M.C.

On three successive days this officer was in charge of collecting posts and advanced dressing stations. He accompanied the stretcher-bearers in the advance to see that proper touch was maintained. His coolness and disregard of danger under heavy fire had an excellent effect on the work of the bearer parties.



Colonel Robert Mills Simpson, C.A.M.C., A.D.M.S., 2nd Canadian Division.

He established, often under heavy fire, his advanced dressing stations and collecting posts, and personally superintended the evacuation of the wounded. When a sudden attack resulted in the capture of a village, he went up under fire and personally dressed the wounds of his men on the field, evacuating all by the evening. His tireless work undoubtedly saved many lives.

*Second Bar to Military Cross.*

Temporary Captain (acting Major) Robert Masson Greig, M.C., 63rd Field Ambulance, R.A.M.C.

He displayed conspicuous gallantry and great devotion to duty in attending to the wounded and superintending their evacuation from advanced positions. To his admirable organization and self-sacrificing endurance, working without rest or sleep, many wounded men owe their lives, and his coolness and courage when leading his stretcher-bearers forward under heavy fire were admirable. (M.C. gazetted November 25th, 1916. First bar gazetted September 16th, 1918.)

*Bar to Military Cross.*

Captain (acting Major) Charles Stuart Peddie Black, M.C., 1/2nd (Low.) Field Ambulance, R.A.M.C.(T.F.).

During an advance under heavy shell and machine-gun fire he reconnoitred the forward roads and brought up a tent subdivision and set up an advanced dressing station. By his energy and courage he was enabled to clear all wounded from the aid posts and evacuate them to the main dressing station. (M.C. gazetted October 29th, 1915.)

Captain Christopher Matheson Finlayson, M.C., C.A.M.C., attached 20th Canadian Battalion, 1st Contingent Ontario Regiment.

As medical officer of the battalion during an attack he did excellent work in attending to several wounded men under shell and machine-gun fire. His coolness and attention to duty, regardless of personal safety, were an inspiration to all. (M.C. gazetted September 24th, 1918.)

Captain (acting Major) William Murdoch, M.C., R.A.M.C. (S.R.), attached 52nd Field Ambulance.

During three days' severe fighting he was untiring in his efforts, working night and day with his stretcher-bearers, attending to wounded in forward positions and evacuating them rapidly through difficult country. He was severely wounded in the arm by direct machine-gun fire, but insisted on carrying on his duties until he received a direct order from the commanding officer to report to a dressing station. His courage under fire and great endurance were splendid examples to every one. (M.C. gazetted January 1st, 1918.)

Temporary Captain Patrick Joseph O'Reilly, M.C., R.A.M.C., attached 7th Battalion East York Regiment.

He attended to the wounded under heavy fire during several days' operations. He advanced with the leading troops in an attack, and brought in many wounded men from in front of the lines. He set an inspiring example of coolness and skill. (M.C. gazetted November 14th, 1916.)

Temporary Captain (acting Major) John McLean Pinkerton, M.C., R.A.M.C., 13th Field Ambulance.

He went forward with some bearer squads to bring in wounded which bearers had been prevented from getting to by machine-gun fire. He ultimately succeeded in bringing in some of the wounded, though fired on every time he was observed. Throughout the operations he showed the greatest zeal and devotion to duty. He was finally severely wounded. (M.C. gazetted November 25th, 1916.)

Temporary Captain (acting Major) William Kenneth Armstrong Richards, M.C., R.A.M.C., attached 55th Field Ambulance.

He followed up an attack under very heavy fire, and organized and carried out the evacuation of the wounded during several days' operations with the greatest courage and skill. (M.C. gazetted June 4th, 1917.)

*Military Cross.*

Temporary Captain Patrick Augustine Ardagh, N.Z.M.C., attached 1st Battalion, Auckland Regiment.

He worked in the open all day under very trying conditions, and at times under heavy fire. Hearing that the personnel of another battalion's aid post had been blown out, he at once went to the place and worked for several hours under shell fire until he had cleared the wounded. By his energy and disregard for danger many lives were saved.

Captain Charles Francis Atkinson, C.A.M.C., attached 44th Battalion, Manitoba Regiment.

During an attack, finding that heavy enemy machine-gun fire prevented any carrying back of casualties, he went forward and personally dressed a large number of casualties. Later, under heavy fire, he organized special parties and cleared all wounded effectually. He saved a number of lives.

Captain George Raymond Baby, No. 4 Field Ambulance, C.A.M.C.

He brought up a stretcher-bearer section immediately behind the infantry advance and collected the wounded. He was continuously exposed to every kind of hostile fire. His energy in searching for the wounded resulted in his area of the battlefield being thoroughly and quickly cleared.

Captain James Everett Barry, C.A.M.C., attached 2nd Battalion Eastern Ontario Regiment.

During a successful attack this officer tended the wounded among the attacking companies under intense fire, dressing their wounds and directing them to the aid post. He searched the field for wounded under full observation, and frequently under heavy fire of the enemy. He must have saved the lives of many men who were lying in exposed positions.

Temporary Captain Ellis Campbell Bowden, R.A.M.C., attached 2nd Battalion London Regiment.

He attended to wounded men under a very intense fire from machine guns, in daylight, and helped to carry many wounded into safety in full view of the enemy. His unceasing efforts and his self-sacrificing disregard of danger saved many lives, and were the admiration of all who saw him.

Temporary Captain (acting Major) John Burke, 139th Field Ambulance, R.A.M.C.

During ten days' severe fighting he was unremitting in his devotion to duty, tending the wounded, and selecting, often in the middle of the night, suitable places for his dressing stations. He displayed conspicuous courage and coolness under fire, and his initiative and endurance evoked the admiration of all who were with him.

Captain Alexander Rae Campbell, attached 5th Brigade, Canadian Field Artillery.

When the battery came into action under heavy machine-gun fire a number of men were wounded. This officer collected and carried them to trenches, where he dressed their wounds, constantly under heavy fire. He set a fine example to the men round him at the time.

Temporary Captain Alfred Mackenzie Clark, R.A.M.C., attached 1st Battalion, Northumberland Fusiliers.

Hearing that there were several wounded men lying out that could not be collected until nightfall, owing to snipers and machine-gun fire, he went himself and dressed them in the shell holes where they lay. On this, as on other occasions, he showed a total disregard for his personal safety when the welfare of the wounded was at stake.

Captain (acting Major) Frederick Clarence Clarke, 12th Field Ambulance, C.A.M.C.

Under heavy shelling he collected four severely wounded men, dressed them, placed them under cover, and remained with them until help arrived, when he got all four away safely. For three days of heavy fighting his cheerfulness and devotion to duty inspired all under him.

Captain William James Dowling, R.A.M.C.(S.R.), attached 3rd Battalion, M.G. Corps.

He tended and evacuated wounded of his own and other units under very heavy shell and machine-gun fire. Later he did excellent work in charge of the bearer section of a field ambulance. By his zeal and fearless conduct he saved many lives.

Captain Harry Dunlop, C.A.M.C., attached 102nd Battalion, 2nd Central Ontario Regiment.

This officer followed closed behind the attack, and attended to the wounded under heavy machine-gun fire. He was untiring in his efforts to care for and evacuate the wounded, and undoubtedly saved many lives.

Captain Joseph Culloden Eagar, C.A.M.C., attached 78th Battalion Manitoba Regiment.

Throughout the fighting this officer worked unceasingly ministering to the wounded, frequently under heavy shelling and machine-gun fire. He went without food or sleep, and when wounded refused to leave until his station was cleared.

Temporary Captain Orie Elgin Finch, R.A.M.C., attached 2nd Battalion King's Own Scottish Borderers.

He moved his aid post forward to close behind the front line, under very heavy machine-gun fire. Here he worked unceasingly in a trench for thirty-six hours bandaging and attending to wounded, and it was due to his fearless conduct and splendid energy that all the wounded were attended to in a short time.

Captain (acting Major) Stanley Rider Gibbs, 2/2nd (Wessex) Field Ambulance, R.A.M.C.(T.F.).

He organized the finding and evacuation of one officer and four other ranks lying wounded in an advanced machine-gun post in front of our lines, and although the operation, which took several hours, was conducted under almost continuous machine-gun fire, he recovered them all.

Temporary Captain Basil Graves, R.A.M.C., attached 13th Battalion, Royal Fusiliers.

During an attack he dressed wounded in the open under difficult conditions, and frequently under machine-gun fire. Throughout the operation he encouraged the wounded by his cheerfulness, and disregard of danger, and by his devotion to duty saved many lives.

Temporary Captain William Hamilton, R.A.M.C., attached 223rd Brigade, R.F.A.

During an advance he remained at the gun positions throughout the operations. Under heavy shelling he attended to wounded in exposed positions and was always cheerful under most trying circumstances. His courage and devotion to duty won him the admiration of all ranks.

Captain (acting Major) William James Hirst, 1st, attached 2 1st, South Midland Field Ambulance, R.A.M.C.(T.F.).

He organized the evacuation of wounded from a village during an enemy attack; he remained behind when the enemy advanced into the village and assisted in removing all the wounded, refusing to leave the village until the last man had been brought in. He has at all times shown great coolness and disregard of danger under heavy fire.

Temporary Captain Jeremiah Holland, R.A.M.C., attached 1st Battalion, Cheshire Regiment.

Under very heavy machine-gun and rifle fire he collected and evacuated wounded from a ridge. He showed utter disregard for personal safety, and by his zeal and energy set a splendid example to those under him and saved many lives.

Captain Bellenden Seymour Hutcheson, C.A.M.C., attached 75th Canadian Battalion, 1st Central Ontario Regiment.

Before the battalion reached its jumping-off position the enemy put down a heavy barrage and many casualties were sustained. This officer worked unceasingly in attending to and dressing the wounded under heavy fire in open ground. During the mopping up of a village he passed through the streets several times attending to the wounded. He also voluntarily dressed nearly 100 enemy wounded who had been left behind.

Captain Thomas Ross Jagger, A.A.M.C., attached 21st Battalion Australian Infantry.

He carried on his work under heavy fire during two attacks, and attended to the wounded of his own and other units with utter disregard to danger. He set a splendid example of courage and self-sacrifice.



Temporary Lieutenant Edward Digby Kinsey, R.A.M.C., attached 1st Battalion Bedfordshire Regiment.

He remained in the open for over an hour when the battalion were incurring severe casualties from intense shelling, dressing the wounded and seeing that they were promptly carried into safety. His efforts resulted in the saving of many lives.

Temporary Captain Alexander Chester Lambert, R.A.M.C., attached 8th Battalion Royal Lancashire Regiment.

He repeatedly established aid posts during an attack and under very heavy shell and machine-gun fire attended and evacuated wounded belonging to his own and other units. When a shell struck his aid post, killing assistants and slightly wounding himself, he remained at duty and refused to go down. Throughout the operations his conduct was admirable.

Temporary Captain Philip Whiteside MacLagan, R.A.M.C., attached 1st Battalion, Herts Regiment.

He continued to band up wounded on a road under shell fire. He also showed great ability in getting wounded evacuated from the aid post; and generally showed great coolness and disregard of danger under fire throughout the operations.

Captain (acting Major) Edward Bertram Marsh, R.A.M.C.

During an advance he kept touch with the regimental medical officers and bearer divisions under very adverse circumstances and heavy fire, and so co-ordinated the forward evacuation that the divisional front was cleared in the shortest possible time. His energy was remarkable throughout the operations.

Captain James Kilburn Mossman, No. 5 Field Ambulance, C.A.M.C.

For conspicuous gallantry and tireless energy in the execution of his duty. This officer was in charge of a section of stretcher-bearers, and rapidly organized the evacuation of the wounded. He followed close on the attacking infantry waves, and regardless of his own safety attended to the wounded. His zeal and judgment were a great example to the men.

Captain Finlay Munroe, C.A.M.C., attached 52nd Canadian Battalion Manitoba Regiment.

For conspicuous gallantry and devotion to duty in dressing and attending to wounded during a hostile barrage. This officer has always disregarded personal danger, and has undoubtedly saved many lives on the battlefield.

Captain (now Major) Sydney Michael O'Riordan, A.A.M.C., attached 15th Battalion Australian Infantry.

During the later stages of an advance, when the infantry were under heavy fire, he established his aid post in an advanced position and dealt very rapidly with the casualties. His initiative and coolness under heavy fire were an inspiration to all who came in contact with him.

Temporary Captain Andrew Finlay Readdie, 21st Field Ambulance, R.A.M.C. (Italy).

While supervising the evacuation of the wounded from the front line he heard that a medical officer in charge of stretcher-bearers had been killed. He at once proceeded to the spot through heavy enemy barrage and took charge of the bearers, and it was due to his prompt action that no delay resulted. He has consistently done good work.

Captain London Corsan Reid, 12th Field Ambulance, C.A.M.C.

For several hours under heavy rifle and machine-gun fire he dressed and cleared wounded, and by his efforts saved many lives. He several times went forward to points of extreme danger to satisfy himself that all wounded had been cleared.

Temporary Captain John Joseph Reynolds, R.A.M.C., attached 15th Battalion, Hampshire Regiment.

He formed an advanced regimental aid post on the side of the road, thus shortening the stretcher-bearers' journeys. Eventually he was forced to evacuate this position owing to hostile fire. Later he dressed and attended to all the casualties of three battalions, though partially gassed himself. By his untiring energy he undoubtedly saved many lives.

Captain Francis Louis Trincea, A.A.M.C., attached 2nd A.I.H.R.

During an attack this officer, although suffering from fever, carried out his duties with great energy and total disregard of danger. Later he accompanied the troops in a counter-attack, attending to casualties in the open under fire, and setting a fine example of endurance.

Captain Frank Elliot Trenoweth True, A.A.M.C., attached 48th Battalion, Australian Infantry.

He moved forward with the assaulting troops under very heavy fire, established his aid post and organized his stretcher-bearers, and was the means of saving many of the wounded. He carried out his duties under heavy fire with great skill and courage.

Captain Albert Henderson Wallace, 13th Field Ambulance, C.A.M.C.

While in charge of five stretcher squads he followed a battalion into action and established collecting posts for the wounded directly behind the battalion. His courage and initiative enabled the wounded to be got out rapidly, thereby saving many lives.

Captain William Charles Walsh, 13th Field Ambulance, C.A.M.C.

With four squads of stretcher-bearers he followed the battalion into action and established collecting posts a few hundred yards behind the front line. He dressed and evacuated wounded under heavy shell fire, working all day and night in the open until all were carried out the field. He behaved splendidly.

Captain Ernest Harold Whelpley, C.A.M.C., attached Headquarters, 3rd Brigade Canadian Garrison Artillery.

He at once went to a battery which was being heavily shelled, and as casualties occurred dressed their wounds and superintended their evacuation. He showed great coolness and devotion to duty.

Temporary Captain William Brockie Wilson, R.A.M.C., attached 1st Battalion Devon Regiment.

He treated the wounded of his own and other battalions; this involved passing backwards and forwards over shell-swept areas. Later he went forward with his stretcher-bearers and searched all the ground up to the front line. He showed splendid zeal and disregard of danger, and set a fine example to those under him.

#### FOREIGN DECORATIONS.

THE following medical officers are included in further lists of decorations and medals awarded by the Allied Powers for distinguished services rendered during the war:

The Emperor of Japan has conferred the *Order of the Sacred Treasure*, 2nd Class, upon Surgeon Rear Admiral Patrick B. Handyside, C.B., R.N.

The President of the French Republic has conferred the *Croix de Guerre* upon Major-General James Barnett Wilson, C.B., C.M.G., A.M.S., and Major (temporary Lieut.-Colonel) Hugh Allan Davidson, R.A.M.C.

The King of Italy has bestowed the decorations of Officer and Cavalier respectively of the *Order of the Crown of Italy* upon Lieut.-Colonel (acting Colonel) Henry Hewetson, R.A.M.C., and temporary Captain John Harold Peek, R.A.M.C. Captain (acting Major) Albert Edward Peel McConnell, M.C., R.A.M.C. (T.F.) receives the *Medal for Military Valour*, and temporary Captain Andrew Finlay Readdie, R.A.M.C., the *Croce di Guerra*.

The King of the Belgians has conferred the honour of Chevalier of the *Ordre de Leopold* upon Captain Arthur Ruskin Cook of the Uganda Medical Service, and that of Officer of the *Ordre de la Couronne* upon Captain Eric Leigh Peffe, R.A.M.C.

## Correspondence.

#### EPSOM COLLEGE.

SIR.—It is again my duty, as treasurer of Epsom College, to make an earnest appeal for new subscriptions, in order that the council may be able to maintain undiminished the work of the Royal Medical Foundation attached to the College.

As your readers will recollect, this work consists of two branches—namely, pensions of £30 a year are given to fifty aged and impecunious medical men or their widows; and an education of the highest class at Epsom College is provided for fifty necessitous sons of medical men, who also receive gratuitously maintenance, clothing, and pocket money. In consequence of the numerous calls in connexion with the war, in addition to the increase of taxation and the general rise in prices, many annual subscriptions have been withdrawn, whilst others have been reduced in amount.

Applications for assistance are being received as a direct consequence of the war, and already the governors have elected as foundation scholars (1) the son of a medical officer who was killed in action on Captain *Good Hope* in 1914; and (2) the son of another medical officer who was killed in action in 1917. Furthermore, Salomons Entrance Scholarships of £50 a year have been awarded by the council: (1) to the son of a medical officer who was killed when the *Royal Edward* was torpedoed in 1915; and (2) to the son of another medical officer who lost his life when the *Arcadian* was torpedoed in 1917.

I earnestly appeal to those of your readers who already support the foundation to increase their contributions, at least for a few years, if possible; and I urge upon those who do not at present subscribe annually to do so. To the latter I wish especially to make this request, at a time when so many members of our profession, their widows or their orphans, are in need—and I beg of them to be so good as to respond sympathetically to this appeal at once. A sum of not less than £4,500 must be procured in annual contributions if the numbers of beneficiaries are to be maintained.—I am, etc.,

HENRY MORRIS.

Honorary Treasurer of Epsom College  
and its Royal Medical Foundation.

London, W., Nov. 29th.

#### BRITISH MEDICAL LITERATURE IN FOREIGN COUNTRIES.

SIR.—I have read Dr. Gade's letter,<sup>1</sup> of which you have kindly sent me a proof, with much interest.

As regards the circulation and sale of English scientific books, there is much truth in what you say in your editorial note that we are in a vicious circle. This question has been receiving the close attention of the Publishers' Association for a year or two past, and in consequence a departmental committee was appointed last year to investigate it. Their report has not yet been made public.

The German booksellers have hitherto enjoyed certain exceptional advantages.

1. For years before the war the German Government had pursued its peaceful penetration in adjoining countries



both by means of education—for German teachers and methods were established in Russia, Rumania, Scandinavia, etc.—and by business propaganda subsidized by Government.

2. Their geographical position gave them opportunities which we can never possess.

3. The English system of bookselling has always been based on outright sale, the German on "sale or return." To enter into the relative advantages of these two systems would be impossible in such a letter as this. It is sufficient to say that the sale or return system requires an elaborate organization for watching the credit and standing of individual firms, collecting debts, etc., which the Germans have on the Continent and we have not.

4. The Leipzig Annual Book Fair is dependent on this system, and has been a powerful means of circulating books in Northern Europe.

It is needless to say that the Germans have sedulously depreciated the value of English books among their customers.

I have in the past written to leading booksellers on the Continent offering to send single copies of my publications on sale or return, but have met with no response.

I doubt if any successful effort can be made without Government help. This has been refused in the past, but you may rest assured that every one of the points raised in Dr. Gade's letter is now being fully discussed by English publishers, and we have hopes of Government assistance.—I am, etc.,

Albemarle Street,  
London, W., Nov. 29th.

JOHN MURRAY.

#### THE CURSE OF IMMOBILIZATION.

SIR,—Mr. Dowden's paper in your issue of November 23rd, 1918, emphasizes, in our opinion, a most important matter. There is, however, immobilization and immobilization—one applied with unremitting care and intelligence, and another applied ignorantly and coupled with neglect.

If "thousands of our soldiers have been more or less disabled for life simply and solely on account of prolonged immobilization of injured limbs," many more are now enjoying useful limbs who have to thank immobilization for their recovery. The mortality in fractured femurs at the Western front was much reduced by the early application of the Thomas splint. Many a knee-joint has been saved by immobilization after its cleansing at the casualty clearing station. The value of the cock-up splint in musculo-spiral palsy and of plaster after excision of the hip is beyond dispute, and Mr. Dowden would be the first to immobilize a joint which showed signs of "flaring up." Furthermore, many of the excellent results obtained by our orthopaedic surgeons could not have resulted without immobilization. When one applies a blister in occipital neuralgia one discounts the pain in view of the resulting benefit. So after resection and suture of an ulnar nerve one discounts possible slightly limited extension of the elbow in view of the resulting restoration of function in the resected nerve. Splints and plaster rightly employed daily justify their use.

On the other hand, immobilization misapplied and coupled with neglectful after-treatment does untold harm. We are able to endorse the statements regarding unnecessary disablement through neglectful immobilization. Case after case has been admitted to our wards in which fibrous ankylosis has all but been established when the original disability was only a trivial one. Splints are unnatural, and should only be employed when this unfortunate means cannot be dispensed with. The good results obtained by Mr. Dowden in treatment of fractures by the "sling and movement" method led us to discard splints almost entirely in treatment of fractures of the upper extremity, and after a considerable experience we unhesitatingly affirm that not only is the functional result better by this method, but the time taken in attaining that result is greatly shorter than could be obtained by the use of splints. Intelligent movement, so far from hindering callus formation, promotes it.

We do not deny that by this method the alignment of union as shown in skiagrams may sometimes not compare well with the pretty picture which our splint surgeons show though in most cases even this leaves nothing to be desired, but we would wish that in the comparison of skiagrams the extent of joint movement were visualized.

With regard to fractures of the lower limb, splints are most frequently necessary, but they must be watched with unremitting attention lest stiffness and pressure sores result. There is no reason why with care and the personal supervision of the surgeon the fractured limb should not be raised from its bed, manual extension being used meanwhile and the knee moved carefully to its complete extent once every day; thus are periarticular adhesions and contractures prevented.

We hope the result of Mr. Dowden's timely paper will be to banish many splints from the wards of our hospitals and that it will help to promote the "reaction from this age of splints" which he predicts.—We are, etc.,

E. W. KIRK, M.B., F.R.C.S.E.

WALTER MERCER, M.B., Ch.B. (Edin.),  
Capt. R.A.M.C.

#### MOTOR HEAD-LIGHTS.

SIR,—The forecast by Mr. Massac Buist of permanent restrictions on head-lights of cars will come as a surprise to most country practitioners. He states that the Home Office has all the necessary information and data from experiments. If so, then these should be published at once for the motoring public to discuss and criticize; otherwise we may be hampered for years by some stupid regulation pushed through by a bureau of national "stick-in-the-muds" and "kill joys." Grandmotherly legislation on the lines of the twenty miles per hour limit, and the wretched system of police traps entailed thereby, has been the curse of motoring in these islands, whilst the method of taxation could only be described as Gilbertian. Once these regulations are made law, they are as unalterable as the laws of the Medes and Persians, yet the police, and those who administer justice so differently and indifferently, and who have to be prayed for in church every Sunday, may put the most outlandish construction upon them.

It was stated recently that a medical brother was fined for stopping his car and transacting business at his tailor's, the bench remarking that he would have been in order had it been his grocer's.

Now the present lighting restrictions have been a nightmare for four years to country doctors, and having done as much night riding as most, both on motor cars and motor cycles, I, for one, am quite satisfied that the less light the motorist has, and especially in the early hours of darkness, the more the danger increases for all road users.

Further, with any good pre-war system of head-lights, the danger for every one is at a minimum.

The so-called dazzling effects of powerful head-lights can easily be avoided by not looking directly at them, but the dazzling effect on a cyclist, on a narrow dark road, of an ordinary pair of bright car side-lights, cannot be avoided at all, and whilst he knows that the motorist can see what he is doing (and feels safe on that account), he knows equally well that the cabdriver cannot, so why should legislation begin with the motorist?

The country practitioner wishes to have no accidents at all, and that is why he buys the best lighting set he can afford. If these were dangerous he would not use them, and he is quite capable of judging as a body, quite as capable as any Home Office.

If the attention of some influential body—for example, the Automobile Association—can be brought to bear vigorously on any proposed legislation with a view to the needs of country practitioners, who, as a rule, are driving on the worst of roads, the time spent on making this protest will be more than repaid.—I am, etc.,

Morecambe, Nov. 26th.

FREDK. W. HOGARTH.

#### THE PAST AND FUTURE OF THE CRUSADE AGAINST TUBERCULOSIS.

SIR,—With reference to Sir Malcolm Morris's paper in the BRITISH MEDICAL JOURNAL of November 16th, may I suggest that anaphylaxis may be responsible for tuberculosis "running in families"? Since the tuberculin reaction is thought to be an anaphylactic phenomenon, and since the state of anaphylaxis is transmissible by the mother, and possibly to some extent by the father, I would suggest that the parent becomes sensitized to the tubercle bacillus, as shown by a positive von Pirquet reaction—that is, has a tuberculous infection. This sensitization being trans-



mitted to the children renders them an easy victim to tuberculous infection, from which most people seem to have suffered at some period of their lives.—I am, etc.,

R. E. TOTTENHAM, M.D., M.R.C.P.I.,

Sheerness, Nov. 19th. Temporary Surgeon Lieutenant R.N.

## Obituary.

DR. JAMES MILLER of Weymouth died on November 9th, aged 43. His illness began on November 4th, and he was removed, in accordance with his request, to the Princess Christian Hospital, which he had faithfully served for sixteen years, and, despite all efforts, he died of influenza complicated by pneumonia on November 9th. He was born at Las Palmas, graduated M.B., Ch.B. Edin. in 1899, and, after serving as house-surgeon to the Gloucester Infirmary, joined Dr. Green of Weymouth. He was medical officer to the Princess Christian Hospital, honorary secretary to the West Dorset Division of the British Medical Association, and the representative of the profession upon the Dorset Insurance Committee. Six years ago he lost his wife—a blow from which he never wholly recovered. He leaves one daughter. The large assembly which attended the funeral indicated the great esteem in which he was held. The *Southern Times* of November 16th published the following tribute to his memory from Dr. J. Macpherson Lawrie, chairman and senior medical officer of the Princess Christian Hospital:

I have been closely associated with him for the last fifteen years as a fellow worker in the same hospital, and had constant opportunities of appreciating the unwearied zeal with which he devoted himself to his duties, his very high moral standard, and his beautiful and tender sympathy with all suffering. Since the death of his wife I believe he found his greatest happiness in the hospital, where he was held in the greatest esteem and affection. It is infinitely poorer by his death, and his colleagues mourn the loss of one whose friendly counsel they much valued, and whose high character won their respect and love. He has left to us a splendid example of a life consecrated to duty, and spent freely and nobly in the service of his fellow creatures.

DR. HUGH WIGHT ARBUCKLE of Thorne, Doncaster, died there on November 17th, aged 71. Three days earlier he had made a round of professional visits, and at night retired to rest without showing signs of the deadly coma in which he was found on the following morning. He was born at Kilmarnock in 1847. He studied at Glasgow and was awarded the G. Watson gold medal at Glasgow in 1867; he graduated M.B. Aberd. in 1869 and M.D. in 1871. Nearly fifty years ago he acquired a practice at Thorne and somewhat later was appointed medical officer to the Thorne workhouse and to several of the neighbouring parishes. In 1877 Dr. Arbuckle was appointed the medical officer of health for the Thorne Rural District, a position he held with much credit till his death. By dint of persevering evening study he had qualified for this position by obtaining the D.P.H. Camb. in 1890. He was a certifying surgeon under the Factory Acts. Dr. Arbuckle was pre-eminently the friend of the weak and poor, over whom he wielded a benign influence, and by them especially he will be much missed.

## Universities and Colleges.

### UNIVERSITY OF CAMBRIDGE.

At a congregation held on November 23rd the following medical degrees were conferred:

M.D., G. A. Smythe.  
M.B., B.Ch.—C. H. Vernon, \*E. A. Green.  
M.B.—\*A. R. Jennings.

\*Admitted by proxy.

### UNIVERSITY OF LONDON.

#### PARLIAMENTARY ELECTION.

THE following candidates for the election of a parliamentary representative of the University of London were nominated on December 4th: Sir Philip Magnus, Bt., B.A., B.Sc., who has represented the University since 1906, and is now the Coalition candidate; Mr. Sidney Webb, LL.B., the Socialist and Labour candidate; Major-General Sir Wilmot Herringham, C.B., M.D., F.R.C.P.; Mr. C. Louis Nordon, and Mr. A. A. Sommerville.

It is understood that each of the last three gentlemen is an Independent candidate. Mr. Nordon is by profession a solicitor, and Mr. Sommerville a representative of the teaching body.

Sir Richard Douglas Powell, in handing the nomination of Sir Philip Magnus to the Vice-Chancellor, said that Sir Philip's wide parliamentary experience and efficient representation of the University for the last thirteen years rendered it unnecessary for him to make any further observation.

After receiving the nominations, together with the deposit of £150 on behalf of each candidate nominated, the Vice-Chancellor announced that the poll would be open from Monday, December 16th, to Friday, December 20th, inclusive, from 10 a.m. to 5 p.m. for civilian suffrages, and up to December 30th, at 10 a.m., for sailors and soldiers. All voting papers would have to be signed and witnessed.

### SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—\*M. Girgis, \*D. M. Howard, \*T. T. Tiplady.  
MEDICINE.—\*D. M. Howard, S. Robinson, \*S. H. Robinson, \*G. E. Spero.

FORENSIC MEDICINE.—D. M. Howard, W. A. Jones, S. H. Robinson, C. de B. Thomson.

MIDWIFERY.—R. A. D. J. Bernhardt, J. Crawford, D. M. Howard, T. T. Tiplady, J. Yates.

\*Section I.

†Section II.

The diploma of the society has been granted to Messrs. M. Girgis and D. M. Howard.

## Medical News.

MAJOR W. OWEN EVANS, R.A.M.C., has been placed on the Commission of Peace for the county of Glamorgan.

THE late Dr. Robert Saundby bequeathed his medical books, and £100 for the purchase of additional books, to the Medical Institute, Birmingham, and directed that his portrait in oils should be offered to the Birmingham University.

LIEUT.-GENERAL C. H. BURTCHAELL, C.B., C.M.G., Director-General Medical Services, France, Major-General James Thomson, C.B., A.M.S., and Major-General F. R. Newland, C.B., C.M.G., A.M.S., have been appointed Knights of Grace in the Order of the Hospital of St. John of Jerusalem.

CAPTAIN M. CULPIN, R.A.M.C., will give a course of eight lectures on psychoneuroses in peace and war in the clinical theatre of the London Hospital during December. The first will be delivered on December 9th. Members of the profession are invited to attend the lectures, which will be given at 5 p.m. on each day. Further particulars can be obtained from the dean of the medical school.

THE committee of the Elsie Inglis London Memorial Fund hopes to hand over the money raised for the endowment of a chair of medicine in the University of Belgrade on the day when the Serbian Government re-enters the capital. As the required sum of £12,000 is not yet complete, the treasurers, Lady Selborne and Miss Teresa Gosse, request that donations may be forwarded without delay to 66, Victoria Street, S.W.1.

THE British Red Cross Society has conferred Honorary Life Membership on Mr. John Hatton, director of the baths at Bath. Immediately after the outbreak of war the corporation placed the city's bathing establishment at the disposal of the Admiralty and the War Office, and over 28,000 treatments have been given to military patients and nearly 2,000 to discharged soldiers. Bath is thus carrying on its traditions. Votive altars still exist which were erected by Roman officers in gratitude for their cure. Many of the great soldiers of the Napoleonic wars went to Bath, and during and after the Crimean war the spa received many wounded and invalided officers.

THE Rev. Geoffrey O'Donoghue, chaplain of Bethlem Hospital, has discovered in a cartoon which used to hang in the hall of the Royal College of Surgeons of England, and is now in the corridor leading to the Common Room, what he believes to be the original studies for Holbein's famous picture of the grant by Henry VIII of the charter to the Barber Surgeons Company, now in possession of the Barbers Company. Through a window of Tudor design in the upper part of the picture are to be seen gables and steep roofs on the slope of the river-side, and two steeples, the one probably the wooden steeple of Old St. Paul's, and a square embattled tower, probably St. Augustine's. The picture was painted probably before 1550, and represents apparently the grant of 1540. The cartoon was purchased for the College in 1786.



THE Anglo-French Drug Company, Gamage Building, Holborn, E.C.1., has issued a desk memorandum calendar, with notes on the drugs they supply.

THE deans of the medical faculties of Paris and of Rome have exchanged congratulatory telegrams on the recent victories of the armies of the two countries.

THE next award of the Alvarenga prize of the College of Physicians of Philadelphia, value 250 dollars, will be made on July 14th, 1919, if an essay on any subject in medicine deemed worthy of the prize is received by the Secretary of the College on or before May 1st, 1919. The essay must be sent without signature, but accompanied by a motto.

ON Tuesday next Professor Bone, F.R.S., will give the Lady Priestley Memorial Lecture of the National Health Society at the Imperial College of Science and Technology, South Kensington. The subject is coal and health. The chair will be taken at 3.30 by Sir James Crichton-Browne. The classes established by the society for the training of women for work as sanitary inspector and health visitor have, we are informed, proved extremely successful, owing, we have no doubt, to the thoroughness with which the courses have been organized. The society has arranged two lectures by Dr. Truby King on the care of mother and child, including feeding. The second lecture will be given on Thursday next at the house of the society, 53, Berners Street, W.1, at 3.30 p.m.

## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR OF THE BRITISH MEDICAL JOURNAL, *Antilogon, Westrand, London*; telephone, 2631, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Medisecra, Westrand, London*; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### LETTERS, NOTES, ETC.

#### THE ORGANIZATION OF AMBULANCE WORK.

SIR JAMES CANTLIE, K.B.E., writes to draw attention to the magnificent work accomplished during the war by voluntary ambulance workers, who filled an important gap in the war machine. The first Voluntary Aid Detachment was formed in London in 1908, so that when war was declared it was possible to extend the work upon a basis already well founded. After undergoing training for their duties the voluntary workers came forward in their tens of thousands to offer their services. Sir James Cantlie suggests that the nation's appreciation of these services could best be shown by establishing centres throughout the country where ambulance work would be continued and perfected. This subject is not taught in the medical schools, and it can only be satisfactorily learnt in institutions technically equipped for the purpose. The College of Ambulance, 3, Vere Street, London, W.1., is at present the only school of the kind in the kingdom. Since its foundation in 1914, 25,000 people have been trained there.

#### A MEDICAL FRONT LINE CLUB.

LIEUT.-COLONEL J. F. DONEGAN, C.B., writes to say that he has been approached by many R.A.M.C. officers with regard to the formation of a club, with the suggested title of "The Front Line Club," to be confined to medical officers who have served in the present campaign as regimental or field ambulance medical officers. It is proposed that the club should hold an annual dinner, and a desire is expressed that the presidency should be offered to the present Director-General A.M.S., Lieut.-General Goodwin, who himself has been a field ambulance commander during this war. Membership on the terms outlined above would be extended to medical officers of the Royal Navy, officers of the Indian Medical Service and Dominion Medical Services, together with

members of the medical profession who have served with combatant units. Expressions of opinion as to these proposals are invited from medical men, and may be addressed to Colonel J. F. Donegan, C.B., c/o. Holt and Co., 3, Whitehall Place, S.W.1.

#### TREATMENT OF INFLUENZA.

CAPTAIN I. BENSTED, R.A.M.C., writing on the use of opium in the initial stages of influenza, states that he has found the following treatment to be satisfactory: The patient is at once isolated and put to bed, well covered with blankets. He is given *pulv. Doveri* gr. x to xv and two vegetable aperient pills (No. 13 army pill) or calomel. The patient generally has a good night's rest; the temperature is reduced by the free action of the skin and great relief from aches and pains ensues. The aperient prevents any nauseating effect of the opium. Dr. Leonard Williams, in his book *Minor Maladies*, mentions opium as almost a specific in influenza. Afterwards the patient is generally given a quinine mixture. Captain Bensted has seen only two relapses under this treatment, and both quickly subsided on the re-exhibition of the above treatment.

#### THE INCUBATION PERIOD OF INFLUENZA.

DR. C. HOWARD JACKMAN (Heworth Green, York) writes with reference to the paper by Drs. Peter Macdonald and J. C. Lyth *BRITISH MEDICAL JOURNAL*, November 2nd, p. 483, to point out that the patients had been staying in an infected lair before returning to York, and arrived in an infected area, and might therefore have contracted the disease before starting or after arrival.

With an epidemic disease so widespread as influenza fallacies of this type no doubt must usually exist, but the general trend of experience favours the conclusion that the usual incubation period of influenza is from forty-eight to seventy-two hours.

#### ALCOHOL AND GLYCERIN.

THE Ministry of Munitions gives notice that supplies of alcohol are now available for industrial purposes, and that manufacturers should be able to obtain their requirements from their usual suppliers without restriction, subject, of course, to the usual regulations of the Board of Customs and Excise. Methylated spirit is again available to the public. Glycerin should, in a few days, be purchasable in the ordinary way from chemists, stores, etc. Arrangements have been made which enable glycerin producers to supply substantial quantities for general use.

#### APPLICATION OF SOLID PARAFFIN.

THE special paraffin preparation called "ambrine," originally designed for the treatment of burns, and also useful in many other conditions, including chilblains, must be applied hot, and the manufacturers have recently put on the market an ingenious method. The ambrine is moulded into the shape of an ordinary candle, fixed together in groups of three. By lighting the wicks and holding the candles obliquely the melted ambrine drops on to the affected spot, and can be spread evenly over the surface with a soft brush.

#### ATROPINE POISONING IN OPHTHALMIC PRACTICE.

DR. H. M. DESAI writes: R. S., a boy aged 4, was brought to the Sunderland Eye Infirmary on June 17th, 1918, for refraction. Atropine sulphate solution, 1 per cent., was instilled into each eye three times, one drop every ten minutes. When the patient came to the dark room half an hour later I noticed that his face was flushed, skin dry, and both eyes red and watering. The mother said the child was asking for water every five minutes. I gave him 5 minims of liquor morphinae in a drachm of water. In about half an hour he felt quite all right, and I proceeded with refraction. This case, I believe, is interesting in view of the tendency to prescribe atropine drops for home use for children in almost every eye trouble.

#### THE BELL FUND.

DR. S. A. KINNIE WILSON asks us to acknowledge a donation of £33s. to the Dr. J. H. Bell Fund from Temporary Surgeon Paul C. Gibson, R.N. Subscriptions should be sent to Dr. Wilson at 14, Harley Street, London, W.1.

THE appointment of certifying factory surgeon at Kanturk (Cork) is vacant.

#### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	..	..	0 6 0
Each additional line	..	..	0 0 9
Whole single column	..	..	4 0 0
Whole page	..	..	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *posto restante* letters addressed either in initials or numbers.



# A FILTRABLE VIRUS AS THE CAUSE OF THE EARLY STAGE OF THE PRESENT EPIDEMIC OF INFLUENZA.

(A PRELIMINARY NOTE.)

MAJOR H. GRAEME GIBSON, R.A.M.C.,

MAJOR F. B. BOWMAN, C.A.M.C.,

AND

CAPTAIN J. I. CONNOR, A.A.M.C.

(Interim Report to the Medical Research Committee.)

A PRELIMINARY note by MM. Charles Nicolle and Charles Lebaillly on investigations suggesting the etiological part played by a filtrable virus in influenza cases was communicated recently to the Académie des Sciences.<sup>1</sup> A similar claim for the importance of a filtrable organism in the production of common colds had previously been put forward by Major George B. Foster, Junr., Medical Corps, United States Army, in the *Journal of Infectious Diseases* of November, 1917 (Vol. xxi, No. 5, pp. 451-47).

These observations have raised the important question as to whether the micro organisms hitherto regarded as of etiological importance in influenza and certain other catarrhal conditions of the respiratory tract play a primary or a secondary part.

The following investigations, undertaken at the request of the Adviser in Pathology, British Expeditionary Force, France, appear, so far as they go, to confirm and amplify the work of MM. Nicolle and Lebaillly, and it is thought desirable to publish a preliminary report without delay. Further experiments are in progress, and a detailed report will follow in due course.

Nicolle and Lebaillly, in their communication to the Academy of Science, reported that the unfiltered bronchial secretion of patients suffering from "La Grippe" collected during the pyrexial period was virulent to Chinese bonnet and *Macacus cynomolgus* monkeys when injected by the subconjunctival and nasal routes. They also reported that the inoculation of the filtered bronchial secretion caused the disease in two men inoculated by the subcutaneous route. In view of the serious nature of the present epidemic the repetition of the experiments on man with the filtered sputum was not thought to be warranted, and our experiments with both filtered and unfiltered secretions were carried out on monkeys.

A supply of rhesus monkeys having been provided through the kindness of the Medical Research Committee, we determined, first, to attempt the infection of these animals by means of the filtered sputum, as had been done, in the case of man, by Nicolle and Lebaillly.

For the first experiments two monkeys were used and two kept as "controls." The method of preparation of the sputum for filtration used by Nicolle and Lebaillly was followed, but the filter candle used by us was a Chamberland L. 1 bis, in place of the Chamberland L. 2 used by them, and, owing to our inability to obtain a large exhaust pump at the moment, a Potain's aspirating pump was used to obtain a vacuum during the process of filtration.

The two candles used were carefully tested two days before the experiment with suspensions of *B. coli* and *Staphylococcus aureus*, and the filtrates found to be sterile.

## EXPERIMENT 1.—Inoculation of Filtered Sputum taken from a Case of Influenza on the Fifth Day of the Disease.

**Source of Infective Material.**—Case P., suffering from uncomplicated influenza. No chest symptoms developed in this case, and the patient made an uninterrupted recovery. The temperature was 101.2° F. when the sputum was taken.

**Infective Material.**—Sputum was collected on November 9th, 1918, the fifth day of the patient's illness. Smears and cultures were made from the carefully washed sputum, and Gram-positive diplo-streptococci and Gram-negative diplococci were found to be present. Pfeiffer's bacillus was not observed either in smears or in cultures.

**Method of Preparation of Inoculum.**—The sputum was placed in a sterile bottle with ten times its volume of normal saline, and shaken with glass beads for five minutes. It was then

centrifuged, at about 1,500 to 2,000 revolutions per minute, for a minute and a half. The supernatant fluid was passed through a Chamberland L.1 bis candle, the filtrate being collected in a sterile vessel. Cultures were made in serum glucose broth and on human blood agar plates, in the preparation of which the blood had been citrated and heated to 55° C. for ten minutes before mixing with the agar. This medium had given us excellent growths of all the organisms met with in the epidemic. These cultures were found to remain quite sterile in respect of non-filtrable organisms.

That afternoon (November 9th) 0.25 c.cm. of the filtrate was inoculated under the conjunctiva of the left eye of monkey No. 1, and 0.75 c.cm. was instilled up its nostrils.

## Subsequent History of Case Monkey No. 1.

On the evening of November 15th the monkey appeared to be somewhat off colour, and on the morning of November 16th it was distinctly ill, moping, and at times resting its head on its arms. It would not take its food, had some swelling of the conjunctivae of both eyes, and its coat was "staring." On November 17th its coat was still "staring," but it was taking more interest in its surroundings and was eating its food again, and by November 18th, although its coat was still affected, it had apparently recovered.

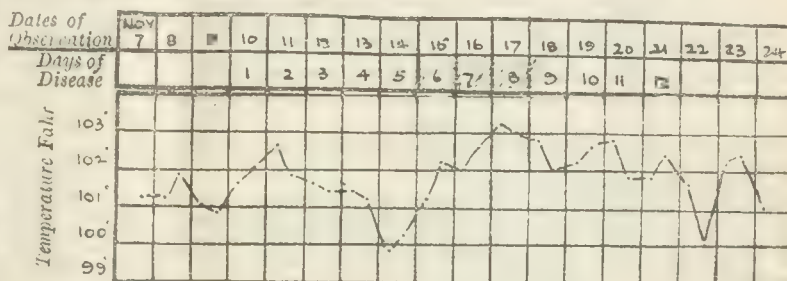


CHART 1.—The days on which the monkey was ill are shaded in; the days of inoculation.

The temperature chart, with records from the second day before inoculation up to the end of the experiment, is set forth in Chart 1. It will be observed that the temperature of this animal had fluctuated considerably while under observation previous to inoculation, a fact which makes it impossible to say how much the illness was associated with a true pyrexia. The incubation period in this case corresponded to that observed by Nicolle and Lebaillly in their monkeys inoculated with unfiltered sputum.

The blood of the monkey was taken on the fifth day of his illness to determine its power of agglutinating Pfeiffer's bacillus. No agglutination was observed in dilutions of 1 in 2, 1 in 10, 1 in 40, 1 in 80, 1 in 100. The monkey was allowed to recover, and is being kept with a view to determining the possibility of reinfection.

## EXPERIMENT 2.—Inoculation of Filtered Sputum taken from a Case of Influenza on the Third Day of the Disease.

**Source of Infective Material.**—This experiment was carried out also on November 9th, 1918. Sputum was taken from a man (Case W.) who had been suffering from influenza for three days and who died on the eleventh day of his illness as the result of secondary infection of the respiratory tract leading to bronchopneumonia. His temperature on the day the sputum was taken was 103.6° F.

**Infective Material.**—The examination of this sputum revealed the presence of pneumococci, a few Pfeiffer's bacilli, and many Gram-positive, non-haemolytic diplo-streptococci of a type which we have frequently observed in the bronchial secretions of men suffering from influenza in this area.

**Method of Preparation of Inoculum.**—The sputum was prepared for filtration in the same way as in Experiment 1. Before being filtered 0.5 c.cm. of the emulsion was inoculated subcutaneously into a white mouse. The mouse died eighteen hours later, and a pure culture of pneumococci (Type 1) was isolated from it. The sputum was filtered through a Chamberland L. 1 bis filter and the filtrate tested for sterility. The filtrate was then inoculated intraperitoneally into a mouse which showed no symptoms of any sort, and it also proved sterile for non-filtrable organisms on culture.

## Subsequent History of Case Monkey No. 2.

On the afternoon of November 9th monkey No. 2 was inoculated with 0.25 c.cm. under each conjunctiva, and 0.5 c.cm. was instilled up its nostrils. On November 16th—that is, on the seventh day after inoculation—the monkey appeared to be out of sorts, with slight diarrhoea. On the next morning it was very much worse, sitting with its head resting on its knees and moping. It was very depressed, off its food, and its coat was "staring." On the following morning it was much the same, and was apparently showing some loss of flesh and slight diarrhoea. It seemed to be slightly better in the afternoon, though still very depressed. Its temperature on this day was 103.2° F. The attack was more marked than in the first monkey.

The temperature chart is appended (Chart 2), but it is to be noted that the severity of the symptoms was much greater



than might be inferred from the pyrexia. That afternoon it was decided to kill the monkey in order to determine the exact condition of the respiratory tract at this stage. It was

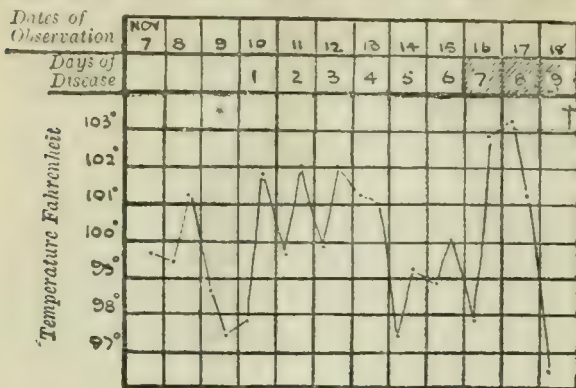


CHART 2.—The days on which the monkey was ill are "shaded in" in the days of disease line. \* = Inoculated. + = Killed.

chloroformed at 3.30 p.m., and a post-mortem examination was immediately performed.

#### POST-MORTEM FINDINGS.

The following condition was found post mortem on November 18th:

**Larynx.**—Appears to be normal.

**Trachea.**—This shows a distinct reddening and apparent congestion of the mucous membrane of the trachea in the spaces between the tracheal rings. The lower portion of the trachea is filled with a frothy pinkish fluid which oozes up from the bronchi.

#### Lungs.

The pleurae are clear and glistening and apparently normal. The lungs are not collapsed.

**Left Lung (external appearance):—Upper Lobe.**—This lobe is salmon-pink in colour and air-containing. On the surface are a few deep red patches, the size of a pinhead; otherwise the lobe appears normal.

**Middle Lobe.**—The lower surface of this lobe shows a deep purple patch, triangular in shape, 2 cm. in size, across the base of the triangle. There is no evidence of pleurisy between the lobes.

**Lower Lobe.**—The upper margin is salmon-pink in colour. The lobe when placed on the table retains its shape and feels firm when compared with the upper lobe. On the posterior face there is a large purple patch, extending from about 1 cm. from the upper margin of the lobe down to near the lower margin. It is about 3 cm. in width, and in the centre of this is a patch of a pinkish-yellow colour which projects from the surface of the lung, and is apparently a patch of exudate.

**Right Lung:—Upper and Middle Lobes.**—These resemble the upper lobe and are apparently normal except for the deep purple patch above described.

**Lower Lobe.**—The posterior surface shows a deep purplish patch similar to that seen in the left lower lobe, but not quite so large.

**Lower Lobes on Section.**—The lower lobes on section show the upper part pink and the lower part a deep purple. A viscid dark purple fluid, containing air-bubbles, drips from the cut surface of the lung.

Examination of the cut surface with a hand lens reveals no evidence of bronchopneumonia, and the lobe is so engorged that none of the smaller bronchi are visible to the naked eye in the purple area.

#### Abdominal Organs.

**Liver.**—This is of a deep purple colour and the surface shows a certain irregularly outlined mottling. A fine yellowish-grey mottling is also apparent when the liver is cut into. The cut surface bulges out from under the capsule. On scraping this surface a shiny gelatinous appearance is obtained. With a hand lens the small blood vessels are seen to be engorged and the lobules are outlined with irregular yellow lines.

**Spleen.**—This is somewhat engorged.

**Kidneys.**—There are no haemorrhages apparent on the surface of either kidney. The capsules strip easily, and on section the kidneys suggest the condition of cloudy swelling.

#### Microscopic Appearances.

Microscopical sections were cut of the lung, liver, and kidneys, and the following appearances were noted:

**Lung.**—Low power microscopic appearance shows an almost universal consolidation, the alveoli being filled with what appears to be an inflammatory and haemorrhagic exudate. In some areas the alveoli have escaped. The bronchi and larger vessels are filled with the above-described exudate. The mucous membrane of the bronchi is intact and some of the cells show a central mucoid accumulation. Leucocytic accumulation is scanty. There is nowhere any approach to grey hepatization. Large subpleural vessels are choked, but the pleura has escaped inflammatory change. Under the high power some capillary engorgement is to be seen and some leucocytic invasion of the plugged alveoli is present. The

inflammatory exudate is seen to be made up of a fibrous reticulum which is studded with the remnants of degenerate red blood corpuscles, some still retaining their original shape.

**Liver.**—Low power shows a normal amount of stroma and capsule. The bile ducts are intact. There is present some engorgement of the central lobular vein, spreading in some cases to the capillaries. High power shows central fat accumulation in a few of the hepatic cells in the central lobular zone. No leucocytic reaction is apparent. No marked grade of cloudy swelling.

**Kidney.**—Low power shows normal stroma and capsule. The larger vessels are somewhat engorged and the secreting tubules apparently normal. The capillaries in the glomeruli are dilated with red blood corpuscles. The tubules in some areas show some blurring of the cellular outline with some granularity. The smaller tubules are apparently normal.

#### BACTERIOLOGY.

No *B. influenzae* (Pfeiffer) nor the diplo-streptococcus commonly found in the human respiratory tract in cases of influenza were isolated.

On blood agar plate cultures from the frothy fluid present in the bronchi and trachea very few colonies of any description appeared in twenty-four hours.

A staphylococcus was isolated and also a very small Gram-negative bacillus showing more or less pleomorphism, which on subculture grew profusely as a whiteslime in blood agar and showed a very delicate growth in plain agar. No other organisms were isolated.

From the affected area in the lung blood agar plate cultures were negative.

#### EXPERIMENT 3.—Inoculation of Unfiltered Sputum taken from a Case of Influenza on the Sixth Day of Illness.

Sputum from a case of influenza which had been ill for six days and had already developed chest symptoms was taken on November 16th. The patient's temperature on this day was 103° F. His sputum at this time contained a haemolytic streptococcus and a Gram-positive diplo-streptococcus, mentioned as seen in the sputum used in Experiment 2. The sputum was prepared in exactly the same way as in the two previous experiments, except that it was not filtered.

Monkey No. 3 was inoculated the same evening with 0.25 c.cm. under the conjunctiva of the lower lid of its left eye, and 0.75 c.cm. were instilled up its nostrils. Emulsion of sputum used was given without being filtered. The monkey developed no symptoms of any sort, and remained well.

#### EXPERIMENT 4.—Inoculation of Filtered Sputum taken from a Case of Influenza on the Sixth Day of Illness.

The sputum used in Experiment 3 was then filtered in the same manner as that used in Experiments 1 and 2—that is, through a Chamberland L. 1 bis filter. The filtrate, as before, was found to be sterile in respect of non-filtrable organisms. This monkey also showed no symptoms and remained well.

#### SUMMARY.

1. Two rhesus monkeys, inoculated subconjunctivally and intranasally with the filtered sputum from cases of human influenza, became ill on the sixth and seventh day respectively—that is, after a period corresponding closely with that noted in human cases under similar conditions by MM. Nicolle and Lebailly.

2. Two control monkeys, kept in the same room under similar conditions, manifested no signs of illness during the same period.

3. Of the two inoculated monkeys, one rapidly regained normal health, all symptoms appearing to have subsided by the third day of the attack. The other seemed to be on the mend on the afternoon of the third day, when it was killed for further examination. In the animal the respiratory tract was found to show the presence of a haemorrhagic exudate affecting especially the lower lobes of both lungs. The condition found was in many respects comparable to that noted in certain human cases of influenza in which a fatal issue had supervened before the occurrence of marked secondary infection. In this connexion it is interesting to recall the tendency to haemorrhages which has so often been noted during the present influenza epidemic, and which is generally observed early in the disease.

4. Two rhesus monkeys, Nos. 3 and 4, at first used as controls and subsequently inoculated, the one with filtered, the other with unfiltered sputum, collected from a case of influenza on the sixth day of the disease, showed no symptoms and remained well.

5. Our observations, so far as they go, tend to confirm those of MM. C. Nicolle and C. Lebailly above quoted.

The post-mortem appearances are undoubtedly suggestive, and further work in this direction may throw considerable light on the question.

#### REFERENCE.

<sup>1</sup> C. R. Acad. Sci., p. 607; Presse médicale, October 17th, 1918; BRITISH MEDICAL JOURNAL, November 2nd, p. 495.



# MEDICAL REPORTS ON SOLDIERS DISCHARGED FROM THE ARMY FOR THE CONDITIONS KNOWN AS "D.A.H." AND "V.D.H."

BY

THOMAS LEWIS, M.D., F.R.C.P., F.R.S.,

CONSULTING PHYSICIAN IN DISEASES OF THE HEART, EASTERN COMMAND;  
PHYSICIAN OF THE STAFF OF THE MEDICAL RESEARCH COMMITTEE;  
ASSISTANT PHYSICIAN AND LECTURER ON CARDIAC PATHOLOGY,  
UNIVERSITY COLLEGE HOSPITAL, LONDON.

(From the Sobraon Military Hospital, Colchester.)

THIS article forms a chapter of a small book intended in the near future for publication as an aid to officers of discharging and pensioning boards.\* The rapid march of international events and the prospect of early demobilization renders the earlier publication of this chapter desirable. It has been submitted in its present form and fully discussed with the proper authorities, and their suggestions have been embodied in it. Its publication is in a form which expresses the matured views of the staff of the Sobraon Military Hospital, a hospital which deals exclusively with the "D.A.H." and "V.D.H." cases.

ARMY FORM B 179A AND Z 22 AND PENSION  
FORM A 36/C.

The construction of answers in Army Form B 179A is one of the most responsible tasks which falls to the lot of the medical officer in charge of the case and of those who sit upon the discharging boards. Upon the correctness of the return depends the fair treatment of the discharged soldier and the expense involved by the State. Hasty returns entail endless trouble to the Pension Boards and seriously cripple the efficiency of their work; in the future they will entail serious hardships to individual men, and serious and unnecessary inroads upon the public purse. The State can afford to give and to give generously to the men who have served it, but the amount which can be given has a limit, and it is the duty of the medical profession to see that it is justly distributed; the system of distribution should be as uniform as possible.

I propose here to discuss some of the more important considerations which must be weighed by medical officers before they can efficiently fill up these forms, confining myself to the cases classed in the "heart" group. It will be convenient to do so under the headings of the separate questions formulated.

## QUESTION 11. *Date of origin of disability.*

In giving the date of the origin of the trouble in "effort syndrome" cases,† the date at which the first symptoms were experienced should be entered. In half the cases this answer will be "in civil life" with or without an actual date. The date of origin should be ascertained during the patient's stay in hospital and not after his discharge has been announced. A long history, as the men well know, makes for boarding as unfit; but the same history decreases the awards of the Pension Board. A dilemma of this kind stimulates a truthful answer.

In mitral stenosis the onset of symptoms may be used, providing that the symptoms started in civil life. If the symptoms arose during the period of service the answer is more difficult to give. It may be taken that an early mitral stenosis is of at least three years' standing, that a fully-developed stenosis is of at least five years' standing. The condition develops very slowly. Stenosis fully developed in 1918 is a pre-war condition; early stenosis is not necessarily so.

If, therefore, there is no account of rheumatic fever or chorea in the civil history, then the benefit of the doubt should be given to the man in an early case, and the date should be entered for the war period; but if there is a rheumatic history dating shortly prior to enlistment, the mitral stenosis may be presumed to have originated at that time. The medical officer is on his safest ground when in early cases a history of rheumatic fever antedates the board by three or five years, and when in fully developed cases the rheumatic fever antedates the board by some five to ten years.

\* *The Soldier's Heart and the Effort Syndrome.* By Dr. T. Lewis. To be published at an early date by Messrs. Shaw and Sons, Fetter Lane, E.C.4.

† "Effort syndrome case" and "D.A.H." may be read as synonymous for pension purposes.

In aortic disease the estimate of date of origin, when the symptoms do not antedate enlistment, should be given as the date of rheumatic fever or syphilis\* in the history. But if, as often happens, there is no such history of infection and the symptoms are of recent origin, then the decision should go in the man's favour, and a recent date should be entered (onset of symptoms). As opposed to mitral stenosis, aortic defects often develop quickly in rheumatic disease.

Similar considerations apply in the case of cardiac enlargement and of arterial disease and aneurysm, as in mitral stenosis and aortic disease, in judging the date of origin of the disability. Serious disturbances of rhythm should always be dated from the first onset of symptoms.

## QUESTION 13. *Give concisely the essential facts of the history of the disability, etc.*

This question is usually answered with unfortunate brevity. In "heart" cases it should always contain (1) a note on the man's capacity for exercise, games, work in school life or at any other relevant dates prior to enlistment. (2) A full statement with dates of relevant infections. (3) Date of enlistment. (4) Length and tolerance of training and its type. (5) Length and character of duty performed. (6) A brief history of symptoms, with a note on any event to which the symptoms are dated.

## QUESTION 14.† *State whether the disabilities are (a) attributed to or (b) aggravated by: (i) Service during the present war; (ii) previous active service;‡ (iii) climate in pre-war service; (iv) ordinary military service before the war; or (v) serious negligence or misconduct on the man's part.*

The answers to the questions under (a) should conform to those to Question 11, already considered. If the origin of the condition dates from rheumatic fever, gassing, etc., it should be stated clearly. The only entry which can occur, except quite rarely, under (v) is a history or sign of venereal disease; such a history is relatively uncommon in military "heart" cases; and in syphilitic disease of the heart the disease is usually of long standing. Under (b) the answer is usually to be given in the affirmative, for almost all "effort syndrome" cases are aggravated by service (exceptions are most frequent amongst cases of the constitutional type in which service has been of short duration and the duties light), and most cases of real heart disease have also to be considered aggravated unless the term of service has been quite short.

## QUESTION 14 (a). *If not due to any of these causes, to what specific condition do you attribute it?*

The answer should be: (1) "not applicable" where the disability is due to one of these causes; (2) "constitutional" where the disability has arisen gradually or from uncertain causes in civil life; or (3) name the infection or other event from which the symptoms or lesion are stated to have arisen.

## QUESTION 15.§ *What is his present condition?*

The observed symptoms, the size of the heart, the presence of thrills or murmurs, the presence of a grave irregularity, should be noted, and in all instances a note should be made on the observed tolerance of exercise.

## QUESTIONS 21-22 (a).

These are answered by the discharging board on the same lines as the answers given to Questions 15, 14, and 14 (a) by the medical officer.

## QUESTION 23. *Is the disability in a final stationary condition?|| If not, (a) How long is the present degree of disability likely to last? (b) If the present degree of disability is not likely to last twelve months, can a further assessment at a reduced rate be made? etc.*

The answer to the first part of this question in "heart" cases is almost always in the negative. Under (a) the answer, in all structural heart cases, is "permanent"; in the remaining cases the answer should be "six," "nine,"

\* A positive complement fixation test in an aortic case usually indicates old-standing disease of the aorta, usually of not less than five years' standing, if the aortic disease is judged to be syphilitic.

† Question 10 of Form Z 22 is answered similarly.

‡ Military service abroad and before August, 1914.

§ Question 2 of Form A 36/C is answered similarly.

|| Question 3 of Pension Form A 36/C and Question 11 of Form Z 22 are similarly answered.



or "twelve months." Under (b) the answer for "heart" cases should be in the negative. All "heart" cases in which the duration of the malady is considered temporary or uncertain should come up for re-examination.

#### DEGREE OF DISABLEMENT.

QUESTION 24 (a).† What is the degree of disablement at which, in the Board's opinion, he should be assessed at present, independent of hospital or other treatment? (Degrees of disablement should be expressed in the following percentages: 100, 80, 70, 60, 50, 40, 30, 20, less than 20, or nil.)

In answering this question there are two considerations. The first is an estimate of the man's actual physical capacity for work without distress. The second consideration is the advisability of his engaging in such work; thus a man may have the strength to accomplish a task, but his condition may be such that the work endangers his health or his life.

#### "Effort Syndrome."

The physical capacity of such cases as are discharged permanently unfit from the army is reduced by an amount which may be computed from actual observations on the exercise tolerance of such patients, while in hospital, and from the amount and character of work of which they are capable on returning to civilian life. When any complete group of "effort syndrome" cases is considered, it is found that 50 per cent. are discharged as unfit within twelve months of their first admission to hospital. The exercise tolerance of the men in the group is very variable. On leaving hospital it is gauged as normal or reduced insufficiently to depress materially their value in the labour market in 20 per cent.; it is reduced to the extent that there is appreciable difficulty in taking five-mile route marches and in doing stiff thirty-minute exercises in the next 30 per cent.; it is so reduced as to render the men incapable of such marches and exercises in the next 30 per cent.; it is reduced so that anything but very light physical work is precluded and so that there is discomfort in walking one to two miles daily in the last 20 per cent. in the average; from the observations we may gauge the disability of the groups discharged as permanently unfit (namely, the last 30 per cent. and 20 per cent. of the whole) as not far short of 40 and 60 per cent. respectively.

The capacity for work as judged by return to occupations forms a serviceable check to the observed tolerance in hospital. In a group of 97 men discharged unfit as "D.A.H." cases only 8 were unoccupied less than nine months later, and this by reason of ill health. The average working hours of the group, according to the men's own statements, was forty hours per week, or almost six 7-hour days. Now it is true that in this period of nine months there had been improvement in the health of some of these men, as seen in the accompanying table; but according to their own statements it had been only slight, such improvement as occurred being largely attributable to return to the home life and to the removal of the threat of duty overseas. Despite these relatively good hours, however, the capacity for work was clearly reduced. The 7-hour day is not to be compared to the 8-hour day of the heavy trades. The men worked for the most part in light or sedentary occupations, and there had been a good deal of movement towards lighter work amongst them. The character of the work before and after serving is shown in the accompanying table.

Men originally in heavy employments pass in the main into lighter employments; so do those originally on moderately heavy work, though to a lesser extent. Amongst the men originally employed on light or sedentary work the capacity for work is but little changed by their term of army service. The hours of work are of chief importance in showing that the amount of work given by them to the service, before they leave it, is to an extent an unreliable index of their capacity. A man from whom the

Whenever possible, one of the longer periods should be entered; in entering a longer period in an "effort syndrome" case, the total disability may be reduced by 10 per cent. in the average for anticipated improvement.

† Question 4 of Pension Form A 36 C and Question 12a of Form Z 22 are to be answered on similar lines.

The basis of the estimate is to be the man's physical capacity as compared with that of the ordinary healthy man of the same age. It does not vary simply with his earning capacity, however, since pension is not merely a recompense for impaired power of earning a livelihood, but is also a compensation for loss of the amenities of life.

Numbers of Men engaged in Work of Different Grade.

Work Before Serving.				Work After Serving.			
Heavy	...	...	27	Heavy	...	...	7
				Moderate	...	...	3
				Light or sedentary	...	...	10
				None	...	...	2
Moderate	...	...	27	Heavy	...	...	1
				Moderate	...	...	11
				Light or sedentary	...	...	15
				None	...	...	2
Light or sedentary	...	...	45	Moderate	...	...	1
				Light or sedentary	...	...	23
				None	...	...	4
Total	...	...	97	Total	...	...	57

army can obtain only an hour's work, will work seven the moment he is subject to the wage-earning stimulus.

The disability is to be judged in "effort syndrome" cases on physical capacity alone. The employments which the men take up do them no injury; on the contrary they are beneficial, as evidenced by the improvement, slight though it be, in the group as a whole. Inquiries have clearly elicited the fact that there is improvement. The actual replies received from 104 (out of 109) men questioned within nine months of discharge may be tabulated:

Symptom Change after Discharge.

Very much improved	...	...	...	4
Much improved	...	...	...	8
Slightly improved	...	...	...	30
Unchanged	...	...	...	56
Slightly worse	...	...	...	4
Decidedly worse	...	...	...	2

We have seen very remarkable improvement in isolated instances, in men coming to report themselves, but in the group as a whole it is no more than slight.

The disability of "effort syndrome" cases with fair exercise tolerance may be fairly placed at 20 per cent. or less, and in those with poor exercise tolerance at 30 to 40 per cent. Exceptionally it may be placed as high as 50 or 60 per cent. in cases where development is poor or where a history of rheumatic fever is given. The group showing poor exercise tolerance is the only group which should, but is not the only group which will, come before invaliding and pension boards to any extent until demobilization begins.

In the average, the assessment of the disability at the first re-examination of the pensioners should fall away by some 10 or 20 per cent., if this re-examination falls at the end of nine months, for during the first nine months health will improve.

#### Mitral Stenosis.

In early and uncomplicated cases of mitral stenosis (by which I mean stenosis of such degree that the characteristic murmur is present on occasion only, or only on lying down or after exercise) the exercise tolerance is often quite normal; many men with this valvular defect have spent months on front line work, have been in heavy fighting, and have been little the worse for it. In early cases there is usually no reduction of physical capacity for work, but all such cases run risk when engaged in heavy work, and it is not advisable that they should be so engaged, despite good exercise tolerance. A developed mitral stenosis, even if the exercise tolerance is good, is a serious defect; the prospect of life is considerably reduced. Such a lesion may be taken to indicate that the heart as a whole has been invaded. That is, indeed, the chief prognostic significance of mitral stenosis generally; the heart muscle is rarely sound. Where there is a developed stenosis, as indicated by a diastolic murmur or thrill constant in all postures, or where early stenosis is combined with poor exercise tolerance, the disability should be assessed highly (the detailed assessments are given in tabular form). The other chief factors of significance in gauging the extent of disability are: Enlargement of the heart, venous engorgement, and untreated fibrillation of the auricles. The presence of either of these three complications should place the assessment very high. If two or more are found in combination the disability is almost total. Fibrillation of the auricles is often the immediate precursor of heart failure in these patients; the failure may be warded off for some while by treatment and the disability temporarily reduced. As a general rule, a mitral stenosis case which shows



enlargement of the heart and venous engorgement is in a worse way than is a similar case in which untreated fibrillation is added. For in the last case the muscle of the heart is sounder, bearing as it does a greater burden, yet showing the same embarrassment.

#### Aortic Disease.

Much the same considerations apply in aortic disease as in mitral stenosis. But aortic disease is to be regarded as the more serious lesion, and I assess it 10 per cent. higher throughout. It is not to be forgotten that the base of the aorta and the coronary arteries are frequently involved. In some patients with aortic disease exercise tolerance is perfect; many soldiers have fought in the front line with this lesion, and without mishap; some cases of aortic disease live to a good old age. But these are cases in which the lesion, as judged by the state of the pulse, is slight, and in which there is no material cardiac enlargement or other complicating factor. The presence of a poor exercise tolerance is, as a rule, a clear indication of the seriousness of the lesion; the presence of much cardiac enlargement, of serious engorgement, or of angina pectoris is ominous. In assessing aortic disease in the accompanying table I divide it into "slight" or "developed." By slight aortic disease I mean such disease as is evidenced by an early diastolic murmur at the base without there being any material alteration of the pulse. By developed aortic disease I mean full regurgitation with a collapsing pulse, or aortic regurgitation with stenosis.

#### Enlargement of the Heart.

Many soldiers discharged the army exhibit cardiac enlargement in the absence of a valve lesion or other obvious cause to account for it. Where such enlargement is more than slight (slight hypertrophy such as is indicated by a maximal impulse  $4\frac{1}{2}$  in. from the nipple line or definitely beyond the nipple in the fifth or sixth spaces) or when it is associated with poor exercise tolerance, the condition forms a serious disability. If untreated fibrillation is present, if a venous engorgement is added, then the disability is very similar to that found in similar cases in which mitral stenosis is also present; I mean to say that the addition of mitral stenosis to such a picture does not materially increase the disability.\*

#### Arterial Disease.

Thickening of the peripheral arteries is often local, and when local does not impair the capacity for work; a given grade is of less significance as age advances. The chief symptoms of arterial disease, the chief disabilities to which it gives rise, are due to impaired nutrition of important organs such as the heart, brain, or kidneys. In an arterio-sclerotic man, therefore, in addition to the exercise tolerance, the signs of an enlarged heart, of high blood pressure, or renal involvement, are those which chiefly gauge the degree of disablement. Signs of cardiac failure, with or without fibrillation of the auricle, may be present; in such the condition is usually terminal.

Aortic aneurysm or grave angina pectoris naturally involves very high grades of disability.

Fibrillation of the auricles has been known to last for as long as thirty years, but in its presence the duration of life is rarely more than ten years. It is rarely uncomplicated. Standing by itself it should be the ground of assessing the disability highly. It is recognized by the presence of gross pulse irregularity which does not disappear when the heart rate is raised to 140 or over by any means. The actual capacity for work may be greatly increased by appropriate treatment.

Auricular flutter is very rare in soldiers. It is only to be diagnosed with certainty by special forms of examination. It is to be suspected when pulse rates of 140 to 160 are exactly maintained under varying conditions of posture and exercise. Persistent flutter and fibrillation may both be taken to signify myocardial involvement. In assessing disability they may be treated alike.

Paroxysmal Tachycardia.—When the attacks are mild and infrequent and the condition is uncomplicated (the usual picture), the disability is slight. More severe attacks debar the patients from heavy work, even though the attacks are infrequent, for such work will often provoke further attacks. Severe and frequent attacks prohibit

heavy and moderately heavy work. In gauging these disabilities I treat the condition as uncomplicated by obvious cardiac lesions. If so complicated, paroxysmal tachycardia may be assessed on the same lines as fibrillation.

Mitral Regurgitation.—This condition has been deliberately omitted from the table of disabilities. The diagnosis of regurgitation is uncertain; its cause when diagnosed is not easy to ascertain. In itself it does not lower exercise tolerance or in any way disable. The assessment of the disability, when regurgitation is thought to be present, should be based exclusively on associated factors, such as exercise tolerance, enlargement of the heart, a history of rheumatic fever recent or repeated, fibrillation, aortic disease, etc. Where exercise tolerance is normal and there is no history of rheumatic fever, no assessment is required. In cases which give a history of rheumatic fever and show a good exercise tolerance it may be wise to assess at 20 per cent. or less. Cases uncomplicated by enlargement, but showing only fair exercise tolerance, fall in the "effort syndrome" group and start with an assessed disability of 20 per cent.; if a history of rheumatic fever is present they obtain an extra 10 per cent., thus rising to the level of early mitral stenosis with good exercise tolerance. If slight enlargement is added to regurgitation, the assessment is from 20 to 50 per cent. (see enlargement group in the table), according to the exercise tolerance and the presence or absence of a history of rheumatic fever. Consideration of the murmur itself is not only unnecessary in assessing, but would lead to endless difficulty in fair assessment.

#### Table of Percentage Disabilities.

	Per Cent.
<i>Effort syndrome</i> (with or without systolic apical murmur):	
With fair exercise tolerance ... ..	20 or less
With poor exercise tolerance ... ..	30 to 40
For history of recent or repeated rheumatic fever or for poor development ... ..	add 10
<i>Mitral stenosis:</i>	
Early and uncomplicated with good exercise tolerance	30
Early and uncomplicated with poor exercise tolerance	50
Developed uncomplicated with fair exercise tolerance	50
Developed uncomplicated with poor exercise tolerance	60
Developed with enlargement ... ..	70
Developed with enlargement and venous engorgement	80
Developed with fibrillation (untreated), but no enlargement	70
Developed with enlargement and dropsy ... ..	100
<i>Aortic disease:</i>	
Slight and uncomplicated with good exercise tolerance	40
Slight and uncomplicated with poor exercise tolerance	60
Developed with much enlargement ... ..	80
Developed with enlargement and engorgement or angina; fully developed with enlargement and renal disease ... ..	100
<i>Enlargement:</i>	
Slight but definite with good exercise tolerance ... ..	20
Slight but definite with poor exercise tolerance ... ..	40
Moderate with poor exercise tolerance ... ..	50
Great with poor exercise tolerance ... ..	70
For untreated fibrillation or venous engorgement add 30	
For history of rheumatic fever (recent or repeated) add 10	
<i>General arterial disease:</i>	
Uncomplicated with good exercise tolerance ... ..	20
Uncomplicated with poor exercise tolerance ... ..	40
With moderate cardiac enlargement ... ..	50
With high blood pressure	
With grave angina pectoris	70 to 100
With great enlargement	
With renal disease ... ..	
With venous engorgement	
With or without fibrillation	
<i>Aortic aneurysm</i> ... ..	70 to 100
<i>Angina pectoris</i> ... ..	50 to 100
<i>Fibrillation of auricles (or persistent flutter):</i>	
Without signs of cardiac failure ... ..	50
With fair exercise tolerance and untreated ... ..	50
<i>Paroxysmal tachycardia:</i>	
Mild and infrequent attacks ... ..	less than 20
Severe and infrequent attacks ... ..	30
Severe and frequent attacks ... ..	50

QUESTION 24 (b).\* In case of aggravation or where there is any evidence that there was a disability on entry, what in your opinion was the degree of disablement which existed at the time of joining the army?

The answer to this question should be expressed as a percentage. The chief points for consideration in "effort syndrome" cases, which have arisen before enlistment,

\* Question 12 b of Form Z 22 is answered similarly.

\* It is not stenosis of the mitral valve which chiefly disables, but the injury to the heart muscle which is associated with this lesion.



are (a) an estimate of exercise tolerance immediately before enlistment, (b) the effects of infection, shell shock, gassing, etc., after joining, or any other event happening on active service which is known notably to aggravate. In cases of real heart disease arising before enlistment aggravation may always be considered to have occurred where any material service has been given. Precisely the same points come up for consideration as in the "effort syndrome" group. In general, in a case of heart disease, the lowest percentage disability given for the diagnostic group to which the man belongs in the disability table may be taken as the *maximal* (though not necessarily the *minimal* figure) for the disability at enlistment. This is recommended because although a lesion, such as early and uncomplicated mitral stenosis or aortic reflux, may have passed unnoticed by the recruiting board, being often in the pre-diagnosable stage, such lesions, in the presence of complications, could scarcely have remained undiscovered. The complications may therefore in general be viewed as "aggravations." Thus, in a case of mitral stenosis arising in civil life the disability on enlistment should be placed no higher, though it may be placed lower, than 30 per cent.

Where there is uncertainty the benefit of the doubt should be accorded the man, and the original disability fixed at a low percentage. If in arriving at the full disability, 10 per cent. has been added for poor development or for rheumatic fever *acquired before serving*, then it must also be added to the assessment of disability on joining.

## THE COMMON FACTOR IN DISORDERED ACTION OF THE HEART.

BY

L. M. MURRAY, MAJOR C.A.M.C.,

KING'S CANADIAN RED CROSS SPECIAL HOSPITAL, BUSHEY PARK.

THE group of cases spoken of as disordered action of the heart (British), neuro-circulatory asthenia (United States), effort syndrome (Dr. T. Lewis), irritable heart of soldiers (Da Costa), includes those having the common symptoms of breathlessness, palpitation, precordial pain, and exhaustion. Additional symptoms suggesting the functional involvement of every system in the body may be present, but, on account of their prominence, those referring to the circulatory and the nervous systems are the most evident.

That these two systems are disturbed is shown by the anxious, listless expression, the nervousness, tremor of the muscles, increased reflexes, dizziness, giddiness, or fainting, and changes in the blood pressure and pulse. We could subdivide the cases into groups, such as the psychic, cardiac, involuntary neuro-muscular, or any other which one may fancy; but such a procedure, while it may be descriptive to some extent, does not advance us in dealing with the condition, and might be misunderstood.

"D.A.H." is always secondary. Its primary cause may be found as far back as the family history where life began under the burden of some hereditary taint, but usually the primary factor will be found as some infection, accident, injury, or in single or repeated mental shocks. Such events will be evident in the history of the individual as a turning-point in his life, as since then he has been unable to make the physical effort he had formerly been able to accomplish without distress.

As a matter of fact, the condition of the circulatory system during an acute attack of fever does not differ materially from that which we find in D.A.H. In both we have the same breathlessness, palpitation, precordial pain on exertion, and vasomotor disturbances on changes in position or after exertion; in some cases the same fast pulse; in others, like typhoid or cerebro-spinal fever, a relatively slow pulse. Our custom, when these symptoms appear during the course of a fever, is to return them under the nomenclature of the infection; when they are present after all obvious signs of the illness have disappeared, to speak of them under the diagnosis of D.A.H.

It has become so usual to consider that all cases of D.A.H. must be accompanied by a rapid pulse while at

rest and after exertion, that I give the following case report of a patient with a comparatively slow pulse, but who has undoubtedly suffered from the condition since boyhood.

Pte. B., 26th Battalion C.E.F., aged 33; born in England. Total service thirty-four months, in France six months.

*Complaints.*—Breathlessness, dizziness, precordial pain, exhaustion.

*Family History.*—Mother, aged 68, has always been nervous and weak. Father died of cancer of stomach, aged 56. Five brothers and five sisters. One brother killed in the Somme fighting, another discharged from the army as medically unfit, cause not known; the remainder healthy as far as he knows.

*Personal History.*—The patient had measles in childhood; rheumatic fever in 1909, when he was in bed for eleven weeks. He has had three attacks of acute tonsillitis. He was not able to play games at school because he was never strong enough. He worked at his trade of carpenter in England with occasional spells of weakness and dizziness until 1898, when he joined the Coldstream Guards as pioneer corporal, and served with them in England and South Africa. During this service he had frequent fainting attacks, and was discharged as medically unfit in May, 1906. He went to Canada in 1911, and worked at his trade with a few interruptions on account of weakness and dizziness. In 1914 he joined the 26th Battalion, and was discharged medically unfit on July 6th, 1915. He then joined the militia of Canada in August, 1915, and did home duty until joining the — Battalion as sergeant-major. He did eight months' training in Canada, carrying on with difficulty, as he constantly fell out of route marches on account of breathlessness and weakness, and had frequent fainting spells. He did five months' training in England with similar complaints. He reverted to a private and went to France in October, 1917, but was unable to carry on either as regards route marches or front line work, and was evacuated to England on March 15th, 1918, as D.A.H.

*Condition on Admission.*—Height 6 ft.; weight 164 lb.; extremely depressed and expression listless; tonsils ragged, not enlarged; teeth good; blueness of the hands; no clubbing of the finger-nails. There is not an area of hyperaesthesia. *Urine:* Specific gravity 1018, acid, no albumin, no sugar. Eye and knee reflexes normal. He had an occasional spasmodic twitching of the muscles in different parts of the body. *Circulatory System:* Pulse 60; after a measured exercise 100, in one minute 60. Heart apex beat fifth left interspace in nipple line fairly diffuse. Area of cardiac dullness: left limit outside left nipple line 12 cm. from the mid-sternum. *Sounds:* A faint systolic murmur in all areas, heard on lying down only. Rhythm irregular; immediately after exercising the disturbance disappears; with deep respirations the irregularity is increased.

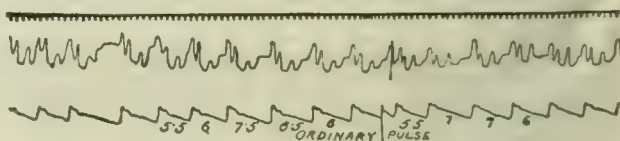


FIG. 1.—Pulse tracing with ordinary breathing.

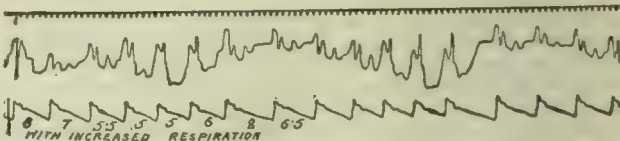


FIG. 2.—Pulse tracing with forced breathing.

Under digitalis,  $\text{mxx}$  four times a day for four days, the pulse remains as shown in the tracing. Under tincture of belladonna,  $\text{mxx}$  four times a day for four days, the rhythm became quite regular, and was then not disturbed by increasing the respirations.

While it is not usual for these cases to be accompanied by a gross pathological lesion, the presence of such a change does not prohibit a coincident D.A.H. which may depend upon the same or some other etiological factor. In any case an obvious lesion, when present, is the chance involvement of a susceptible tissue, and is quite apart from the actual bodily changes which are present in D.A.H. I might express this in a different way as "history of rheumatic fever, typhoid fever, or any other illness of sufficient importance to be considered by itself, quite apart from any local change."

In the case reported we have (a) disordered action of the heart which has been present since boyhood; (b) a pathological change in the heart (hypertrophy and some irregularity of the a-c interval); (c) a dominant vagus nerve.

In the ordinary normal person we do not find the nervous connexions of the heart especially evident, as they



are nicely balanced, or, at least, are only evident under special stimulation.

Such response of heart muscle to vagus as occurs in this case will throw doubt on Sir James Mackenzie's suggestion<sup>1</sup> that this demonstration is in favour of a heart muscle which has escaped damage. In this case at least, where the vagus overcomes not only its usual reticence, but also an abnormal heart muscle, we are driven to consider some factor which is behind the nerve, stimulating or intensifying its action to determine its ascendancy. The usual case of D.A.H., on the other hand, has a rapid pulse because the exciting factor has an affinity for and enhances the action of the cardiac sympathetic.

In the diagram I have shown the parts of this subject we know. They are predisposing factors which initiate the bodily changes giving rise to end results of circulatory disturbances and physical and psychological exhaustion. Between these two there must be a common factor which regulates the disturbed intercellular phenomena. I do not think we should be diverted from such a solution because the primary factor happens to come from various directions and in different forms.

For a solution of this problem the autonomic nervous system must form one part of the equation. Anatomically, this system is divided into:

1. Cranial.
2. Thoracic-lumbar or sympathetic.
3. Sacral.

The sympathetic division is widely distributed throughout the body, while the cranial and sacral portions have only a restricted field. Physiologically, the divisions differ, as, when branches of the middle or sympathetic division meet in any organ with branches from either the cranial or sacral portions, their effects are antagonistic. Normally the opposed actions are balanced, but under various conditions one or other section may predominate, and, in the heart in D.A.H., we may find either the vagus representing the cranial portion, or the sympathetic representing the sympathetic portion in the ascendancy.

A second factor in the equation would be the circulating fluids which, in health, contain the nutritional and chemical needs of the body and act as a nicely balanced medium for the correlation and mutual benefit of the different cells and functions. From our slight but gradually increasing knowledge we know that these fluids are the chemical results of cytoplasmic activity of all the different cells, some merely metabolites, but others of a specific nature differing chemically and physiologically but greatly dependent on one another for their entrance into the circulation, and all required by the individual systems in a pure state in order that they may perform their functions correctly.

We have abundant evidence that these bodily secretions are further influenced by the infections, by prolonged exertion, and by emotional excitement. During the siege of Paris, 1871, Graves's disease was common. Alexander notes a case of Graves's disease following a bomb explosion.<sup>2</sup> In this clinic almost every day we see cases with some enlargement of the thyroid, and symptoms which suggest its disturbed function. While recognizing that hypertrophy of this gland does not necessarily include an altered function, the possibility of a thyrotoxin remains uppermost in our minds because we have no method of determining its presence or absence in the blood.

Ramond and François,<sup>3</sup> during a few months of 1917, were able to collect 26 cases of confirmed Addison's disease in their hospital sector in France. They concluded that the increased evidence of this condition is due to the slow, progressive, positive suprarenal insufficiency, in consequence of the continual state of moral and physical tension inseparable from this prolonged war. It is also of importance in this connexion that two of their cases were associated with Graves's disease.

W. B. Cannon<sup>4</sup> has shown that in the primary emotions Nature has increased our reservoirs of power by increasing the output of adrenalin, by mobilizing the energy-giving sugar of the liver in the circulation, and by increasing the coagulation time of the blood. In this way the organism is made more effective in a display of energy; fatigue is abolished, and some provision made for the conservation of blood in case of accident. Such responses to the emotions are in the nature of reflexes, and denote a neuro-chemical relationship between the circulating fluids and the nervous system. By stimulation of the sympathetic Cannon was able to deplete the adrenal glands of their active principle in a very short time. It will not be denied that a similar stimulation occurs in the recruit during the time he is being imbued with the ardour and the skill of warfare, as well as during his presence in the field when a soldier.

In the infectious diseases and other debilitating conditions the function of the adrenal gland became altered in a similar manner. F. Lucksch<sup>5</sup> gives the disturbance as a depletion of the gland itself. He gives the normal amount of adrenalin as 4 mg. per gram of dry adrenal weight. This figure falls in the infectious and other diseases, and may reach 0.35 mg., or in infants 0.13 mg. In Addison's disease the figure is lowest and in nephritis the highest.

That depletion of the adrenals in itself has a marked influence on the general economy, and that it must influence the functions of all the

organs, is shown by the work of Athanasio and his pupil Grandinesco, who are quoted by Gley.<sup>6</sup> They found that adrenalin, by the tonic influence it exerts on the endothelium of the blood capillaries, regulates material changes between the blood and the interstitial plasma of the tissues, so that, if the secretion of this product is abolished, these exchanges are put in a state of profound disorder. In the light of this evidence one might be tempted to consider the positive suprarenal insufficiency as the solution of our problem, and, while important, it is only one of a number of chemical products found in the circulating fluids, each one of which is dependent on another for stimulation and assistance in its functions, and each influenced by and influencing all the other cells of the body, so that a consideration must include the entire chemical content of the blood. Our information so far then shows that in the circulating fluids we have products of a chemical nature; that disease and nervous stimulation affect at least the quantity of the chemical elements entering the blood.

That a further qualitative change takes place is also certain, because the alkaline balance of the mixture has been altered. Bayliss,<sup>7</sup> Moore,<sup>8</sup> Barcroft,<sup>9</sup> and other physiological chemists are agreed upon this point. At present they happen to be engaged in a controversy as to whether it is the alkaline salts or the amphoteric proteins which are interfered with, and as to whether the protection of normal blood acts as a "buffer" or as a "tampon," but the general opinion seems to be that the hydrogen ion concentration of the blood has been interfered with. This is an important fact, and must be associated with the disturbance of the balance in the internal secretions.

There is, as yet, no absolute proof that this acidosis in D.A.H. is the result of a chemical change in the internal secretions, but the certainty of a quantitative change in some of them I have shown, and as chemically they are dependent upon each other but cannot replace one another, it is surely a fair inference that, in the reciprocal reactions of excitation and inhibition which go on between them, and when their balance has been lost as we have shown in this condition, one at least of their number, let us say, in an attempt to replace the functions of another, forms compounds which are abnormal and acid in reaction. This is no doubt rendered easier by reason of increased sugar

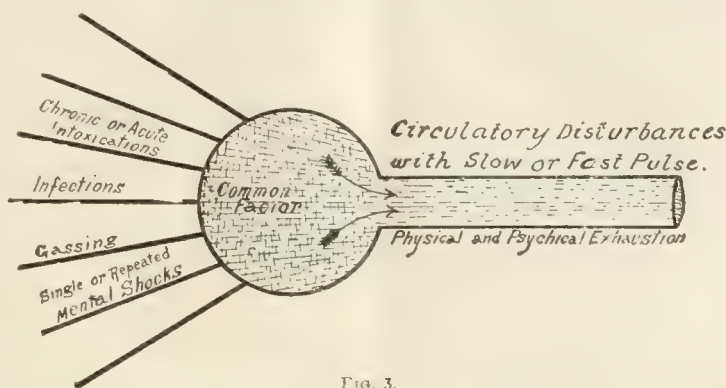


FIG. 3.



present in the blood, which so easily lends itself to the formation of acid compounds.

Clinical observation of the respirations in cases of disordered action of the heart does not favour the theory of acidosis due entirely to deficient lung ventilation. The respiratory centre and muscles come primarily under the influence of altered circulating fluids, their function is interfered with, and the increased contribution of hydrogen ions they make to the circulation is secondary.

We know from physiological and from clinical experience in different diseases that certain compounds stimulate one or other divisions of the autonomic nervous system. The case I review in this paper is one instance where the vagus is under such control. The rule, as we know, is for stimulation of the sympathetic. I only point out that such is the action of various abnormal circulating fluids.

In D.A.H. it is not only the respiratory and autonomic systems which are disturbed, but the changes in the function of the psychic, cardiac, locomotor, and other systems are so pronounced as to suggest the cases being grouped into psychic, neuro-muscular, cardiac, etc. Such abnormal intercellular phenomena are accompanied by a mechanism apart from the nervous system, and must result from the intermediary action of the circulating fluids acting either (a) directly, by bathing the cell in an abnormal chemical compound which may initiate a change in the chemical reaction of the cell itself, or possibly change the arrangements of the protoplasm and nucleus; (b) more indirectly, through the action of these fluids on the endothelium of the capillaries interfering with material exchanges between the blood and the interstitial plasma.

I have attempted to prove that it is in the body fluids we have the common factor of disordered action of the heart. The rôle of the autonomic system is that of the small child who starts the motor car and is unable to pull the levers of control. By means of its more or less continued stimulation, a vicious circle begins—(1) stimulated autonomic system; (2) altered body fluids; (3) altered function—in which all systems, including the autonomic system, take a part. Similar changes take place, we have seen, in the acute infections and other diseases, and are followed by similar symptoms; their importance in the history of D.A.H. being that once the vicious circle has been created, it is entered upon again more readily. The relation of single or repeated mental shocks depends on the degree of shock and the stability of the autonomic nervous system.

I have never seen a satisfactory explanation of the symptoms of D.A.H., but, having followed me so far, if you will understand the sense in which I use the word "exhaustion" as being synonymous with malnutrition of the cells owing to the chemical alteration of their necessary food, I will try and apply them to my solution of D.A.H.

**Breathlessness**, especially on exertion, is the most common symptom of this condition. If we were dealing with a normal respiratory centre and muscles, and with blood which was normal, except for the addition of hydrogen ions as a result of deficient lung ventilation, we would surely have such a response of the centre and of the muscles that any disturbance of the potential alkalinity of the blood would be corrected.

The arrangement, we have seen, is that the circulating blood has its alkaline balance disturbed, quite apart from the respiratory system, and that a further disturbance of this balance occurs as a result of deficient lung ventilation. The respiratory system in these cases cannot be judged by ordinary standards. The centre bathed by abnormal fluids, with function either inefficient or exaggerated, is on a different plane. The respiratory muscles have every evidence of exhaustion. We know that with increased hydrogen ion concentration the avidity with which the blood gives up its oxygen is accelerated, so that, considered clinically, it would appear that both the centre and the blood required to be further activated by carbon dioxide in order to obtain the necessary response for ordinary effort. This explanation does not pretend to be anything more than an attempt to correlate the clinical appearance of respiratory action with certain changes in the blood. I bring it forward with considerable trepidation, but with the certain feeling that an analogy does not exist between the experimental injection of lactic

or other acids and the autogenous disturbance of circulating fluids such as we have present in these cases.

**Precordial Pain.**—Starling<sup>10</sup> has shown that the reserve power of the heart is enormous and is dependent almost entirely upon its nutrition. The cardiac pain, whether accompanied by hyperaesthesia or not, is merely the distress signal of an organ compelled to work in spite of a food supply, at least altered chemically. In Meakin's series of cases of hyperaesthesia<sup>11</sup> two cases with a known toxic factor support this—one an appendix case with an area of hyperaesthesia on the right abdomen, as well as a precordial area; and the second case, one of chronic dysentery with an area of hyperaesthesia on the left abdomen, as well as a precordial area. In both of these cases, with the cure of the primary condition and the disappearance of the toxin, not only the local but also the precordial hyperaesthesia disappeared.

**Palpitation** is the outcome of an overacting heart, or of extrasystole, and with the exhaustion, the vasomotor and other symptoms are explained by the changed character of the body fluids interfering with function.

This paper must not be considered as more than clinical, based on observation and on deductions which the writer hopes are within reason. It should direct attention to the importance of all debilitating factors in the life-history of the individual, which, although disappearing without trace, nevertheless have created a vicious circle which readily recurs, and under any stress will reappear and alter every function of the body, mental and physical.

The final solution of problems involving disordered functional correlations of a chemical or neuro-chemical nature must remain in the hands of the physiological chemists.

#### REFERENCES.

- <sup>1</sup> Sir James Mackenzie: *Diseases of the Heart*, p. 183. <sup>2</sup> *Med. Record*, 1915, 15, 994-995. <sup>3</sup> *Bull. et mem. Soc. des Hop. de Paris*, 1917, 5191, 1001-1003. <sup>4</sup> W. B. Cannon: *Biological Changes in Man*, *Hunger, Fear, and Heat*, 1915. <sup>5</sup> E. Leskeson: *Laboratory Archives*, 1917, 225, 290-300. <sup>6</sup> L. G. Cole: *The Lateral Secretions*, 1917. <sup>7</sup> W. M. Bayliss: *The Buffer Salts of the Blood*, *BRITISH MEDICAL JOURNAL*, July 27th, 1913. <sup>8</sup> F. Fenimore Moore: *The Reactivity of the Blood*, *BRITISH MEDICAL JOURNAL*, September 7th, 1913; *Early Cardiac Breathlessness and Buffer-Salt Deficiency in the Blood*, *BRITISH MEDICAL JOURNAL*, Jan. 29th, 1915. <sup>9</sup> Dr. T. Lewis: *Observations upon Dyspnoea*, with Special Reference to Asthma, 1914. <sup>10</sup> Third Horner Lecture, Johns Hopkins Hospital, Baltimore, October, 1914. <sup>11</sup> Professor E. H. Starling: *Laws of the Heart*, Lancelotti Lecture, Cambridge, 1915. <sup>12</sup> Report, Medical Research Committee, Series No. 8, 1917.

## INTRAVENOUS INJECTIONS OF ANTIMONIUM TARTARATUM IN BILHARZIOSIS.

BY

J. B. CHRISTOPHERSON, M.D., F.R.C.P. LOND.,  
F.R.C.S. ENG.,

DIRECTOR OF THE CIVIL HOSPITALS OF KHARTOUM  
AND OMBUDMAN SUDAN.

SINCE May, 1917, we have been treating bilharziosis (rectal and vesical) at the Khartoum Civil Hospital by the intravenous injection of antimony tartrate, and I am convinced of its efficacy.

So far as our present knowledge goes—leaving out of consideration for the present antimony—there is no cure for bilharziosis excepting time, and there is no drug to which bilharziosis will directly respond even in the feeblest way. Symptoms may be alleviated, and even temporarily suspended, by rest in bed, by dieting, and by symptomatic treatment; but, after all is said and done, there is, so far as I know, no drug again excepting antimony which has the slightest direct effect on the career of the *Schistosomum haematobium* in the portal circulation and its tributaries.

The intravenous injection of antimony tartrate (details of which I have recorded elsewhere<sup>1</sup>) has a profound effect on the symptoms of bilharziosis. One may safely say that, so far as subjective and objective signs are concerned, a cure is effected; one cannot say at this present time that the cure is permanent (it certainly lasts for weeks and months). The permanency of the cure still remains to be proved.\* The remedy, no doubt, must be administered with ordinary care, and with the judgement which obviously is due whenever a powerful and toxic drug is used, but it appears to me that antimony tartrate

\* Cases so treated months ago are under observation, and will be reported in due course.



is a specific in its action on *Schistosomum haematobium* as it is in its action on the Leishman-Donovan body (leishmaniasis).

The following is an account of a case treated by Dr. Nicola Malout, now practising in Khartoum, with his notes. It is interesting because not only does it in a short account give the typical course of the progress of vesical bilharziosis under treatment with antimony tartrate, but it shows that, with due care, the remedy may be administered without the necessity of the patient lying in bed for a month, or, in fact, without his having to go to bed at all. In point of fact the case was treated in the out-patient room of a private practice. The patient was detained for a short time after the injection at the surgery, and lay down on his bed for the rest of the day of injection at home. He went about his business in the interval as usual.

Abbasur Musa, a native of Wad Medani, 20 years old, a cultivator, visited Dongola in the years 1912-13, and returned with blood in his urine. His urine was nearly half blood and half urine at the time injections commenced; it was never clear. A sample was sent on August 13th, 1918, to the Wellcome Tropical Research Laboratories, Khartoum, and heavy infection with ova of *Schistosomum haematobium* reported. The patient had tried many medicines, especially extract of male fern, but without any effect whatever. He had had no previous disease, and complained of nothing except his urine and of some swelling and pain in the right testicle which he attributed to the same disease.

#### Method of Treatment.

A stock solution of tartar emetic, gr. 1 in each 20 minims of distilled water, was prepared, and each 20 minims of this was mixed with 30 minims of sterilized normal saline solution before injection. The antimony tartrate solution was always injected into the right median cephalic vein. The treatment was begun on August 15th, 1918.

Date.	Dose.	Untoward Action or Result.
1918.		
Aug. 15 ...	gr. 1	Nil.
" 17 ...	gr. 1	Nil.
" 19 ...	gr. 1½	Cough moderate.
" 21 ...	gr. 2	Severe cough.
" 23 ...	gr. 2½	Severe cough.
" 25 ...	gr. 2½	Severe cough; patient stated urine clear for the first time in the last four years.
" 27 ...	gr. 2½	Severe cough, eyelids and face puff, appetite lost, felt very weak, cold hands, pulse 100 and weak, temperature 98° F.
" 30 ...	gr. 2	Same symptoms but mild.
Sept. 3 ...	gr. 2	Patient was given gr. ½ codeine phosphate thirty minutes before the injection; cough not so troublesome.
" 11 ...	gr. 2½	Cough very severe, puffiness of face and eyelids returned, colour of face ash-like, cold sweat.
" 15 ...	gr. 2	Codeine gr. ½ in three doses at half-hour intervals before injection; cough moderate, no other untoward action.
" 20 ...	gr. 2	Codeine as on previous occasion with same result. Patient wanted to stop treatment as he believed he was cured.
Oct. 1 ...	gr. 2	No complaint of special interest.
" 3 ...	gr. 2	No complaint of special interest.
" 7 ...	gr. 2	No complaint of special interest.
" 12 ...	gr. 2	No complaint of special interest. The last injection.
Total ...	gr. 1	

It will be seen (1) that for five years the patient had had haematuria, that his urine was never clear during four of these five years. (2) That after the fifth injection the blood in the urine disappeared and the patient stated that it was the first time for four years that his urine had been clear. (3) That after the twelfth dose the patient was convinced that he was cured; he may have been, but the course was continued by Dr. Malout until he had given gr. 31, in fifteen doses varying from gr. ½ to gr. 2½, in fifty-six days. The urine, owing to the exigencies of private practice, was not tested every day.

There were two breaks in the course of the treatment. One of eight days and one of ten days. These lapses did not apparently make any difference to the final result, and it is interesting to note that the cause of the ten days' lapse was Spanish influenza, so that in a man with healthy organs, Spanish influenza complicating the course of injections of antimony tartrate need have no untoward result.

The cases treated at the Khartoum Civil Hospital have the urine microscoped every day. The urine of the case being reported here has been tested half a dozen times

since the injections ceased; it contained nothing abnormal. I am quite aware that a sufficient interval has not elapsed in the present instance to make any statement regarding the permanency of the cure, but no drug which I know of has even the temporary effect on the subjective and objective symptoms of bilharziosis that antimony given as antimony tartrate has; this effect is certainly profound and striking.

In the only *post-mortem* examination I know of—in a case which had died during a course of treatment by antimony tartrate injections for bilharzia—I am informed that no worms were found in the portal circulation (the *post-mortem* examination was made a very few hours after death). This is an interesting and important statement and significant.

I have elsewhere<sup>1</sup> drawn attention to the care and judgement necessary in dealing with a disease by the use of a powerful remedy such as antimony tartrate. It should be remembered that it is a poison, that even small quantities have been known to cause death (gr. ½ in a child, gr. 2 in adult), to say nothing of the risk of chronic antimony poisoning, that the injection is made directly into the veins, and its use requires additional care by reason of this fact.

Intercurrent diseases of the heart, liver, kidneys, lungs, should be looked for, and the metabolic processes of the body so far as possible should be sound; if not normal, they are additional causes for circumspection.

I think gr. 30 should be considered for the present the maximum dose for an adult's course for bilharziosis, and, if more be required, a second course of injections should be administered after an interval of some weeks or months. It may be that, as more is done on this treatment, a much smaller dose will be found to be the required killing "charge." It may be, and very likely is, the case that some cases only require a comparatively small dose whilst others require a dose of gr. 30 or more, and that others again require several courses of gr. 30 to rid them of the bilharzia worms.

It is almost certain that tartar emetic will have a deleterious effect on organs and tissues when given recklessly, empirically, and without the sense of responsibility which is due to the act of injecting anything—however benign, however poisonous—into another human being's veins.

There are still sufficient empirics in the medical profession to damage again the reputation of tartar emetic (antimony) as a valuable remedy. Such a result would be a calamity now that it appears to be taking its proper place as one of the most powerful and useful germicidal agents we possess; and I think this note of warning is necessary, because it is in partially civilized countries where the diseases leishmaniasis, sleeping sickness, and bilharziosis—which are amenable to treatment by antimony abound. There also the methods of the quack and charlatan flourish, encouraged by the ignorance and prejudice of the native races. I beg to acknowledge with thanks the help I have received from Mr. J. R. Newlove in this work.

#### REFERENCES.

<sup>1</sup> *Lancet*, September 7th, 1918. <sup>2</sup> *Journ. of Trop. Med. and Hygiene*, October 15th, 1917.

## FIBROMA OF THE TRACHEA.

BY

JAMES B. HORGAN, M.B., Ch.B.,

HON. CLINICAL LARYNGOLOGIST TO THE NORTH CHARITABLE INFIRMARY, CLACK

FIBROMA of the trachea, though they occur second in frequency amongst all innocent tumours found in this region, are nevertheless, I think, of sufficient rarity to justify the publication of such a remarkable case as that about to be described.

StClair Thomson<sup>1</sup> states that fibromata of the tracheal lumen occur second in frequency to papillomata, but Sauer<sup>2</sup> has only been able to collect published records of

\* In the tropics there is a diversity of medical talent, as one would expect from the diversity of the nationalities of the doctors. In the eyes of the tropical public doctors are all the same. They are medicine men, and there is nothing medical which is revealed to one and not the others. Most of the local doctors are altogether empirical in their ways of treatment, and the treatment of kala-azar in the Sudan (by antimony tartrate) has, no doubt, not come up to expectation in their hands. This is, however, no reflection on the efficacy of the treatment when carried out intelligently.



twenty-nine cases, which fact amply demonstrates the extreme rarity of such tumours in the trachea.

The patient, P. S., aged 9 years, was sent to me by Dr. Harrington of Tralee with the provisional diagnosis that he was suffering from an intratracheal tumour. One of his brothers had died of diphtheria at the age of 8 years. The family history was otherwise irrelevant. The personal history was that with the exception of an attack of bronchopneumonia five years previously the boy had always enjoyed robust health until he had contracted measles three months ago. Since then he had had irregular attacks of dyspnoea, which, having increased in severity, especially at night, necessitated his being taken to the doctor two weeks before I saw him.

As his respiratory difficulty failed to yield to palliative treatment after one week, the advice of a throat specialist was recommended, but was not sought until a week later, by which time the urgency of the boy's condition had become very acute.

When I saw him on August 10th the patient presented all the clinical signs of almost total tracheal occlusion. He was unable to walk unsupported, his face was livid and anxious, and his voice very feeble but clear. His pulse was accelerated and feeble. There was orthopnoea and marked stridor, especially during inspiration. The lower sternal and costal cartilages, as well as the upper abdominal parietes and suprasternal notch, were in a state of permanent and very decided retraction.

No breath sounds could be heard with the stethoscope in either lung, but a loud vibratory sound was audible over the upper central sternal region. Upon examination the pharynx and larynx were seen to be normal. Examination of the trachea carried out by means of the Avellis procedure enabled me to see what appeared to be a dusky red, globular tumour, situated very low down in the trachea.

It was evident that immediate relief was necessary, but that any attempt to remove the tumour by upper direct tracheoscopy would under the existing condition of the patient be highly inadvisable. I accordingly decided to perform a low tracheotomy, and hoped thereby that if I were unable to effect a removal of the tumour at once I would at least gain a respite.

General anaesthesia being out of the question, I infiltrated the skin with novocain-adrenalin solution and proceeded to do as low a tracheotomy as possible. After exposing the trachea, and whilst in the act of ligaturing a large vein which crossed my intended tracheal incision, the patient suddenly lost consciousness and ceased to respire. An assistant at the same time informed me that the radial pulse was absent. I had artificial respiration adopted and pituitrin injected hypodermically whilst I immediately stabbed the trachea. I now found that the tumour mass lay below the longest tracheotomy tube available, but as natural though very laboured breathing had returned I had time to improvise a further course of action.

The tracheotomy tube was removed, and holding the tracheal rings apart with a small self-retaining mastoid retractor I inserted a small Luc's nasal forceps in the direction of the bifurcation, grasping and removing a hard pediculated tumour. Breathing at once became easy and consciousness returned.

The tracheotomy tube was left in, a few deep and superficial sutures uniting the soft parts above it, but was removed the next morning. As the patient's general condition rapidly improved I decided to make a lower tracheo-bronchoscopic examination. This was carried out five days after the removal of the tumour, the original wound being reopened for the purpose. The examination was carried out under ether-chloroform anaesthesia,  $\frac{2.00}{100}$  grain of atropine sulphate having previously been given hypodermically. The site of origin of the tumour was easily verified on the anterior tracheal wall immediately above the bifurcation and cauterized by a very localized application of trichloroacetic acid.

The patient made an uneventful recovery, and returned home within a week of this examination.

Upon macroscopic examination the removed tumour was found to be bilobular, the two portions being united at their base and lying together so as to form a globular mass, which was approximately the size of a small cherry. It was dusky red in colour, of fairly hard consistence, and the common pedicle was distinctly evident. Dr. Brönte,

to whom the specimen was sent for microscopic examination, reported that it was a fibroma, and consisted chiefly of fibrous tissue and blood vessels covered by compound epithelium.

I am inclined to the opinion that the tumour lay straddlewise across the bifurcation of the trachea and that any air reaching the lungs did so across the upper and posterior surface of each lobe of the tumour. Apart from the site of origin of the pedicle and the findings at operation, the size of the tumour when viewed *en masse* was such as to preclude the possibility of the patient living any time had the tumour occupied the trachea alone. Brinings<sup>3</sup> states that from his investigations carried out *in vivo* he finds that the tracheal diameter in children—and by children he expressly states that he means about ten years of age—varies between 8 and 11 mm. The smallest diameter of the tumour referred to above was 1 cm. In this respect I think that my case is unique amongst the sparsely reported cases of tracheal fibromata. For an innocent tumour a further very unusual if not singular feature of this case was the anterior attachment of the tumour pedicle. Woods<sup>4</sup> reports a somewhat similar case of a non-pediculated innocent tumour in a boy aged 11. In this case the growth, which was reported to be "a round-celled growth with many blood vessels and apparently granulation tissue," had its origin from the right wall of the trachea immediately above its bifurcation. Woods succeeded in removing his tumour piecemeal by upper direct tracheoscopy under general anaesthesia, but the general condition of his patient was never serious. In both cases the symptoms were of not more than a few months' duration, though in my case it must be assumed that the tumour in some form must have been present for a much longer period, and it is interesting to note that it was apparently unaccompanied by dyspnoea or other symptoms until after the attack of measles.

Thomson<sup>1</sup> states that tracheal tumours occur most frequently on the posterior wall, and that their frequency diminishes as the tube descends. From the records of published cases—both benign and malignant—I am not inclined to agree with the latter part of this statement, and am rather of the opinion that whilst the subglottic region is most frequently affected the lower end is affected next in frequency, and that the middle region is the least likely to be involved. Theisen<sup>5</sup> remarks that tracheal tumours grow most frequently from the posterior wall, which is rich in mucous glands. This writer further says that owing to the relatively high proportion of tracheal tumours—which he estimates at about 50 per cent. of the total—which prove to be malignant, a strong suspicion of malignancy should always be attached to a tracheal tumour.

Guissez<sup>6</sup> reports the successful removal *per vias naturales* of two tracheal fibromata the pedicles of which were attached posteriorly.

Adam<sup>7</sup> reports the case of an epithelioma about half the size of a cherry with a broad base growing from the tracheal wall just above and half obscuring the right bronchus, which he removed through a low tracheotomy wound.

Heymann<sup>8</sup> records the case of a carcinoma growing from the anterior tracheal wall to the right of its union with the right bronchus.

Moritz Schmidt<sup>9</sup> in his textbook mentions the reports of three cases of tracheal fibromata, one of which was removed through a tracheotomy wound, but he is not specific as to their sites of attachment.

#### REFERENCES.

- <sup>1</sup> *Diseases of the Nose and Throat*, second edition, 1916, p. 590.
- <sup>2</sup> *Laryngoscope*, vol. xviii, 1908, p. 252. <sup>3</sup> *Die direkte Laryngoskopie, Bronchoskopie und Oesophagoskopie*, 1910, S. 233. <sup>4</sup> *Journal of Laryngology*, vol. xxviii, No. 10. <sup>5</sup> *Trans. Amer. Laryng. Assoc.*, vol. xxviii, p. 264. <sup>6</sup> *Les Archives Internationales*, tome xxxi. <sup>7</sup> *Journal of Laryngology*, vol. xxx, No. 2. <sup>8</sup> *Zeitsch. f. Laryng.*, Bd. vi, Heft 5, 1913, S. 735. <sup>9</sup> *Die Krankheiten der Oberen Luftwege*, Berlin, 1903, S. 644.

TILL recently there were only two medical schools in the Argentine Republic, at Buenos Aires and Cordoba, but a third has now been established at La Plata.

THE *Indian Medical World*, Calcutta, has published a chart of pathogenic bacteria for the use of candidates for the M.B. examination. It appears to have been prepared with care, and may no doubt be of use to students who have diligently followed a course of bacteriology.



## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### ACIDOSIS.

"Acidosis" has generally been looked upon as a symptom. From the many cases I have treated in this hospital simulating pulmonary and cerebral complaints, I have come to the conclusion that acetone intoxication is a cause, producing symptoms in some cases of pneumonia, in others of meningitis, etc. How acetone is produced I will not discuss. My reason for writing is to put the general practitioner on his guard, as recently we have had several cases sent in during this epidemic as influenza pneumonia which on examination I have found to be acidosis. The following cases, related as short as possible from the history sheets, will show the importance of the subject. All have been treated with sodium bicarbonate and glucose. As soon as the acetone cleared up all the other symptoms disappeared.

*Case 1.*—Child, aged 6½; admitted April 8th, 1918. Temperature 98°, pulse 120; quite comatose. History of one week's illness, with vomiting, cough, and abdominal pains. Acetone cleared on the ninth day; discharged on the seventeenth day after admission.

*Case 2.*—Child, aged 6½. Ill two days with abdominal pains, sore throat, and some vomiting. Was comatose when admitted on May 23rd as a case of meningitis. 7 p.m., temperature 101°, pulse 110; 11 p.m., temperature 104°, pulse 130. The acetone cleared in seven days; discharged June 3rd.

*Case 3.*—Child, aged 6; sent in as a case of pneumonia on June 14th. Temperature 102°, pulse 140. History of two days' illness with vomiting, cough, headache, and dyspnoea. The acetone cleared on the seventh day; discharged July 1st.

*Case 4.*—Child, aged 6½; sent in as a case of meningitis on June 14th. Temperature 101°, pulse 135. Had slight convulsions which continued till 9.30 the next morning. Acetone cleared in seven days; discharged July 1st.

*Case 5.*—Child, aged 6; sent in as a case of pneumonia on July 7th. Temperature 100.3°, pulse 140. Two days before admission was taken with acute headache, vomiting, and abdominal pains. Acetone cleared on the sixth day; discharged July 15th.

*Case 6.*—Boy, aged 5; sent in as a case of meningitis on September 17th. Temperature 100.2°, pulse 116. Had convulsions on the 16th, and on the morning of the 17th was found in bed quite comatose. Had slight convulsions after admission. Acetone cleared on the ninth day; discharged October 17th.

*Case 7.*—Child, aged 7; admitted on September 23rd as a case of meningitis. Temperature 105°, pulse 124. Acetone cleared on October 1st; discharged.

*Case 8.*—Boy, aged 12; sent in on October 1st as a case of bronchopneumonia. Temperature 101.2°, pulse 103. Ill seven days before admission. Acetone cleared on October 9th; discharged.

*Case 9.*—Man, aged 28; sent in as a case of meningitis on October 9th; quite comatose and difficult to rouse. Temperature 101°, pulse 56. History: On October 4th, on returning from work, he complained of pain in his head; vomited a good deal of yellow fluid. Next day he became comatose. Acetone cleared on October 24th; discharged October 28th.

The following were sent in as influenza pneumonia cases:

*Case 10.*—Female, aged 19; admitted October 26th. Temperature 102°, pulse 120. Acetone cleared November 3rd; convalescent.

*Case 11.*—Aged 19; admitted October 26th. Temperature 100°, pulse 120. Acetone cleared on November 4th; convalescent.

*Case 12.*—Aged 17½; admitted October 27th. Temperature 102.4°, pulse 156. Acetone cleared on November 1st; convalescent.

*Case 13.*—Female, aged 25; admitted October 28th. Temperature 99.4°, pulse 112. Acetone cleared on November 3rd; convalescent.

*Case 14.*—Female, aged 31; admitted October 28th. Temperature 103°, pulse 144. Acetone cleared on November 3rd; convalescent.

No case took more than nine days to clear up. None of the supposed meningitis cases showed Kernig's sign. The breath in several cases pointed to acetone.

K. J. DOUGALL,

Prince of Wales's General Hospital,  
Tottenham, N.

Resident Physician.

#### IMPLANTATION OF THE NEWLY FERTILIZED OVUM IN THE UTERUS.

Cases of full-time extrauterine pregnancy and of advanced ectopic gestation like that recorded by Dr. Nash in the JOURNAL of October 12th raise grave doubts regarding two prevalent beliefs concerning the part which it is alleged

the corpus luteum plays in preparing the endometrium for the reception of the newly fertilized ovum and the way in which the fecundated ovum perforates and lodges itself in the substance of the uterus. If there is at any time a justifiable reason for the fertilized ovum in man assuming the attitude of a parasite towards the tissues of its own mother it most assuredly would be manifested when the fecundated ovum finds itself located disadvantageously in some alien quarter.

When the embryo completes its development and arrives at maturity in some location outside the uterus the placenta is as perfect structurally and functionally as when it develops in the uterus itself. In such circumstances the belief cannot be entertained that the corpus luteum plays any part in preparing and favouring the maternal tissues for the implantation of the fertilized ovum, nor yet for the assumption that the ovum through the agency of the cells of the syncytium eats its way into the maternal tissues. By chemiotaxis the fertilized ovum, both inside the uterus and in any other location in which it chances to be advantageously circumstanced, can accomplish everything. We have, moreover, from comparative anatomy and clinical human facts the strongest evidence for refusing to accept the tenet that the fertilized ovum in the uterus gets covered over either by a decidua capsularis or a decidua reflexa. Take the case of the whale, where the placenta is constituted from first to last of the entire chorion, or the case of the horned ruminants, where we have a multicotyledonous placenta, the cotyledons being distributed over the whole surface of the chorion. Or take, again, those cases of uterine pregnancy in which a more or less extensive external haemorrhage from the uterine placental site takes place fourteen days after the first suspended menstrual period and in which the haemorrhage may persist for many weeks without the embryo losing its power to complete its development and maintain its existence after birth. In the latter cases the blood must have escaped by bursting the decidual capsule, if there be such a thing.

London, W.

JAMES OLIVER, M.D., F.R.S. Edin.

## Reports of Societies.

### PATHOLOGY OF GAS GANGRENE.

At a meeting of the Pathological Section of the Royal Society of Medicine, held on December 3rd, with Professor W. BULLOCK, F.R.S., President, in the chair, Dr. J. MCINTOSH, in opening a discussion on the pathology of gas gangrene, observed that gas gangrene did not appear to have been described before the Crimean war. In the British army in the present war the cases amounted to 1 per cent. during its most active phases, and half of these died. The infection was due to anaerobic bacilli, chiefly *Bacillus aerogenes* (*B. welchii*) and that of malignant oedema (*Vibrio septique*), both of which it was difficult to separate from the saprophytic forms, and obtain pure cultures. At the outset *B. aerogenes* had been thought responsible for all; this had proved erroneous. The speaker's results gave: *B. aerogenes* 43 per cent., *B. sporogenes* 27 per cent., *B. oedematis maligni* 19 per cent., with a few cases due to *B. oedemaciens*—all being anaerobic.

Major J. W. MCNEE drew attention to the observations made by himself and Major-General Cuthbert Wallace, which showed that gas gangrene was essentially a muscular disease, extending rapidly in the course of their length; it might be confined to a single muscle. If a large vessel were severed and blocked, the infection involved all the muscles so deprived of blood. The advancing edge of the disease appeared as a paler zone than the normal structure, more translucent and firmer; these effects were due to the action of toxins passing upwards in advance of the bacilli. The good results following early partial or complete excision of the infected muscle had now for some while been established. This treatment had reduced the mortality to 2 per cent. *B. aerogenes* was the chief agent in the earlier part of the war apparently; the *B. oedematis maligni* was of later appearance, this, unlike the former, being found in the blood. Infection with *B. oedemaciens* was uncommon. The earlier use of a single serum (*B. aerogenes*) did not prove so satisfactory as that of the three organisms combined.



Professor WEINBERG (Paris) said that he used a mixed serum—*B. atrogenes*, *B. oedematis maligni*, *B. oedematis*. The serum treatment had reduced the mortality from 80 per cent. to 0.5 per cent. The serum was injected beneath the skin; into the damaged muscle; and in extreme cases, intravenously, through a fine needle, an hour and a half being occupied in the procedure. Not only was life saved but limb. The unsuccessful cases proved to be complicated with other conditions.

Major A. W. M. ELLIS had seen good results from serum (*B. atrogenes*); in one case its action was proved by the rapid recrudescence of the disease each time the injection was long delayed.

Captain H. G. N. HENRY had approached the problem by isolating the bacteria from fifty samples of infected muscle; the organisms were *B. tetani*, *B. atrogenes*, *B. oedematis maligni*. The use of corresponding serums had proved very efficacious, the few cases of failure proving to be examples of infection with *B. oedematis*, streptococcus, and certain organisms not identified.

After a communication by Dr. W. BULLOCK, the President congratulated the speakers upon the excellence of the work carried out, much of it under very adverse circumstances.

### CLOSURE OF CAVITIES IN BONE.

At a meeting of the Section of Surgery of the Royal Society of Medicine held on December 4th, the President, Sir JOHN BLAND SUTTON, being in the chair, Lieut.-Colonel PERCY SARGENT read a paper on the closure of cavities in bone.

He said that the processes of repair in bone differed in no way from those which occurred in other vascular tissues, but they were modified by its peculiar and complex structure. Tissues healed well or ill according to their vascularity, and so cancellous bone was more adapted for recovery than compact bone, the abnormally dense bone which resulted from chronic inflammation being a great handicap, and the factor which retarded the healing of cavities in bone was the fact that the walls were not collapsible. It was necessary for the walls to be approximated until the granulations which covered them were able to coalesce. Two processes combined to bring about the coalescence of the granulations covering the wall of the cavity: (1) the pulling together of the adjacent structures, and (2) the process of contraction, which was always associated with the development of granulations.

He gave reasons to show that whilst no cavity in bone might be beyond the possibility of obliteration, given sufficient time, yet we had to realize that, for practical purposes, some assistance must be afforded so as to hasten the healing process and bring it about within a reasonable period. Colonel Sargent gave an account of the different methods which had been employed to fill up old bone cavities.

1. In 1886 Schede recommended a procedure based upon the process of "healing by blood clot."
2. Pieces of sponge had been packed into the cavity.
3. Neuber had inverted flaps of skin into the cavity laid open by removal of one of its bony walls.
4. Seim packed the cavity with chips of decalcified bone prepared by soaking in 1 in 500 sublimate in alcohol.
5. Seymour Jones had plugged the cavities with a paste composed of iodoform, spermaceti, and oil of sesame.
6. Hollander had used melted human fat for the same purpose.
7. Broca had converted the cavity into an open trough by the free removal of one of its walls, the overlying soft parts being then encouraged to sink into and gradually to obliterate the resultant cavity.

His own method was a modification of Broca's operation and might be called that of continuous muscle grafting.

Before undertaking the operation the bone was carefully examined by means of stereoscopic radiograms. The technique of the procedure was as follows:

No tourniquet was employed, as the subsequent oozing was a great drawback. Haemorrhage was easily kept under control by the frequent application of large pieces of gauze wrung out in very hot saline. As a rule, the operative field could be kept dry by this means. Further, it was easier to judge of the condition of a bone which bled under the curette than one which was temporarily deprived of its blood supply. Again, as these operations consumed a considerable amount of time, the total deprivation of blood for an hour or more from skin whose nutrition was already impaired by scarring might result in subsequent sloughing.

One of the most essential points in the operation was to secure a sufficiently thorough exposure of bone both above and below the site of the cavity which was to be attacked. The surgeon must see exactly what he was doing in every part of the operative field, and not trust to the curette for discovering hidden recesses.

He usually began by a fairly wide excision of the wall of the sinus which leads down to the bony cavity. When more than one sinus existed he selected the one which was most conveniently situated, and which gave the easiest and most direct access to the bone, having regard to the anatomy of the structures in the neighbourhood. Any other sinuses might or might not be dealt with, according to their situation and the density of their walls.

The periosteum was next incised, to the extent of the whole length of the wound, and stripped from the bone so as to bare it completely, not only at the actual site of the cavity, but for some distance both above and below.

At this stage it was convenient to employ Lane's bone levers instead of the ordinary retractors, so as to bring the bone into prominence by depressing the soft parts. They are inserted between the periosteum and the bone.

Before attacking the bone it was necessary to pack it off by means of gauze pads, partly to prevent soiling of the wound generally, but particularly to prevent fragments of bone getting lost amongst the soft parts and being accidentally left behind.

That part of the operation which consisted in preparing the cavity for the graft was entirely subperiosteal.

The bone so exposed could be thoroughly examined and a decision made as to which wall of the cavity could best be spared from the point of view of strength of the bone. Other things being equal, that aspect of the bone was selected for removal which was most conveniently related to such overlying muscles as could best be employed for filling the cavity.

These points being decided, the cavity in the bone was fully opened up by means of a chisel and mallet, until every part of it could be thoroughly explored. All granulation tissue and dead or carious bone must be removed and all recesses carefully followed up and cleansed. The cavity was next washed out with hot saline solution, and plugged tightly with gauze. This completed the first stage of the operation.

The second stage was not commenced until all soiled packing had been removed, the towels changed, the instruments resterilized, and the surgeon's and assistant's gloves had been changed. From this point onwards the operation must be regarded as an aseptic procedure.

The best method of filling the cavity with muscle was different in every case; what must be done was to fashion from the most conveniently situated mass of muscle a thick broad-pedicle flap of approximately the same size as the cavity. It was a plastic operation based upon the same principles as those which govern plastic operations in general, and the main point to be kept in mind was to secure an adequate blood supply to the transplanted muscle. The muscle graft was now pushed into the cavity and pressed home firmly; it readily adhered to the bone. A few stitches of catgut might be required to bring together the overlying muscles and to assist in keeping the graft in position. The skin was loosely sutured and the subsequent escape of exudate was provided for by means of rolls of rubber sheeting inserted in convenient parts of the wound. It was important to place one such drain in the space from which the muscle graft had been cut. These drains were usually removed at the end of forty-eight hours. The limb was splinted in such a way as to relax the parent muscle.

In some cases these wounds had healed practically by first intention, but there was often a considerable reaction, which might last for several days, the temperature being raised to 101° or higher, and the wound discharging a quantity of exudate, which was sometimes thin and watery, and sometimes frankly purulent. In one or two instances severe suppuration had occurred, but the wounds had nevertheless eventually healed soundly.

The advantage of the muscle graft over the method of Broca was that less bone need be removed, and it was not necessary to convert the whole cavity into an open gutter. Hence the bone need not be weakened to the same extent. (Broca spoke of fractures having occurred during his operation.) Further, the cavity often extended into the articular end of a bone, in which case it could not be converted into an open trough in its whole extent. The obliteration of the cavity by the falling in, or pressing in, of the overlying soft parts might take some time, and might fail to be complete; by means of muscle grafting we got an immediate and entire filling up of the space. In contrast with the other materials which had been used, we had in muscle a living vascular tissue, which might be presumed to furnish cells and fluids capable of completing the removal of such micro-organisms as might remain.

It was possible that, in parts at least, union between the raw bone and raw muscle might occur by first intention, or the bone and muscle might each become covered with granulations which would subsequently unite. In either



case the respective blood vessels of bone and muscle constricted, so that an additional supply of blood was brought to the bone.

The fate of the graft, however, was a matter of subsidiary importance; for if the procedure had successfully obliterated the cavity, its real object had been attained, namely, sound and final healing. Whether ossification would ultimately take place was immaterial from the point of view of strength, for, as the patient used the limb, and so subjected the bone to strains and stresses, compensatory overgrowth occurred. This was well exemplified in a radiogram taken by Captain Keen.

Captain B. S. SIMMONS spoke of the work he had carried out with Colonel Sargent and Major Shields at Tooting Military Hospital in dealing with gunshot fractures which were unhealed owing to the presence of septic tunnels and cavities in bone. Their object had been in all cases (1) to expose freely by periosteal resection the whole area of the injury to the bone; (2) to open up thoroughly the cavity or tunnel so that its whole extent could be explored; (3) to remove all sequestrum and diseased bone, and the fibrous tissue and granulations lining the cavity or tunnel; and (4) to arrange for soft parts to fill the cleaned cavity completely. He thought that every case should be treated on its merits without one method exclusively being adopted. Many cases of tunnel and cavity which could, without removal of too much bone, be converted into a shallow cavity could be cured by Broca's method, but other cases, such as cavities involving the condyle of the femur, and cavities in which removal of sufficient bone would endanger the function of the limb, were best treated by the muscle graft.

Captain Z. MENNELL said that during the past year he had performed the operation in about twenty-seven cases, twenty-three of which could be traced. He wished to emphasize certain points:

1. The need for complete excision of the sinus leading to the bone cavity, and of the surrounding scar tissue. It was essential that the incision should run through healthy skin, so that the stitches need not pass through scar tissue or sustain any tension.
2. The careful packing off of the wound, so as to avoid bone chips being overlooked.
3. The muscle tissue used as a graft must be muscle tissue only, without tendon or fascia attached to the surface which comes into contact with the raw bone surface. The graft must have a good blood supply, and be free at one end.
4. Efficient drainage of the cavity from which the muscle has been taken, through a separate wound in the most dependent position possible.
5. The need for firm pressure over the muscle in the cavity when the dressing is applied.
6. Careful examination of each case for any interference of the blood supply to the limb.

Referring to the after-effects, he said that there was very considerable oozing. This need not cause alarm, and only necessitated packing the wound outside the original dressing, and perhaps a firm bandage in addition. There was often considerable reaction, and sometimes, in addition to constitutional symptoms such as fever, an apparent severe local infection. This only lasted a short time, and if there was sufficient drainage no ill effects appeared.

Major J. R. LEE read a paper on compound fractures of the femur in its upper third, and demonstrated his new pelvic-femur splint, and also a splint for fractures of the upper extremity.

## RADIOGRAPHY OF THE APPENDIX.

At a combined meeting of the sections of Electro-Therapeutics, Clinical Medicine, and Surgery of the Royal Society of Medicine, held on November 15th, Dr. EDMUND SERRIGS read a paper on the examination of the vermiform appendix by *x* rays, with photographs and drawings by Mr. O. A. Marxer, Radiographer to Duff House. After a summary of the literature of appendix radiography, in which our indebtedness to American workers was acknowledged, the authors described the methods which they had found of value. The patient was prepared with castor oil and given a meal, similar to that recommended by George and Gerber,<sup>1</sup> consisting of three-quarters of a pint of buttermilk and 150 grams or less of barium sulphate.

Careful screening with suitable manipulation was needed to observe the mobility of the appendix and the presence or absence of active movements or of tenderness. Photographs must also be taken freely, as the chief points which helped to decide whether the appendix was healthy or diseased—namely, the filling and emptying of the appendix, its position, and its outline—were observed best on the photographic plates. The manipulations which had been found most useful were detailed.

The following figures were given by the authors: The first hundred cases in which they observed the passage of an opaque meal through the alimentary canal were left out of account, as the ileo-caecal region was not examined with such care as is now given it. Of the next two hundred cases, with a standard meal in which castor oil was also used in many instances, the appendix was seen clearly in a few. They then began to use the barium and buttermilk meal after preparation by castor oil. In the fourth hundred cases the appendix was seen twenty-four times; in the fifth hundred thirty-five times; then fifty-four times; then seventy-two times; and in the eighth and last hundred eighty-six times.

After an account of the radiography of the normal appendix the examination of cases of appendicitis was described. In acute appendicitis the patient was not usually fit to be *x* rayed; neither was such a method of diagnosis needed. In chronic appendicitis the authors had found *x*-ray examination of great value, especially in the subjects of vague abdominal symptoms of unknown cause. In 36 cases a diagnosis of chronic appendicitis had been made and confirmed by operation. The chief points to which attention must be paid were: (1) The filling and emptying of the appendix; delay. (2) Shape; constriction and dilatation. (3) Faecal concretions; vacuoles. (4) Mobility. (5) Hyperactivity; spasm. (6) Tenderness. (7) Position. The signs of present inflammation were, in addition to pain and other clinical symptoms, a tender point (though tenderness required care in its interpretation) and varying dilatation of the lumen from hyperactivity and spasm; whilst evidence of former disease, recent or remote, was given by concretions, abnormal outline, delay in filling or emptying, adhesions, severe kinks, and, in certain cases at least, by the absence of a shadow. The proportion of cases in which no barium sulphate entered the appendix was small when the methods described were used; but the authors did not think it justifiable in the present state of our knowledge to assume that an appendix was abnormal because it did not fill, though they would regard it with suspicion, especially if the observation were repeated.

The paper was founded on the study of the photographs of some 300 appendices.

## INTERDEPENDENCE OF THE SYMPATHETIC AND CENTRAL NERVOUS SYSTEMS.

At a meeting of the Medical-Psychological Association of Great Britain and Ireland, on November 26th, when the ex-President, Lieut.-Colonel D. G. THOMSON, was in the chair, Dr. DAVID OBE and Lieut.-Colonel R. G. ROWS submitted a contribution with many illustrations on this subject. In the class of cord lesions which formed the subject of their previous work insuperable difficulties were encountered in accepting a "general intoxication" theory without qualification. It was to be presumed that the poison concerned did not act unaided or indiscriminately, and there were reasons for surmising that the sympathetic nervous system was, in all likelihood, the intermediary in determining the localization of the lesions. Evidence in support of this view was now brought forward. The authors insisted on the importance of remembering that sympathetic action was dependent upon the supply of adrenalin. The sympathetic nervous system, the adrenal bodies, and all chromaffin tissue must be considered as one in relation to the blood vascular system; chromaffin tissues yielded adrenalin or a similar chemical substance, and almost all the effects produced by this were akin to those produced by the sympathetic system. The sympathetic system was intimately linked up with the central nervous system; it had no true autonomy, and there were anatomical paths which provided for a constant interaction between them. Stimuli must be constantly passing from the sympathetic to the central nervous system, as there were special sense organs in the viscera and a definite

<sup>1</sup> Surg., Gynec., and Obstet., 1913, xvii, 418.



sensory afferent path, and they certainly exercised physiological effects. The authors set out the plea of von Monakow for the material basis of the sentiments and emotions, and said, in conclusion, that it was apparent that in nervous diseases, especially in those affecting the cerebrum, it was necessary to study, in the future, not only the more prominent symptoms dependent upon disturbed function of the central organ, but also the collateral symptoms arising from disturbance of all the peripheral organs intimately connected with it. The problem could not be solved by a narrower programme.

## Reviews.

### WOUNDS OF THE LUNG IN WAR.

PIERRE DUVAL's monograph, *Les plaies de guerre de poumon*, was reviewed in our issue of September 29th, 1917. The English translation of this book,<sup>1</sup> carried out by the medical officers of No. 35 Casualty Clearing Station, who were for several months working in the same building with Duval, will be welcomed by many to whom the application of surgical treatment to the gunshot wound of the chest has been one of the striking features of war surgery. The name of Duval will always rank high as one of the pioneers of this work in the French armies, and this early work was quickly followed in our own armies, notably by Gask, Gray, Lockwood and Nixon, and J. Anderson.

The mortality of the chest wound has always been high, and where a fatal termination has been avoided prolonged disability has often ensued. It was contemplation of these facts that induced Duval to advocate more systematic operating in such cases. One of the most encouraging results he has achieved has been the reduction of sepsis, which is responsible for more than a quarter of the total mortality. Another class of case which was in pre-operative days almost always fatal—the open pneumothorax or the sucking wound—has by surgical intervention been removed from the category "hopeless," and in many cases has been saved. The danger of leaving fractured ribs—more especially comminuted fragments driven into the lung—has been pointed out, for probably this is one of the commonest causes of subsequent infection. The control of pulmonary haemorrhage, the suture of lacerated lung tissue, the cleansing of the thoracic cavity and removal of clot, are all procedures advocated in the book, with the object of saving life threatened by haemorrhage, of diminishing risk of infection, and of securing a more rapid expansion of the lung and return to normal conditions.

The method of operating is dealt with fully, and some of the earlier results are recorded. Since the book was published the author has recorded in detail the results of his treatment, and these will, it is to be hoped, be included in later editions. Successful treatment does not depend on the surgeon alone, and in his introduction Duval pays tribute to his colleagues—physician, bacteriologist and radiographer—who formed with him a "team" which studied the problem of the chest wound, and to whose concerted labours much of the success was due.

The appearance of the English translation prompts us to make one criticism of Duval's book: a clearer definition of the types of case needing operation might well have been included. It is possible to obtain the impression, in reading it as it stands, that every case needs operation, whereas in practice Duval has operated on only a small proportion of the total admissions, probably not more than one in four. Apart from its value as a war record, the book will repay study in that it is suggestive of methods which are applicable to civil practice; and the fact that in the hands of the skilled surgeon the chest can be opened with comparative impunity and damaged lung dealt with, may mean some extension of thoracic surgery to diseased conditions in the future.

### NOTES ON BOOKS.

THE seventy-fifth annual issue of the *Medical Directory*, for 1919, has just been published.<sup>2</sup> It contains the information which has made it so useful to the medical

profession for many years past. The total number of names is 43,100, which shows an increase of 69 as compared with the last issue, and of 1,128 since 1914; as compared with ten years ago the increase is 3,195. The number of names in the London part of the *Directory* is 30 more than in 1917, but in the rest of England there is a decline of 119. Scotland, Ireland, and Wales show increases of 96, 57, and 3 respectively. The number of medical practitioners accredited to the Naval, Military, and Indian Medical Services is now 3,162, which is 21 more than last year; but it has to be remembered that the Services section is confined to Regular medical officers. The names of all temporary surgeons in the Navy and of R.N.V.R. surgeons, together with those of medical officers of the Special Reserve, and Territorial Force, and of those holding temporary commissions in the R.A.M.C., are quite properly given under their home addresses throughout the other sections. It is therefore impossible to obtain any idea from the *Directory* of the number of civilian practitioners now actually in practice at the addresses given, or of the number of those serving temporarily with the forces. The customary list of honours, which in consequence of the war had been growing longer and longer each year, has now been cut down to a list of titles conferred upon members of the medical profession. In other respects the new *Medical Directory* shows little change from the issues of recent times, and it remains an indispensable work of reference for all concerned with medical administration.

The twenty-ninth annual issue of *Burdett's Hospitals and Charities*<sup>3</sup> has now made its appearance, and will be welcomed by all who are accustomed to consult it on matters relating to hospitals and other philanthropic institutions. The opening chapters give the usual comprehensive summary of recent hospital progress, but the chapter on hospital construction has been omitted, as, owing to the war, there is little fresh to record in the way of new buildings. The chapter and tables relating to hospitals in the United States, Canada, Australasia, and India, together with the sections in the directory dealing therewith, have also been omitted, but for another reason—the schedules were on board the *Andania* when she was torpedoed, and there was no time for the issue and return of fresh proofs before this edition went to press. In his survey of the past year the editor refers to the shortage of hospital beds for the civilian population due to the provision of accommodation for military patients. Even before the war the number of beds was inadequate, as the long waiting lists showed. Upon this Sir Henry Burdett writes: "The shortage becomes a scandal when there is a hospital in every other street, and when a bed is automatically found for any number of patients so long, but only so long, as they are in the army. . . . When war was declared the voluntary hospitals not only possessed no real margin of reserve to meet the immediate claims of the soldiers, but far too few beds for the needs of peace." He is optimistic enough to believe, however, that the number of hospital beds which the country has supported during the war will never be allowed to drop to the pre-war level. Nor has he any doubt of the permanent vitality of the voluntary principle, which he regards as the outstanding fact amidst all the changes and vicissitudes of the last four and a half years. Including the additional beds allotted to soldiers and sailors, voluntary effort in the United Kingdom has provided 134 hospital beds for each hundred thousand inhabitants.

The article on *A Vision of State Medical Service*,<sup>4</sup> by Colonel G. T. K. Maurice, C.M.G., R.A.M.C., which appeared in the issues of the *Hospital* for November 9th and 16th, has been published in a pamphlet. We referred to Colonel Maurice's views at length in the *JOURNAL* of November 23rd, p. 579, and in the *JOURNAL* of the following week published a letter from Colonel Maurice stating that we had misunderstood him in supposing that he advocated a State medical service. "I have only," he said, "suggested a possible organization for a State medical service if the peoples of Great Britain decide they wish to have a State medical service."

<sup>3</sup> *Burdett's Hospitals and Charities*, 1918. By Sir Henry Burdett, K.C.B., K.C.V.O. Twen y-ninth year. London: The Scientific Press, Limited. 1918. (Cr. 8vo, pp. 872. 12s. 6d. net.)

<sup>4</sup> London: The Scientific Press, Ltd. (1s. net.)

<sup>1</sup> *War Wounds of the Lung. Notes on their Surgical Treatment at the Front.* By Pierre Duval. (English translation.) John Wright and Sons. (Pp. 160; 27 plates and illustrations. 8s. 6d.)

<sup>2</sup> *The Medical Directory*, 1919. Seventy-fifth annual issue. London: J. and A. Churchill. 1919. (24s. net.)

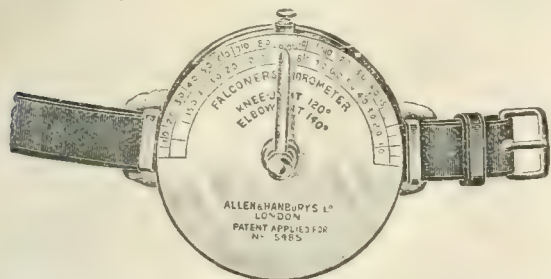
AT the last meeting of the Congress of Italian Medicine it was resolved that the next meeting should, "if possible," be held at Trieste. The Italian profession is rejoicing that this possibility will now be realized.



## MEDICAL AND SURGICAL APPLIANCES.

*An Arthrometer.*

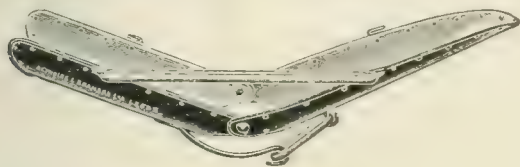
DR. R. FORTESCUE FOX writes: The illustration depicts a new device for measuring the angles of movements of joints, which has been designed by Mr. Wilbraham Falconer, superintendent of mechanical treatment in the Red Cross clinic for the physical treatment of disabled officers. This "arthrometer" is simple in construction and easily adjusted to the limbs, and the measurements



are quickly taken. It is intended to be used with all joints, and therein differs from the various forms of protractors and goniometers at present in use. If properly adjusted to the limb the readings cannot be otherwise than accurate. The apparatus is manufactured by Allen and Hanburys, Limited, 48, Wigmore Street, London, W. 1.

*A Splint for Dislocation and Fracture of the Elbow.*

Dr. J. C. R. HUSBAND (Ripon) sends a description of a splint he devised some years ago to prevent stiffening of the elbow-joint after dislocation accompanied, as it frequently is, especially in the case of children, with fracture. It is made of tin, perforated round the edge with holes for padding, and is light and strong. It should be applied to the outer side of the arm, bent at the angle most comfortable to the patient. If the limb is in the flexed position elastic bands are then attached to the



hooks directly behind the elbow-joint, and when the continuous contraction of these, acting for some hours, has gradually straightened out the limb, the bands should be changed to the hooks on each side of the front of the splint; when acting on the other side of the limb they bring it back to a fully flexed position. In this way slight, continuous, and prolonged pressure can be applied. The axis of the hinge is the same as that of the joint, and when the limb moves in extension and flexion it does not alter its position on the splint; the elastic bands can be changed by the nurse or even the patient as often as thought desirable without readjustment. The force employed is easily regulated by the number and size of the elastic bands. The splint is made by Messrs. Reynolds and Branson, Leeds.

THE fourth National (American) Exposition of Chemical Industries, which was held at New York in the last week of September, showed how largely America has within a few years freed itself from the domination of German chemistry, and what has been accomplished in capturing the chemical, glass, and dye industries from Germany. The fifth exposition will be held at Chicago in September, 1919.

BOECKEL (*Med. Klinik*, 1918, xiv, 860-1) thinks that a tender spot in the lumbar region is pathognomonic of influenza. A horizontal line is drawn two fingerbreadths above the highest points of the iliac crests with the patient in the vertical position. The point where this line intersects the outer border of the longissimus dorsi is the tender point characteristic of influenza, and corresponds, according to Boeckel, to the junction of the third and fourth lumbar vertebrae. It is often the only objective sign at the beginning of the disease, and sometimes persists after all the other manifestations have disappeared. During the last six years he has never found it in any other disease, and considers that its constant presence in influenza on one or both sides proves that there is usually in this disease more or less marked neuritis affecting all the branches of the lumbar segment, especially the fourth lumbar nerve. This hypothesis explains the pain in the back and legs, and also accounts for the giving way of the knees in severe attacks, as the fourth lumbar nerve sends motor fibres to the quadriceps extensor muscle, and is the sensory nerve of the inner side of the leg.

## THE SCHOOL MEDICAL SERVICE.

THE annual report for 1917 of the chief medical officer of the Board of Education<sup>1</sup> contains many interesting observations which are of particular importance at the present time. The School Medical Service was established ten years ago as a national institution under the general direction of the Board of Education. In common with almost all other national institutions it has had to contend with many difficulties during the past four years; but there is this compensating feature, that the war "has brought home to every one the imperative necessity of using every means not merely to diminish the ordinary wastage of infant life, but also to make and keep the rising generation sound in body and mind."

*Effects of the War.*

As was only to be expected, the war has seriously disturbed the machinery of the School Medical Service—so much so that in some areas the work has been maintained with great difficulty and not always with complete success. There has also been considerable anxiety lest war conditions should have a harmful effect on the health of the children. School medical officers throughout the country were apprehensive that the children of the working classes might be injuriously affected by such social influences as food rationing, the high price of food, the diminution of parental control, daylight saving, and air raids. It is satisfactory to learn that in spite of all the untoward circumstances of recent times the children in the elementary schools are generally in a better nourished condition than they were before the war. Uncleanliness, however, has increased, and this is ascribed in part to the lessening of supervision by parents, and in part to the introduction of infection from returning troops. Fears with regard to the harmful influence of air raids upon the nervous system of children have, fortunately, proved to be groundless. In 1916 there were many complaints that the Daylight Saving Act was having an ill effect on children by depriving them of an hour of sleep daily; but in the second year of "summer time" practically nothing was heard on the subject, though it is probably still true that many parents keep their children up longer than is good for them.

*The Education Act, 1918.*

A short section of the report is devoted to medical arrangements under the new Education Act, and a summary is given of the provisions of this Act in so far as they relate directly to the School Medical Service. Though some time must elapse before many of the provisions can be brought into active operation, local education authorities are reminded that it is their duty to consider at once the problems involved and the steps that must be taken to fulfil the purposes of the Act. The new Act emphasizes the point, which has always been insisted upon by the chief medical officer, that the true objects of the School Medical Service are not the detection of defects and the discovery and treatment of child patients, but the improvement of the health and physical development of the whole child population of school age. In the present report Sir George Newman deprecates once more the narrow "bottle of medicine" conception which would restrict the work of the School Medical Service to sick children. What is required, he says, is a broad, carefully considered and unified system for the care and development of all children of school age; and this must be based on a full and complete system of medical inspection and diagnosis. The new Education Act recognizes that no single uniform plan will meet the needs of every area. Accordingly the responsibility for considering the kind of scheme best suited to local conditions is placed in the first instance upon each local education authority, and not upon the Board of Education.

*A Model Inspection in Town and Country.*

Section 3 of the report contains an interesting and instructive account of an inquiry into the physical condition of unselected samples of town and country children of school age, undertaken by Dr. C. J. Thomas, assisted by Dr. Norman. The object of this "model inspection" was to check the results of previous examinations conducted

<sup>1</sup> Cf. 926, H.M. Stationery Office, 1918. To be obtained through any bookseller. (1s. net.)



during the past ten years by a large number of medical officers of varying competence and experience and working to different standards. On the whole, the findings are in accordance with former observations, both as to the proportion and the severity of the defects discovered. But the circumstances of this inquiry afforded an unusual opportunity of comparing the physique of town and country children. The general impression left upon the mind of these two expert observers was that the country children seemed rosier, healthier, and superior in general carriage, while defects of vision and hearing were less common among them. On the other hand, the condition of their teeth was worse to a great and surprising degree. The state of nutrition showed little difference. The country children, while notably freer from septic conditions of the skin, eyes, and ears, were considerably more prone to mouth breathing and the dullness of expression associated with adenoids and enlarged tonsils. As one would suppose, anaemia was much more prevalent among town than country children, as were also curvature of the spine and flat-foot; but, curiously enough, enlargement of the thyroid gland was far commoner in the country children, especially among the girls. Many of the children examined were much behind in their studies, and investigation of the circumstances forced the examiners to the conclusion that physical defect is one of the chief causes of backwardness in school.

Commenting upon the results of this intensive inquiry, Sir George Newman writes: "No one, I think, can consider these findings, or read Dr. Thomas's account of the physical condition of these children about to leave school for industrial occupation, without understanding, once and for all, the gravity of the situation. . . . It seems futile to attempt to reform education apart from the physical condition of the child: it seems unreasonable to expect healthy adolescence and healthy citizenship if we continue to neglect the remedy of the physical disabilities of childhood and the prevention of their cause." Further on, in the section on the medical treatment of the school child, we read that from 20 to 30 per cent. of the children inspected on a routine basis required treatment, which lends force to the general proposition laid down by Sir George Newman, that a State cannot effectually insure itself against physical disease unless it begins with its children. This, indeed, is the keynote of the whole report.

#### *School Dental Work.*

The dental condition of the school children throughout England and Wales remains very serious. It is estimated that of the six million children on the registers of elementary schools not less than half are in need of dental treatment, and for many this need is urgent. The Board has advised that dental inspection should be carried out only by qualified dentists, and preferably by those who undertake subsequent treatment. Admirable advice; but where are the qualified dentists to attend to the carious teeth of three million elementary school children? It is recommended, further, that the inspection of the children's teeth should, as a rule, take place on the school premises and in school hours. The amount of dental work among children is so great that the scope of school dentistry has usually to be restricted at present to certain age groups, more especially the group of children from six to eight years of age—that is to say, the period of eruption of the permanent teeth. The reports of the school medical officers for those areas in which dental schemes are in operation all testify to the excellence and great value of the work undertaken by the school dentists. There are now upwards of 300 dental clinics, with a staff of 239 school dentists; but more than half of the local education authorities in England and Wales have as yet made no arrangements whatsoever for the dental care of the children under their charge. Obviously there is much room for further effort, for the findings of medical and dental inspection in schools have demonstrated an overwhelming case for the organized dental treatment of school children.

#### *Special Schools.*

A substantial part of the medical treatment of a certain group of defective children—blind, deaf, feeble-minded, epileptic, and tuberculous—takes the form of a special kind of education which is undertaken in the "special

schools." It would appear that accommodation has been provided at present for less than half the children affected. Much remains to be done for these children, but perhaps the most pressing need is a careful and systematic survey of all the physically defective children in each area. With regard to the tuberculous child the reports of the school medical officers indicate that much attention was given by them to this subject in 1917, but, generally speaking, the problem of tuberculosis among school children has been somewhat neglected during the war. In this connexion it is worthy of note that the provision made by local education authorities for the teaching of children under open-air conditions has lagged far behind the recommendations of the school medical officers. "It is to be feared that only too commonly the war is being made an excuse for inaction in this matter, and by some authorities that did little or nothing before the war."

An interesting section is devoted to the problem of the mentally subnormal child. Much valuable experience has already been gained in the special schools with regard to the educational requirements of dull, backward, and feeble-minded children for whom the ordinary classroom is quite unsuited. Of the various forms of educational hand-work, gardening would seem to be the most valuable in its effect upon physical and mental development. More than this, "in a peculiar way it exerts a moral influence recognized by all teachers of defective children." Hence no special school can be considered complete without ample provision for a school garden.

#### *Health and Education.*

Physical education, the provision of school meals, and the control of juvenile employment, are dealt with in separate sections of the report. There appear to be signs that educationalists are at last coming round to Sir George Newman's view that a comprehensive scheme of physical training should be one of the essential elements of education. The effect of industrial employment upon the physical and educational well-being of the child worker is a matter of profound national importance, and its significance has been much increased by the war, which created a new and almost universal demand for child labour. Efforts have been made to safeguard the welfare of the children so employed, but here again much has been left undone by the more backward local education authorities. Sir George Newman's conclusions on juvenile employment are worthy of the closest study.

The last section gives a review in outline of the first ten years' work of the School Medical Service and of its organization. While the system is as yet neither complete nor adequate, it has already begun to exercise a powerful influence on the educational system of the country, and this should bear more and more fruit as time goes on. One effect of the School Medical Service has been to secure fuller recognition of the principle that a true education must be individual, and that no child can be educated wisely or well without regard to its physical and mental health. Further, the School Medical Service has already succeeded in bringing to light the prevalent defects and diseases which are undermining the physique of the child. Most of these, if taken in time, are preventable. The nature and extent of the evil have been determined, but it remains to apply the remedy.

WOLBACH and MORSE report (*Am. Journ. Dis. Child.*, 1918, xvi, 63) three cases, one in considerable detail, of neuroblastoma sympathetico, a rarely recognized tumour. From a review of the literature they bring the number of recorded cases up to 29, of which 20 were primary in the adrenals, 5 in the retroperitoneal tissues, 3 in the sympathetic ganglia, and one each in the coeliac gland, the nose, and the uterus. It is, however, highly probable that many other cases of primary tumours of the medulla of the adrenals reported as sarcoma were really neuroblastomas. As in so many other instances, Virchow long ago described this form of tumour, and recognized the nervous nature of an adrenal tumour, and compared the cells with the neuroblasts of the fetal sympathetic. The diagnosis of these tumours turns on the presence of delicate protoplasmic fibrils representing axis cylinder processes. They have been variously labelled as neurocytoma, ganglioma embryonale sympathetico, and neuroblastoma sympathetico. Of the 29 cases reported there has been but one survival, Lehman's case in an infant successfully operated upon.



# British Medical Journal.

SATURDAY, DECEMBER 14TH, 1918.

## MEDICAL DEMOBILIZATION.

DURING the past two months we have referred several times to the problem of medical demobilization, which long before November 11th had occupied an increasing share of the attention of the central professional committees. A scheme, originally drafted more than a year ago, for the demobilization of medical officers serving temporarily with the forces has now been revised from beginning to end, with a view to securing the utmost degree of simplicity and elasticity, and of fairness to individuals in very varied circumstances.

After the order of release had been sketched out evidence was received tending to show that the earliest withdrawals ought to be governed by the needs of those civilian areas which have suffered most from the shortage of doctors and are in danger of a breakdown of the medical service through the added strain of the epidemic of influenza. Apart from the urgent need of certain civilian localities, it is rightly held that the personal claims of the men on service should be the primary consideration in drafting a scheme of priority. The main task throughout has been to avoid a multiplicity of groupings. It is plain that in an intelligible smooth-working scheme the primary groups must be few in number, readily distinguishable, and wide enough to include all serving medical officers. Further, it must secure preferential treatment for those who have given up most, those who have served longest, and those whose terms of service have been hardest. Upon this principle Territorial, Special Reserve, and R.N.V.R. medical officers who were called up from private practice at the beginning of the war would naturally be released first of all. The position of temporary medical officers who volunteered, and they are not few, is similar.

Speaking generally, the chief consideration will be length of service, and after this the nature of the man's practice and the weight of his family responsibilities. Age also is an important factor, and it is proposed that a distinction should be made on this ground, the dividing line being, say, attainment of the age of 30 at the time of the armistice. These, in broad outline, are the principles underlying the scheme, but every medical officer will be given an opportunity to submit his claim to early or special treatment for consideration by the appropriate professional committee. The amended scheme has now been forwarded to the Ministry of National Service, and, when approved, will no doubt be made public at the earliest possible date. The Central Medical War Committee has given long and anxious consideration to this matter, and we are glad to record that two of its members have lately joined the Interdepartmental Committee on the medical services, whose chief duties will be in connexion with professional demobilization.

The position at the moment would thus appear to be that a limited number of medical officers are being released from the army in order to provide enough civilian medical men to prevent a breakdown in depleted areas, or repair a breakdown where this has already occurred. The demand is regarded as so urgent that where either of two medical men serving abroad

would fill a gap equally well, the one who can be brought home the soonest is taken. It is obvious that such priority will give some men an advantage to which they are not entitled on personal grounds, but the number of men so released, in order to cope with the present epidemic, is likely to be very small compared with the large numbers who must await the orderly plan of demobilization. In each case the application for immediate release is made in the first instance by the Local Medical War Committee of the area concerned, and the recommendations are passed on to the authorities by the central professional committee after assessment of the claims and circumstances of all the localities.

Apart from these emergency withdrawals it seems doubtful when medical demobilization will really begin. The surgical needs of the army have abated considerably since the date of the armistice, but, as appears from the article we print at page 666, this is not yet the case with the British armies moving from France into Germany; and the demand from the forces in Palestine, Egypt, and Mesopotamia can only diminish slowly, while there may be much delay in procuring the return of the many Territorial and temporary medical officers in India. Past experience, however, suggests that the military authorities will hold on to all the medical officers they can for as long as they can. The Ministry of National Service is now entering upon the stage of dissolution, but it is still the intermediary between the civil medical profession (represented by the central professional committees) on the one hand, and the War Office, the Admiralty, and the Air Ministry on the other. We rather fear that unless the professional committees make themselves unpleasant at frequent intervals, the scheme for medical demobilization upon which so much care has been spent may become a shuttlecock amongst the various Government departments, whilst hundreds of medical officers, badly needed at home and anxious to get back, remain in comparative idleness abroad.

So far we have spoken only of the process of medical demobilization—that is to say, the disbanding of military and naval medical officers during the reduction of the armed forces to a peace footing. But, apart from the order in which release is to be carried out, other questions of a more directly professional kind are bound to arise in connexion with the return of doctors from the services to civil life, and this matter also is engaging the close attention of the Central Medical War Committee. It is beyond question that the home-coming of many medical officers who have served several years abroad will be fraught with many difficulties, both financial and professional. These difficulties will vary according to whether the medical man was previously in practice or whether his civilian career lies all before him, and in the former case they will depend upon the kind of practice in which he was engaged. No two cases can be quite alike, but the man who has a whole-time appointment awaiting his return and the man whose interests have been safeguarded by an active partner clearly belong to a class which may need little or no assistance. On the other hand, many single-handed general practitioners serving abroad may be looking forward with dread to beginning life all over again as the result of their prolonged absence; there must be many consultants and specialists in like case. Letters which we have received from serving medical officers indicate widespread apprehension as to their position and prospects on returning to civilian life. Naturally, those who have been longest away feel the greatest uneasiness; some, indeed, write in a



spirit of utter pessimism. Every generous man will sympathize with those who gave up everything to risk their lives for their country, and now ask with some bitterness how they are to begin life again upon the ruins of their former practices. Nevertheless, although the situation is difficult and obscure at the moment, it would, we feel sure, be doing a great dis-service to these medical officers to encourage them in thinking that the outlook is necessarily black. Nor would it be right to agree offhand with those of our correspondents who attribute the apparent loss of their practices to the negligence, or worse, of the colleagues who have remained at home. Here and there this accusation may be only too well founded, but we refuse to believe it of the general body of our profession. The goodwill of a private practice is notoriously elusive, and the utmost loyalty of his colleagues may not avail to keep together a doctor's *clientèle* during four or five years' absence. But, even so, the experience of men who have resumed civil work during the course of the war suggests that within a short time of his return the home-coming doctor may find his practice beginning to rise again out of its own ashes. Indeed, all the indications tend to show that the country can absorb a great many doctors, the normal additions to the civil profession having been cut down for nearly five years, and the losses from death and retirement not yet made good.

The whole situation, as we have said, is being carefully studied by the central professional committees, which are anxious to assist in every possible way those who have served their country to re-establish themselves in practice. Responsibility is also felt towards the junior members of the profession who have never been in civilian practice and will need guidance on release from the forces. We have some reason to think that this is understood by the War Office authorities. The committees regard it as a duty and a privilege to do whatever they can to protect the interests and promote the welfare of all doctors who leave the forces. We are glad to know that the Central Medical War Committee is arranging for a conference to discuss this matter with representatives of the Military Service (Civil Liabilities) Department, the Professional Classes War Relief Council, the Officers' Families Fund, the War Emergency Fund of the Royal Medical Benevolent Fund, the National Relief Fund, and the Committee of Reference.

## SHOCK AND ACIDOSIS.

WE have on several previous occasions had the opportunity of referring to the work of the special Investigation Committee on Surgical Shock of the Medical Research Committee. Another report has now been issued, dealing with the relation of acidosis to the symptoms of shock. It is of the greater value because it expresses the conclusions reached by a committee of physiologists and surgeons after a great deal of many-sided experimental work as to the relation of acidosis to shock, and as to the nature of shock. There has been during the past year or two so much discussion, and so many divergent views have been strongly expressed, that the coming together of the chief workers in the conclusions now given by unanimous agreement in this report has special interest.

The position of the subject when it was taken up by the Committee was obscure. There were two main currents of opinion, of which one attached chief importance to the term "acidosis," used to denote a

reduction of the alkali reserve, or, more simply stated, of the sodium bicarbonate of the blood plasma. Cannon, from observations made at a casualty clearing station in France by van Slyke's method, had found that there was a notable deficiency of alkali reserve in the blood of patients suffering from shock, and that its extent showed a general correspondence with the severity of the condition, so that it could be used as an index to the fitness of the subject for operation.

The investigations of the Committee now reported were directed to ascertain the true significance of this acidosis, the existence of which in shock was beyond question. It was common ground that defective circulation would cause acidosis, and one type of defect—that due to haemorrhage—had been shown by Milroy to have that result. But beyond this the Committee was confronted with the two alternative opinions: the first was that primary acidosis resulted in some way from the trauma, and that it developed in advance of, and had at least an important share in, the causation of the circulatory failure. On this head there was some evidence indicating that lactic acid, evolved by injured and moribund muscle as it passed into rigor mortis, was the cause of this acidosis. Those who abided by this first alternative recognized that a secondary acidosis would develop from the consequent failure of the circulation, but they maintained that the initial disturbance of the equilibrium starting the train of symptoms was attributable to primary acidosis caused by the trauma. Those who held to the other alternative did not concede the central importance of a mere reduction of the alkali reserve in the blood, which they regarded as a symptom and a measure of the defective oxidation due to the sluggish flow of blood through the capillaries. They refused to admit that there was any evidence that acidosis of the degree recorded in the cases was in itself harmful, or, indeed, that a much more extreme depletion of the alkali reserve would initiate a failure of the circulation of the type under discussion. They maintained, therefore, that the cause of this circulatory defect must be sought elsewhere.

This difference of opinion was not of mere theoretical interest; it involved practical questions of treatment. Were acidosis the primary event, and failure of the circulation secondary, the obvious treatment for shock would be to restore the alkali reserve in the blood by giving sodium bicarbonate, and it might even be hoped to prevent shock by giving bicarbonate to the wounded before shock had had time to develop. On this view restoration of the volume and rate of the circulation by other means would be merely palliative and symptomatic treatment, for unless the alkali reserve were directly restored the root of the mischief would remain. On the other hand, were the acidosis merely a consequence of the weakened circulation, as was held by the opponents of this view, injection of bicarbonate solutions would have little, if any, more value than that of equivalent injections of neutral saline. Radical relief could only be expected from measures which restored to the blood its normal value and rate of circulation. If this could be effected by transfusion of blood or infusion of some efficient substitute such as a solution of gum in saline, renewal of efficient oxidation in the tissues would ensure the disappearance of the acidosis.

Experimental observations on animals led at first to contradictory results, but eventually the two groups of observers combined in a test from which the possible complicating factors were eliminated; the result was the unanimous conclusion that acidosis



does not by itself cause shock or any comparable impairment of the circulation. The experiments were mainly directed to the condition of the circulation; the central feature of the form of shock specially investigated was progressive deficiency of the circulation, due to inadequate venous return to the heart with consequent slowing and partial stagnation at the periphery.

The Committee's conclusion, therefore, is negative; but it is nevertheless of great practical importance, inasmuch as it excludes the hypothesis that shock is caused by acidosis. The parts played in its genesis by nervous, chemical, or other influences are left for further investigation. It is recognized, moreover, that possibly several different conditions may be included in the rather vague use of the term "shock" now prevalent, and that in some of these the central feature may be depression of vital functions other than that of the circulation.

The whole effect of the evidence obtained in the investigation has been to emphasize the cardinal importance of maintaining an adequate oxygen supply to the tissues and to show that the most potent agent in rendering the supply inadequate is defective circulation through the capillaries. The practical conclusion, therefore, is that restoration of the volume of blood in effective circulation is the object to be aimed at, for then acidosis will disappear naturally. Transfusion of whole blood is said to be probably the measure most likely to be successful in procuring this restoration in the largest proportion of cases, provided it is applied without undue delay. When, however, delay has unavoidably occurred it is to be remembered that low blood pressure and retarded capillary circulation are much more harmful than a reduced oxygen-carrying power of efficiently circulating blood. In a large proportion of cases infusion of gum saline solution will be almost as effective as transfusion of blood, and in a further proportion it will be effective in deferring the appearance of the secondary results of impaired oxidation in the tissues, so that transfusion of blood, if it later becomes necessary, can be undertaken with a greater prospect of success. The fluid recommended for infusion is a filtered and sterilized solution of 6 per cent. gum acacia in 0.9 per cent. sodium chloride. It is now being prepared in bulk at a base hygiene laboratory. If symptoms such as "air hunger" appear to indicate that acidosis has become a source of danger, sodium carbonate may be given separately by the mouth or rectum, or, if necessary, by cautious intravenous injection of a 2 per cent. solution, which is approximately isotonic.

#### VITAMINES.

WE announced a short time ago that the Royal Society had allotted one of the Royal Medals to Dr. F. Gowland Hopkins, F.R.S., Professor of Biochemistry in the University of Cambridge. The terms of the award give so succinct an account of Professor Hopkins's work in regard to the accessory factors in diet that we reproduce the text, for which we are indebted to *Nature*: "Professor Hopkins was among the very earliest, if not actually the earliest, to recognize and announce that minute quantities of certain bodies, the nutritive value of which had hitherto been unsuspected, exert an enormous influence upon growth and upon normal adult nutrition. He showed that without these accessory factors—vitamines—a diet otherwise full and seemingly complete is incapable of allowing growth, and even of maintaining body weight or life. He has also made important researches into what may be styled the determination of the specific nutritive values of individual main components of the protein molecule;

he has, for example, shown that when, from a certain diet which has proved to maintain nutrition satisfactorily, the two amino-acids, arginine and histidine, were together removed, the diet, though amply sufficient in energy and fully assimilable, failed to maintain life. More recently Hopkins has attacked the question whether an animal's life can be maintained under the condition that, in place of protein or of the entire set of amino-acids constituting protein, a limited few of the several representative types of these constituents are provided in the diet. He shows that when, instead of the eighteen different amino-acids composing the protein, five only are administered, death rapidly ensues if those five be selected from the simpler aliphatic components—for example, leucine, valine, alanine, glycine, and glutamic acid; but that, on the other hand, nutrition and life are satisfactorily maintained, at least for a considerable period, if the five amino-acids given be chosen from the more complex types, such as tyrosine, tryptophane, histidine, lysine, and cystine, which experiment has shown to lie outside the range of the synthetic power of the animal body."

#### AVIATOR'S ASTHENIA.

JOSUÉ,<sup>1</sup> a recognized authority on the cardio-vascular system and adrenal disorders, gives an account of a common disability among aviators, characterized by three outstanding features: more or less well marked asthenia, low arterial blood pressure, and the appearance of Sergeant's "white line," instead of the red streak seen in normal persons, on drawing the finger over the skin, especially that of the abdomen. In testing for the white line, which is a sign of adrenal inadequacy, it is important to avoid too much force, for in these circumstances it will not appear; further, a sharp object, such as the end of a pencil, must not be employed, for by detaching the squamous epithelium a fallacious white line might be produced. To this disability Josué gives the name aviator's asthenia; its obvious symptoms are familiar to flying men and their medical attendants, being largely included under the heading of staleness; but Josué takes a rather new line in ascribing them exclusively to adrenal inadequacy. A persistently low blood pressure is a danger signal, and to be forearmed it is advisable that the medical officer at the aerodrome should frequently take the blood pressures of the aviators. The disability occurs among hard-worked aviators, especially but not exclusively among those accustomed to fly at high altitudes; it may be due to excitement and strained attention, and in addition infections, usually of a mild degree, may play an etiological part. It therefore appears to correspond to the adrenal exhaustion described in other conditions of war by Crile. The onset of symptoms may be gradual with progressive loss of vigour, or sudden fainting in the air may be the first observed sign of failing health. When the condition has developed, the aviator is subject while flying to attacks of faintness, invincible drowsiness, unaccountable loss of power and of self-control; while on land he suffers from malaise, muscular fatigue, want of energy, and he may be depressed or even neurasthenic. If the aviator continues to fly, the symptoms are aggravated. Rest, if sufficiently long, cures the disorder; it must be six weeks for a slight case, and two, three, or more months for one of an average severity. Treatment begins with ten to fifteen days of absolute rest in bed, followed by a few hours daily in a chair. The cure is hastened by the administration of adrenalin hydrochloride, which is also recommended as a prophylactic measure when the aviator's blood pressure is found to have dropped considerably.

#### TOBACCO AMBLYOPIA IN GERMANY.

Toxic amblyopia may be produced not only by tobacco, but by alcohol, quinine, male fern, and carbon disulphide. In spite of the fact that tobacco is so very commonly used,

<sup>1</sup> O. Josué, *Arch. de méd. et de pharm. mil.*, Paris, 1918, lxxix, 609-628.



amblyopia due to it is a very rare disorder. Uthoff found that it occurred only in 0.07 per cent. of out-patient cases. The pathology of tobacco amblyopia is not well understood; smokers of shag and tobacco mixture suffer most, and the condition, according to Parsons, is probably due to poisoning of the ganglion cells of the retina and consequent degeneration of the nerves connected with them. Fehr<sup>1</sup> reports that he has recently seen in private practice six cases of tobacco amblyopia, and consequently supposes that the condition has become unusually prevalent. All his patients showed the characteristic picture of tobacco amblyopia, in which diminution of visual power takes place gradually and simultaneously in both eyes, being caused by the appearance of a central scotoma in an otherwise normal visual field. The ophthalmoscope commonly revealed the usual pallor of the temporal half of the disc even at the beginning of the disease, though in many cases the optic nerve was at first normal. The course of the disease is chronic, and the prognosis relatively favourable: complete atrophy and blindness hardly ever occur, and, provided the condition is not too far advanced, considerable improvement of vision soon follows complete abstinence from tobacco. Complete recovery is possible, although as a rule, even in the most favourable cases, slight diminution of visual power and a small central scotoma persist. All Fehr's patients were heavy smokers, and consumed eight to twelve cigars a day. Alcoholism, which is frequently associated with tobacco amblyopia, could be excluded, as the war has caused a considerable limitation in the consumption of alcohol. Beer is inferior in quality and poor in alcohol, schnapps and liqueurs are difficult to obtain, and wine has become very dear. According to Fehr there are three possible explanations of the increase of tobacco amblyopia in Germany. In the first place there is more smoking now than in peace time, an unusual quantity of tobacco being consumed both in the trenches and at home to relieve nervous tension and privations, especially as other stimuli, such as tea and coffee, are becoming increasingly difficult to obtain. The second explanation is the inferior quality of the tobacco, the Bundesrath having sanctioned the admixture of beech and hop leaves, and lately also of lime tree, maple, chestnut, and vine leaves. The third possible cause is that the hardships and anxieties of war time have rendered men more susceptible to tobacco amblyopia. All Fehr's patients were men from 45 to 62 years of age, and all had lost a considerable amount of flesh and complained of general debility. In a postscript to the article which appeared on September 9th Fehr added that owing to the unfavourable conditions of the tobacco market the closure of cigar shops was imminent. The possibility of developing amblyopia would therefore be confined to tobacco smokers.

#### THE PRESERVATION OF VACCINE VIRUS.

NIGHTINGALE finds that vaccine virus retains its potency much longer when kept in distilled water than in glycerinated media, and is best preserved when emulsified in Ringer's solution or in 0.9 saline; the lower the temperature the longer the vaccine remains active. Glycerin is not, as is often assumed, an indifferent agent, but in high concentration is a powerful vaccineicide, and when used for the "ripening" process (elimination of bacteria) in a concentration of 40 per cent., as is ordinarily recommended, the virus is killed in the course of one to two months. Phenol in concentration above 2 per cent. destroys the virus within twenty-four hours at any temperature, but in strengths of 0.5 to 1 per cent. has almost no injurious effect and so is less harmful than glycerin. Iodine is very destructive to the vaccine virus, but its sodium and potassium salts do not reduce the potency of the vaccine even when mixed *in vitro* in 30 per cent. solution and kept for one hour at 37° C. As moist preparations of the virus

rapidly deteriorate in tropical countries, it is important to determine exactly how much drying influences the virulence of the vaccine virus; experiments show that the loss of virulence, as proved by employing corresponding quantities of the dried and moist preparations, amounts to half or even more of its original strength, and that desiccation does not prevent the gradual deterioration due to age which takes place at various temperatures.

#### THE CONTROL OF VENEREAL DISEASE.

IN an article with this heading in the JOURNAL of November 30th, 1918, p. 608, we referred to the danger of the spread of venereal disease during demobilization, and the imperative need for increasing the facilities for treatment in this country and for multiplying the number of venereal clinics open to discharged men. We then expressed the belief that the importance of this matter was fully recognized by Sir Auckland Geddes, the President of the Local Government Board. We are now able to announce that practical steps are already being taken by the Board. In a circular dated December 10th (V.D. Circular 19), addressed to county and borough councils, it is stated that in view of the impending demobilization it is of extreme importance to secure at once a considerable extension of facilities for the free treatment of venereal diseases. Arrangements should be made for more frequent clinics at existing treatment centres, for the holding of evening clinics if this is not at present done, and for the provision of many additional centres. The councils should aim at providing a centre in every town with a population of over 20,000, and in some of the larger towns which already have one or more centres additional provision may be required. Where it is not practicable to provide sufficient centres by arrangement with the voluntary hospitals the councils themselves must establish them, either in their own premises or in premises acquired for the purpose. The Board attaches importance to the early provision of auxiliary centres where interim treatment of gonorrhoea can be given by a trained attendant under medical supervision. It is suggested that these centres might also admit, during the intervals between the attendances of the doctors at the regular clinics, persons who are apprehensive that they have contracted disease although there has been no professional diagnosis of the fact. Suggestions for the equipment and working of such auxiliary centres will shortly be issued. The councils of the more populous counties and the larger county boroughs are notified that they should at once consider the desirability of appointing a whole-time venereal disease officer with considerable experience in modern treatment, who would act under the administrative supervision of the M.O.H. He would undertake the clinical work at the treatment centres and auxiliary centres, with the help of part-time clinical assistants, or of a rota of general practitioners who have had special experience of the modern treatment of venereal disease, including a course of training at an approved centre. Hitherto the shortage of medical staff due to the war has made it difficult to carry out extensions of this work. Negotiations are, however, now proceeding with the naval and military authorities with a view to the early release of doctors with special experience of these diseases, and the Local Government Board hopes shortly to be able to supply a list of such medical men. We are glad to find that the views we expressed a fortnight ago are now taking practical shape.

#### IN DEFENCE OF THE COAL FIRE.

PROFESSOR A. W. BOYE, F.R.S., in delivering the Lady Priestley Memorial Lecture before the National Health Society on December 10th, took for his subject "Coal and Health," and entered into a defence of the coal fire as against central heating. He agreed with Sir James Crichton-Browne, who from the chair of the meeting had already pleaded for a reprieve for the Englishman's

<sup>1</sup> Berl. Klin. Woch., 1918, 18, 854-5.

<sup>2</sup> Journal of Amer. Med., Baltimore, 1918, XXVIII, 325-332.



cheerful fireplace, that the open fire was not altogether the anachronism that some people believed. An anonymous writer in the *Manchester Guardian* had said that, just as our fathers in the dim past reared a fireplace as a rampart against invading beasts, so their descendants piled up a fire as a rampart against evil humours. In abolishing the open fire, said Professor Bone, we might save coal, but we should lose England. The mid-European, whose metabolism was highly stimulated by the cold, dry air and bright sunshine of his winter days, found positive relief in the stagnant atmosphere of his living rooms, heated by closed stoves, but the Englishman, oppressed by the humid air and sunless skies of his Decembers, rightly sought relief in radiant fires. Moreover, if, as modern physiologists claimed, it was at least as important to avoid monotony in the air of a room and to introduce movement as it was to raise the temperature, there was a good deal to be said on scientific grounds for the open fireplace, for its radiation was never the same two minutes together. He calculated that one ton of coal was equivalent to 30,000 cubic feet of gas, not 15,000 feet, which is the Coal Controller's estimate. The coal fire would be much less wasteful if chimneys were uniformly built, not on the outside but on the inside walls of houses. The efficiency of a coal fire, which might be 20 per cent. if the fireplace had a vertical back, would, he said, be 26 per cent. if it had a sloping back. The bottom of the fireplace should be shut in entirely by front shields, for free access of air to the base of the fire was wasteful; it was more economical to follow the plan suggested than to choke down the fire by dampers in the flue. The price of coal had gone up by more than 50 per cent., and he believed that a substantial proportion of this additional cost would remain as a permanent burden on the consumer, so that the question of fuel economy was not a matter of ways and means for a single winter.

#### THE ETIOLOGY OF INFLUENZA.

On November 2nd, in an article on this subject, we gave an account of some experiments reported by Nicolle and Lebailly to the Académie des Sciences, Paris. They afforded strong evidence that the virus was filtrable; the disease was produced by the filtrate of the expectoration. The experiments recorded in the short paper by Gibson, Bowman, and Connor, published at p. 645, giving a preliminary account of a research carried out at the request of Colonel Cummins, A.M.S., adviser in pathology with the British armies in France, confirm these results. Nicolle and Lebailly, whose paper was read to the Académie on October 14th, failed to produce the disease by injection into a monkey of the blood of a patient in the second day of a characteristic attack of influenza. At the next meeting of the Académie, on October 21st, Dujarric de la Rivière reported an experiment on himself, which appears to show that the filtrable virus may be present in the blood. He took 20 c.cm. of blood from each of four patients suffering from well-marked attacks of the disease. After defibrination he mixed the four bloods and passed the mixture through a Chamberland filter. He then inoculated himself subcutaneously with 4 c.cm. of the filtrate. On the fourth day he began to suffer from a marked attack of influenza. It would appear, therefore, to be pretty clearly established that the virus of influenza can pass through a Chamberland filter. It may be that it can do so only in some one phase of the cycle of its development, and in this connexion Hort's work, reported at various times in our columns, and in particular his paper on the meningococcus of Weichselbaum in 1917 (vol. ii, p. 377), will recur to mind. Those who accept his hypothesis may still maintain their belief in Pfeiffer's organism and may assume that it has a filtrable stage. On the other hand, the virus may be totally distinct, and the majority of the members of the

War Office Conference last October were of opinion that the existence of some as yet undiscovered virus must be regarded as possible.

#### ENLARGED THYMUS AND ACUTE LYMPHATIC LEUKAEMIA.

In recording a case of the association of enlarged thymus with acute lymphatic leukaemia, Major<sup>1</sup> raises some interesting points. The status thymolymphaticus and leukaemia have been thought by Herz to be definitely related to each other; in Major's case the thymus weighed 189 grams instead of about 10 grams, and showed microscopic evidence of persistent thymus tissue undergoing hyperplasia with subsequent degeneration. The supervention of acute lymphocytic leukaemia in an individual with a persistent thymus suggests that the persistent thymus indicated an abnormal condition of the lymphoid tissues of the body favourable to disease of these tissues and eventually developing into the leukaemia. The recognized association of a thymic tumour with leukaemia has been regarded in more than one light; the most obvious view is that the thymic condition is an infiltration and secondary to the leukaemia, but it has been suggested that the thymic tumour is the primary lesion, and that there is a thymic as opposed to a myelogenous leukaemia, or that there is a primary sarcoma of the thymus with secondary leukaemia. In this connexion it is interesting to refer to Sternberg's description of leucosarcoma, in which, together with leukaemia (large lymphocytes), the organs of the body show definite tumours, differing from those in chloroma in being unpigmented. Of the six cases of leucosarcoma described by Sternberg in 1903 there were three with thymic tumours, and ten years ago R. C. Cabot considered that there were transitions from ordinary sarcoma through Sternberg's leucosarcoma, and through myeloma, to leukaemia of the ordinary type.

#### THE FUTURE OF THE DISABLED MAN.

In a note under this heading last week we referred to the serious warning given by Mr. John Galsworthy, editor of *Reveille*, as to the inadequacy of the provisions at present made for disabled men, whose condition might, with proper treatment, be very greatly improved, and we mentioned also the statement of the Director-General A.M.S., as to the action the War Office proposed to take in view of the fact that the Ministry of Pensions has no adequate accommodation or trained staff. The Secretary of the War Office announced on December 9th that under instructions from the War Cabinet it has been decided that, for a period of six months from December 3rd, 1918, the War Office will continue to afford treatment in military hospitals for all serving soldiers requiring prolonged treatment, and will also provide accommodation and treatment for pensioners during that period. The *Times* announced on December 12th that Colonel A. L. A. Webb, C.M.G., R.A.M.C., has been nominated to succeed Sir John Collie, Director of Medical Services in the Ministry of Pensions, and added that it is now assured that the medical departments of the Army and the Ministry of Pensions will work in the closest possible harmony and co-operation to attain the same purpose—namely, the welfare of the disabled soldier. Colonel Webb, who entered the R.A.M.C. in 1899 and served in the South African war, has been for some time Assistant Director-General in charge of the hospitals branch of the Army Medical Department.

<sup>1</sup> R. H. Major, *Bull. Johns Hopkins Hosp.*, Baltimore, 1918, xxix, 205.

The Greek Academy of Medicine has recently been founded at Athens. Professor Alivisato has been elected president and Professor Portocallis secretary.

A HOSPITAL to form the nucleus of a medical department is to be built on the campus of the University of Washington, Seattle, at a cost of £200,000.



# THE WAR.

## THE PENALTIES OF RAPID SUCCESS.

THE great British advance may be said to have opened with the battle which began on August 8th. During the next three months our troops fought their way forward and through the frightful wilderness from Amiens to Le Cateau. In following them and ministering to their needs the medical services had to contend with difficulties that are almost past description. Behind our advancing line the field ambulances and the casualty clearing stations laboured to keep up with the fighting troops. As the fighting troops pushed on faster and faster, the distances the wounded had to travel grew longer and longer. Though the attack was opened by one Army, soon all the other Armies were engaged, and any idea of the interchange of surgical teams became out of the question. All this was explained in the JOURNAL of November 8th, p. 526.

Although the casualty clearing stations travelled with less and less equipment, due to the need for economy in time and transport, they never could move forward quickly enough, owing to the impossibility of obtaining adequate transport. As the advance proceeded still more rapidly the medical arrangements grew progressively sketchier; the wounded had to be carried longer distances before there was any chance of operating on them, and this of course seriously diminished their chances of deriving any benefit from operation, even had the number of medical officers been sufficient to cope with all the cases that came in. Moving ever forwards, and shedding their equipment as they moved, the accommodation of the casualty clearing stations was inadequate for the numbers of wounded flowing backwards from the field ambulances; marquees often had to be pitched in a summary way, and when the weather grew colder the difficulty of getting fuel and enough blankets was considerable. Another drawback was that no disinfectors adapted for travelling on shell-wrecked roads were available. Owing to the destruction of railway lines the ambulance trains could not always be got to the places where they were most wanted.

All this entailed much suffering on the wounded, but the medical services had to make the best shift they could in the face of unbelievable difficulties; it was part of the price of military success, and of our amazingly rapid advance continued for so long. Those who have not had personal experience can scarcely realize how much transport of the wounded depends on adequate railway communications; even on the best of roads the wounded cannot be evacuated all the way from the clearing station to the base by motor ambulance. The first stage of the journey can be made by road, if it is not too long; but when the patient has been operated on, or when sepsis has begun, he must travel by train, except in the comparatively rare event of barge transport being available.

The battle continued to rage furiously until November 11th, when the armistice was signed and hostilities ceased; but the troubles of the medical service did not stop, but rather grew worse. The troops advanced without fighting, and the medical units had to push on behind them even faster than before; the clearing stations grew still lighter in equipment and weaker in medical officers. It was generally supposed that, because there were now no fresh wounded cases, the work would become much simpler. Events proved, however, that this expectation was vain. Within a few days there came towards the medical units of one at least of our armies a growing stream of released prisoners of all the allied nationalities, abandoned by their captors—underclad, unfed, many of them very sick indeed, and all horribly verminous. The taking over of released prisoners was, of course, no business of the medical services unless they arrived within our lines suffering from illness. In this respect the experience on different parts of the front has varied considerably. In some sectors the condition of the men returning through our front lines was much better than had been expected. Side by side with the released prisoners there came to the medical units of the field armies an endless stream of cases of influenza, many of them of a most severe type.

The British Red Cross has done a great deal of good work and rendered most valuable assistance to the army in getting prisoner patients away. Nevertheless, the field-ambulances and clearing stations have been crowded, while still the railway lines lagged miles behind. Thus the sick had to travel in motor ambulances through desolated country by long daily stages, sometimes for five days at a stretch, before they could reach a railhead, and there the clearing stations were often so crowded that only the very worst cases could be retained. Here and there buildings could be found for the clearing stations, but in many places the patients had to be housed in marquees hastily pitched on the mud. Yet it passes the wit of man to conceive how these miserable conditions could have been bettered at the time. There was an impassable break in our railway lines, and although men worked day and night to repair them, it all took time, and without trains it was barely possible to get food up to the troops in front as they advanced into Germany. All the traffic of the forward area therefore fell upon the roads, with the natural result that the roads broke up under the ceaseless grinding of the heavy lorries, and the lorries themselves broke up on the ruined roads. Transport by motor ambulance over such a surface is a trying experience, but it was the price which had to be paid for our victorious advance. Clearly where such conditions exist there is work enough for many medical officers. Things have begun to improve a little already, but real relief can only come when the railway lines have been established and ambulance trains can be pushed forward. So far as France is concerned this has been, perhaps, the hardest chapter in the medical history of the war. Until it is closed there is force in the plea that too many medical officers shall not be withdrawn from the army under the impression that the war is over.

## THE ITALIAN DISPATCH.

THE dispatch of General the Earl of Cavan, K.P., K.C.B., Commanding-in-Chief British Forces in Italy, dated November 15th, 1918, deals with the period from September 15th to the final defeat of the Austrian army and the conclusion of the armistice on November 4th. On October 6th Lord Cavan was placed in command of the Tenth Army, consisting of the 11th Italian and the 14th British Corps. Operations began on the night of October 23rd-24th, when the main channel of the Piave, which was in flood, was crossed in boats by a small force consisting of artillery and the 1st Battalion Royal Welsh Fusiliers. They secured part of an island on the eastern side of the main channel of the river and the whole was occupied by other forces twenty-four hours later. The attack on the east bank of the Piave began on the morning of October 27th and was eventually successful, although many bridges were broken down that night and a number of gallant men were drowned. By October 29th the enemy's defence was giving way, and on October 30th his defeat became a rout; about 28,000 prisoners were taken by the 14th British Corps. The rapid advance of the troops made heavy demands upon the transportation services and also upon the supply and transport services, but the supply of ammunition and rations was maintained in spite of hastily constructed bridges and long distances from railheads. The dispatch contains the following reference to the medical service:

The fresh influenza epidemic, which broke out shortly before the commencement of the operations, threw a heavy and additional strain on the medical service. Despite this the evacuation and care of both the sick and wounded was rapidly and satisfactorily carried out. All the arrangements were most ably organized by my Director of Medical Services, Major-General F. R. Newland, C.B., C.M.G.

The following note is made of the good work done by the British Red Cross Society:

In their retreat the Austrians left many hospitals full of sick and wounded of all nationalities behind them. In many cases these hospitals were bereft of provisions and attendants. The British Red Cross, under the supervision of Colonel Sir Courtauld Thompson, K.B.E., C.B., spared no efforts to alleviate the sufferings of the inmates, and undoubtedly saved the lives of many Austrian as well as Italian patients.



## CASUALTIES IN THE MEDICAL SERVICES.

## ROYAL NAVY.

*Died on Service.*

## SURGEON LIEUTENANT M. E. JONES, R.N.

Surgeon Lieutenant Myrddin Emrys Jones, R.N., died of pneumonia, aged 23. He was the second son of Alderman R. E. Jones of Boderwydd, Llanberis. He received his medical education at St. Thomas's Hospital, and took the diplomas of M.R.C.S., L.R.C.P.Lond., in January, 1918. After serving as house-surgeon to St. Thomas's Hospital he obtained a temporary commission in the navy, and was appointed to H.M.S. *Indomitable*.

## SURGEON LIEUTENANT W. H. PICKUP, R.N.

Surgeon Lieutenant William Howard Pickup, R.N., died on service on November 27th, at the age of 34. He was the youngest son of Dr. W. J. Pickup of Coventry. He was educated at the University of Birmingham, and took the diplomas of M.R.C.S., L.R.C.P.Lond. in 1915, after which he obtained a temporary commission in the Royal Navy. He was removed from his ship to Eston Hospital, Middlesbrough, suffering from influenza, and fatal pneumonia supervened.

## ARMY.

*Killed in Action.*

## CAPTAIN H. W. WHITE, R.A.M.C.

Captain Hill Wilson White, R.A.M.C., was reported as missing from April 12th, and is now presumed killed on that date. He was born at Kalapoi, New Zealand, the fourth son of the Very Rev. F. W. White, Dean of Christchurch, Dublin, and was educated in the medical school of the Royal College of Surgeons, Ireland, graduating M.B., B.Ch., and B.A.O. of the National University of Ireland in 1910. After acting as resident anaesthetist, senior house-surgeon, and casualty officer at the Metropolitan Hospital, and as assistant medical officer of the Manor and Long Grove Asylums at Epsom, he was filling the post of assistant medical superintendent of the Paddington Infirmary when the war began, and took a temporary commission as lieutenant in the R.A.M.C. on September 10th, 1914. He was promoted to captain after a year's service, and was wounded at Ypres in December, 1915. His younger brother was killed in the battle of the Somme in July, 1916.

*Died on Service.*

## LIEUT.-COLONEL M. A. T. COLLIE, I.M.S.

Lieut.-Colonel Mackintosh Alexander Thomas Collie, Bombay Medical Service (ret.), died at Barrow-in-Furness of pneumonia after influenza, on December 3rd, aged 62. He was educated at the Universities of Edinburgh and Aberdeen, and after taking the diplomas of L.R.C.S. and P.Edin. in 1878, graduated M.B. and C.M.Aberd. in 1881. Entering the I.M.S. as surgeon on March 31st, 1883, he became surgeon-major on March 31st, 1895, and lieutenant-colonel on March 31st, 1905, retiring on June 30th, 1913. He was appointed secretary to the Surgeon-General, Bombay, in March, 1888, and in December, 1892, resident surgeon of St. George's Hospital, Bombay, and professor in the Grant Medical College, Bombay. From October, 1895, to the end of 1902 he held various civil surgeoncies; in January, 1903, he was appointed a Presidency surgeon, Bombay, and in November, 1905, physician to St. George's Hospital, Bombay, holding that post till his retirement. He rejoined for service in the present war on October 20th, 1914, served for some time on a hospital ship, and in 1915 at the Indian hospitals at Brockenhurst, and later at the Pavilion, Brighton. In the early part of 1916 he was for some months in charge of a military hospital at Malta, and afterwards was appointed president of No. 3 recruiting medical board at Manchester. While acting as president of a colliery recruiting medical board, in February, 1917, he contracted pneumonia, from the effects of which it is probable that he never fully recovered. On rejoining for duty he was posted to the command of the military hospital at Barrow, and held that post till his death.

## CAPTAIN D. COTTERILL, R.A.M.C.

Captain Denis Cotterill, R.A.M.C., died of influenza, on December 2nd, at No. 50 Casualty Clearing Station in

France. He was educated at the University of Edinburgh, graduating M.B. and Ch.B. in 1906 and taking the diploma of F.R.C.S.Ed. in 1910. After acting as clinical assistant and as house-surgeon to the Royal Infirmary, Edinburgh, he went into practice there, and was appointed assistant surgeon to the infirmary. He took a temporary commission as lieutenant in the R.A.M.C. on July 9th, 1917, and was promoted to captain after a year's service. Captain Cotterill was the eldest son of Mr. J. M. Cotterill, C.M.G., F.R.C.S., consulting surgeon to the Edinburgh Royal Infirmary, and lieutenant-colonel R.A.M.C.(I.). Colonel Cotterill had already lost his youngest son (John) early in the war, and also his son-in-law, Dr. W. G. Porter. The sympathy of the profession, and in a special manner that of Edinburgh graduates, will go out to Mr. Cotterill in this fresh sorrow.

## CAPTAIN W. R. O'KEEFFE, R.A.M.C.

Captain William Robert O'Keeffe, R.A.M.C., was reported as having died on service, in the casualty list published on December 5th. He was educated at Queen's College, Cork, and in the medical school of the Royal College of Surgeons, Ireland, in Dublin, and took the diplomas of L.R.C.P. and S.I. in 1912, after which he went into practice at Sheffield. He took a temporary commission as lieutenant in the R.A.M.C. on May 10th, 1917, and was promoted captain after a year's service.

## ASSISTANT SURGEON A. R. EASDON, I.S.M.D.

Assistant Surgeon Arthur Randolph Easdon, I.S.M.D., died of pneumonia on active service on September 10th, aged 25. He was born on December 16th, 1892, and entered the I.S.M.D. on April 20th, 1914.

*Wounded.*

Captain G. W. Mitchell, R.A.M.C. (temporary).

Lieutenant R. R. MacGregor, R.A.M.C. (temporary).

*Repatriated.*

Captain C. H. C. Byrne, R.A.M.C. (temporary).

Captain C. E. Redman, R.A.M.C. (temporary).

## DEATHS AMONG SONS OF MEDICAL MEN.

Beach, Lionel F. H., D.S.O., Captain the Queen's Royal West Surrey Regiment, son of Dr. Fletcher Beach, died of bronchopneumonia on November 28th, aged 26. He held a commission in the 4th Territorial Battalion of the Queen's, in which he attained the rank of captain on August 7th, 1917.

Beesley, Anthony Blayton, Second Lieutenant Royal Air Force, second son of Dr. Beesley of Exmouth, died of pneumonia at Huntingdon on December 1st, aged 18.

Bontor, Lawrence Sidney, Lieutenant R.N., aged 22, younger son of Dr. Sidney Bontor of Berkhamsted, Herts, killed in action in the North Sea about October 6th, 1918. Educated at Osborne and Dartmouth, he had served throughout the war, including the battle of Jutland, and for the past year had served in submarine.

Carr, Donald Nevill, Captain South Persian Rifles, only son of Dr. Carr, C.M.S., Isfahan, died of pneumonia at Saidabad, Persia, November 26th, aged 23.

Eccles, A. J. T., Lieutenant Royal Engineers, 5th Division Signal Company, third son of Dr. Tolcher Eccles of Hove, died of influenza on November 26th, at No. 4 Casualty Clearing Station, France, after three and a half years' service, aged 21.

O'Connor, Ronald Ramsay, Second Lieutenant Coldstream Guards, younger son of Dr. O'Connor of Buenos Aires, and of Freshwater, Isle of Wight, died of pneumonia at Queen Alexandra's Military Hospital, Millbank, on November 30th, aged 19.

Patton, Idris Knox, Lieutenant R.A.F., only child of Dr. James Patton of Gateshead-on-Tyne, died on November 25th at the Military Hospital, Tidworth, from pneumonia following influenza. He was educated at Bilton Grange, Harrogate, and matriculated at the University of Durham, where he became a student of medicine. He obtained his commission in the R.A.F. in September, 1917, and received his "wings" three months later. At the time of his death he was acting as flying instructor in wireless telephony.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]



## HONOURS.

Surgeon Lieutenant J. G. Dobson, R.N. (H.M.S. M. 25) has been appointed to the Distinguished Service Order for services in the White Sea operations, 1918:

Though wounded by the explosion of a shell, he carried out all operations that could be effected on the wounded, working continuously from 7 p.m. till 10 p.m., when he collapsed. Throughout this time Surgeon Lieutenant Dobson went about his work as if nothing had happened.

The Distinguished Service Order has also been awarded to Surgeon Lieutenant Commander C. V. Griffiths, R.N., for services on the Mediterranean Station between January 1st and June 30th, 1918.

Surgeon Lieutenant Commander W. E. Ormsby, R.N., and Surgeon Lieutenant L. F. Strugnell, R.N., have been mentioned in dispatches for services on the Mediterranean Station.

The name of Major E. Gibbon, R.A.M.C., has been brought to the notice of the Secretary of State for War by Major-General L. O. Fitzmaurice Stack, acting Sirdar and Governor-General of the Sudan, for distinguished and gallant service in the field in connexion with the operations carried out in the Nyima Hills, Nuba Mountains Province, Sudan.

## England and Wales.

## TRANSFER OF FUNCTIONS OF POOR LAW AUTHORITIES.

At the meeting of the London County Council on December 10th various committees furnished their observations on the report of the Local Government Board committee appointed in 1917 on the transfer of the functions of Poor Law authorities in England and Wales. The Public Health Committee regarded the proposal to transfer to the Council as public health authority the arrangements for the provision of institutional treatment for the sick and infirm, the aged, maternity cases, and infants a proper and useful step in the direction of a unification of services. The Midwives Act Committee was of opinion that it would be a great advantage if in London, where the Council was the local supervising authority under the Midwives Act, the training and teaching of midwives as well as the arrangements for providing institutional treatment in difficult and dangerous cases which arose in the practice of certified midwives were under the same authority. The Asylums and Mental Deficiency Committee considered that the transfer to the Council of all the London Poor Law institutions would facilitate the provision of accommodation for cases of mental derangement at an early hopeful stage. In view of these and other expressions of opinion, the Council gave a general approval to the fundamental principles laid down in the report of the Government Committee.

## SCHOOLS FOR TUBERCULOUS CHILDREN.

The London County Council has decided to establish a number of schools for tuberculous children. Four years ago it was estimated that in London 1,000 children were excluded from the elementary schools on account of tuberculosis. A subcommittee now gave the number of children definitely notified as tuberculous as approximately 2,000, and, in addition to these, 2,000 other children required open-air education owing to anaemia, debility, or incipient tuberculosis. It is proposed to establish twenty day schools, each accommodating 100 children, for the definitely tuberculous. The schools will be provided in the outlying parts of London, preferably in large private houses with grounds of fair dimensions (though some disused army huts may be adapted for the purpose), and near a tram route. For the 2,000 other children not notified as tuberculous but needing open-air treatment, eight open-air schools are to be provided, in addition to the two already in existence. Admission to both classes of schools will be restricted to children who have been certified by the school medical officer. The capital cost of the whole scheme will be about £108,000, with £58,000 a year for additional maintenance.

## SANATORIUM BENEFIT IN LONDON.

In providing sanatorium benefit for 1919 the London Insurance Committee estimates for 519 beds for civilian patients and 300 beds for discharged sailors and soldiers. The expenditure anticipated in respect to civilian patients is £97,115, and, after allowing for the credit from the Insurance Commissioners, the estimated deficiency at the end of 1919 will be £29,665. A special committee is to interview the chairman of the Joint Committee with a

view to securing the necessary income. In the case of the discharged sailors and soldiers any deficiency will be made good from the exchequer, and the new financial arrangements with regard to these persons will come into operation on January 1st. The Committee was responsible on November 1st last for 304 discharged service men in institutions and 441 civilian patients, and on the waiting list were 134 of the former and 169 of the latter. In the case of discharged men in an advanced stage of tuberculosis who have been admitted by the Committee to institutions without waiting for information as to whether the Pensions Ministry was prepared to accept financial liability, the Ministry has agreed to accept liability up to ten days after the date of a letter intimating the contrary when it is found that the tuberculosis is not due to or aggravated by service.

## GALYL.

At a meeting of the London Insurance Committee on November 28th reference was made to a previous decision of the Committee that galyl should not be supplied to insured persons at the cost of the Drug Fund. The reason for this decision was that any practitioner who had qualified himself in the treatment of venereal disease could obtain supplies of galyl from the County Council through the Medical Officer of Health. When this decision was reported to the Insurance Commissioners they replied that it was not within the power of the Committee by any general pronouncement to limit the rights of insured persons with regard to the medicaments to which they were entitled as part of medical benefit, nor to issue any general prohibitions to practitioners from obtaining at the cost of the Drug Fund such "proper and sufficient medicines" as they might find requisite for their medical treatment of any particular case. It appears, however, that as a fact no prescription of galyl had been disallowed by the London Insurance Committee; the matter had been raised on prescriptions dispensed, but such prescriptions had been accepted and paid for by the Committee. Such a pronouncement as has been made by the Insurance Commissioners was perhaps to be expected from them, but it is unfortunate that they should feel impelled to take so rigid a view as to consider that they had no discretion to adapt their administration to meet the venereal scheme of the Local Government Board.

## Scotland.

## THE MINISTRIES OF HEALTH BILL.

At a meeting of the Insurance Committee for the county of Argyll the opinion was expressed that the scheme of the Ministries of Health Bill so far as it related to Scotland was unsatisfactory. It was considered that there should be a Ministry of Health for Scotland, with standing and power corresponding to that of the Ministry for England and with a Minister in Parliament; that the Scottish Consultative Council should include directly appointed representatives of labour and of the medical profession, and that the powers and duties of the Scottish Ministry of Health should include at the outset (a) all the powers and duties of the Local Government Board for Scotland, (b) all the powers and duties of the Scottish Insurance Commissioners, (c) all the powers of the Scottish Education Department with respect to the medical inspection and treatment of children and young persons, (d) the Department of the Registrar-General for Scotland, (e) the Highlands and Islands Medical Service Board.

## EXAMINATION FOR NURSING CERTIFICATES.

At an examination held by the Local Government Board in Scotland for the certification of trained sick nurses and fever nurses 214 candidates presented themselves. Examinations were held in Glasgow, Edinburgh, Dundee, and Aberdeen. The subjects were elementary anatomy and physiology, hygiene and dietetics, medical and surgical nursing, midwifery, and infectious diseases (for fever nurses only). Seventy-six candidates passed, and, subject to the completion of three years' training in hospital to the satisfaction of the Local Government Board, are entitled to the certificate of efficiency granted by the Board.



## Ireland.

### TRAVELLING EXPENSES OF REGISTRARS OF BIRTHS, DEATHS, AND MARRIAGES.

With very few exceptions dispensary doctors are the registrars of births, deaths, and marriages in Ireland. The Treasury has issued for these officials a revised scale of travelling expenses when making their visits to the superintendent registrars with their quarterly returns. Notwithstanding the great increase in travelling expenses in recent times, the Treasury has reduced the rate of mileage from 6d. to 5d. a mile in the case of doctors using two or three seated motor cars. The proprietors of motor cars for hire in Ireland will not undertake to drive a fare for less than eighteen pence a mile. The obvious remedy for the registrars is to inform the Treasury that they will only take their books to the superintendent registrar when the Treasury, by its own negotiations, supplies them with a conveyance for the purpose.

## Correspondence.

### POST-GRADUATE TEACHING AND THE UNIVERSITY OF LONDON.

SIR,—The recent discussion at the Medical Society of London on reconstruction in medical education was marked by two significant statements. Professor Adami, speaking apparently from intimate knowledge, stated that Paris would probably become the chief centre of post-graduate teaching in Europe, since the French were making every preparation to capture the position hitherto held by Vienna and Berlin, adding that it moved him almost to "anger" that the claims of London should go by default. Also, Colonel Waring, speaking as a member of the Senate, and presumably better informed than other people, stated that in his opinion little could be expected from the University of London—that is, to improve from the imperial point of view the situation which Professor Adami deplored.

Most of us must surely feel that in comparison with the serious fact that the centre of gravity of medical learning and teaching is about to be shifted and that our country is to have no part in the new order, the other matters under discussion, such as whether applied anatomy should be taught by anatomists or surgeons, and the exact relationship of midwifery and gynaecology, are of almost trivial importance.

The case for the establishment of a real centre of post-graduate teaching in London needs no argument. I understand that proposals are on foot for this purpose, what I should wish to urge is: (1) That no scheme can be satisfactory that does not make special provision for instruction in certain branches of medicine which at present find no place in medical teaching; (2) that systematic teaching in these subjects must be combined with facilities for and encouragement in research; (3) that in order to give sufficient authority and attractiveness to post graduate teaching in London the teachers in these subjects must be university professors.

To particularize: the action and uses of physical remedies—light, heat, cold, mechanical impressions, movements, electrical currents, and rays of every kind—are either not taught at all or in an entirely inadequate and occasional manner. These physical agencies are embraced in a group of allied sciences—hydrology, climatology, mechanotherapy, electrotherapy, radiology—all of them of absorbing interest, which have now become, especially since the war, of immediate practical medical and public importance. How far it is consistent with the public interest or with the dignity of the medical profession that branches of medicine should be practised without being taught your readers can judge.

The case for research is equally clear, for our experimental knowledge of the intimate action of these agencies upon the body is only now beginning, and research must go hand in hand with clinical study and teaching.

I believe that the University of London professes to concern itself to supply teaching in special subjects of importance for which no room has been found in the formal curriculum. Since the boundaries of medicine are

always extending there must always be these unoccupied territories. Undoubtedly the recognition of these provinces of learning by the university and the provision of university teaching therein confers upon the subjects taught a certain authority and status not otherwise obtainable, which in a medical subject will ensure in time a higher standard of qualification and practice.

If happily now a great centre of post-graduate teaching and research is set up in London, I venture to think that the university will do a great public service by placing the various branches of teaching under university professors; and, *pace* Colonel Waring, I hope that the university may in this way play a leading part in the reconstruction of medical education.—I am, etc.,

London, W., Dec. 10th. R. FORTESCUE FEN, M.D.Lond.

### TEMPORARY PEG LEGS.

SIR,—I have read with much interest the report by Major Chapple, R.A.M.C. (November 30th) on temporary pegs for amputation of the lower limb. I have recently been making a number of plaster pylons, but before trying to put them on I consulted Mr. Woodland, a maker of artificial limbs in Southampton, and the following were the chief points he urged:

1. That in leg stumps, as well as in thigh stumps, the bucket should be around the thigh, as the main point of support of the body weight should be at the tuber ischii, the patient, as it were, sitting on the upper edge of the bucket, and that in the case of plaster pylons, to avoid friction, it would be as well to incorporate a felt pad between the layers of the plaster bandage where the edge of the bucket would press against the tuber ischii.

2. That in leg stumps the part of the leg below the knee is simply of use as a lever for bending the knee-joint. He had never seen a successful artificial leg where the bucket was around the leg instead of around the thigh, even when hinged to a corset around the thigh.

3. That there should be no pressure at all on the end of the stump from any part of the apparatus.

By following this advice, I have now made a number of plaster pylons which patients wear without discomfort; after a few days' practice they can walk several miles. The tendency for the plaster-of-Paris to crumble can be to some extent obviated by coating the inside as well as the outside of the bucket with No. 7 paraffin.

Mr. Woodland's principles appear to differ very much from those of Major Chapple, who in his report writes:

An ideal bucket will therefore have a smooth and almost shiny inside surface, with a diaphragm so placed as to carry a maximum portion of the weight of the body on the end of the stump, and a rim so contrived and shaped as to carry the remaining portion of the body weight by compression to the appropriate bony surfaces, near the adjacent joint.

He also describes and figures various auxiliary pegs where the bucket is applied to the leg stump in amputations below the knee, instead of to the thigh.—I am, etc.,

Southampton, Dec. 7th.

G. D. FREER, M.B.Lond.

### BOOT HEELS AS A CAUSE OF FLAT-FOOT.

SIR,—With reference to Dr. Samways's remarks, let me say that I mentioned that with heelless boots the weight falls mostly on the heels, with low heels entirely on the arch and with high heels mostly on the metatarsophalangeal joints, in the latter case being transmitted lengthwise along the tarsal and metatarsal bones and not falling on the arch. Consequently, with high heels the arch is preserved. Owing, however, to spastic peronei and idle tibialis anticus the crown of the arch rotates somewhat downwards and inwards around the long axis of the foot, power and elasticity being thus sacrificed and the arch becoming practically rigid. A five mile walk with 3 in. heels would convince Dr. Samways that high heels make corsets necessary. The weight of mountaineers descending steep slopes falls mostly on the heels. If it fell on the arch (that is, at right angles) they would descend head first. Walking on the heels when descending and plentiful exercise of the tibialis anticus when ascending account for their erect carriage (without corsets). Boot heels raise only the posterior narrow parts of the feet, which are not very sensitive to cold. The boot described is as elegant and warm as ordinary boots. The bare feet of men lying on their sides are at a more obtuse angle than when standing with boots on. Spastic calf muscles and undeveloped



tibialis anticus explain this; Dr. Saniways's theory does not.

The hip-joint being further from the toes than from the ground the advancing foot (walking) must be dorsiflexed or the knee bent in passing the other foot. When bare-footed dorsiflexion takes place. With heels on both boots, the spastic calf muscles prevent dorsiflexion, and the knee is flexed. This flexion prevents gravity carrying the knee past the other, and it has to be raised. Observation confirms this.

The foot of a man who has always worn heeled boots is not normal. His heels project further behind, and his balance falls further forwards than Nature intended. Standing tiptoe exercises unfortunately strengthen the powerful gastrocnemius and soleus, whose action flattens the arch when the weight is on the ankle-joint. Plantar flexion, sitting, strengthens the other calf muscles and the arch without exercising the gastrocnemius and soleus.

Using boot heels is equivalent to jacking up one end of an inverted motor car spring with a solid block, thereby reducing its resilience to that of a half spring. The tibialis anticus represents the shackle that keeps the spring in the right plane and holds it up to its work, like the bow-hand in archery. The foot in infantile paralysis should be put up fully dorsiflexed and inverted.

When heeled boots are used the feet should be kept parallel and a pendulum gliding movement of legs and feet adopted, the steam-hammer method of putting the feet on the ground being abandoned. The knee need scarcely be flexed, but the foot must be dorsiflexed in passing the other. The development the tibialis anticus then undergoes and the rapid improvement in the arch are "startling."—I am, etc.,

S. D. FAIRWEATHER,  
Captain R.A.M.C.

Kenmore, Nov. 26th.

#### THE CONTROL OF VENEREAL DISEASES.

SIR,—The paragraph (p. 608) on the control of venereal diseases deals ably with a subject of vital importance, but fails, in my opinion, on one point—namely, in not emphasizing enough the necessity of treating gonorrhoea correctly. In the lay and medical press attention seems to be focussed chiefly on syphilis. Health authorities strive to instruct medical men in the administration of the salvarsan remedies, strive eagerly to get patients to undergo treatment, yet the ravages of the gonococcus are touched upon lightly.

While admitting the great value of the newer remedies in treating syphilis and the importance of the general practitioner being capable of administering these remedies himself, yet I would hesitate to assert—and he would be a brave man who did so—that the patient having undergone this treatment is cured of the syphilitic taint for ever; for who with experience of these remedies has not had the misfortune to get a return of a positive reaction after months and years of absence?

But with gonorrhoea it is different; untold harm is done through bad, or rather incomplete, treatment. Every venereologist has listened to the wailings of the man with chronic urethritis, every gynaecologist knows how restricted his field would be if there were no gonococci, and every medical officer of health has something to say about ophthalmia neonatorum, yet millions of men and women are allowed to go about potential agents of infection, supposed to have had treatment and supposed to be cured. This should not occur. No case should be discharged as cured until a careful examination of all the organs connected with the urethra is made, including patient microscopical search for the germ; yet it is not uncommon to hear medical men assert that they can cure gonorrhoea within a week; their criterion of cure is the cessation of the purulent discharge. What a fallacy! I fear to encroach further upon your space, otherwise I would have something more to say on the subject of chronic urethritis. I conclude with a hope that whoever has the power to make arrangements for the treatment of venereal diseases will emphasize the importance of facilities for treating gonorrhoea, and will take as much trouble in educating the general practitioner how to treat this disease as he has taken in teaching him how to insert a needle in a vein.—I am, etc.,

Manchester, Nov. 30th.

M. W. BROWDY, M.B.

#### THE BOARD OF CONTROL ON EARLY TREATMENT OF MENTAL DISORDERS.

SIR,—I have read with much interest your leading article in the *JOURNAL* of November 30th, p. 607, on the report of the Board of Control on lunacy. Valuable suggestions are made as to the treatment and diagnosis of cases of mental disorder incipient in character or of recent origin. But these suggestions entail the removal of the patient from his home for the purpose both of diagnosis and of treatment. In this particular disease I cannot help thinking that this procedure is not the best. I should have thought that it was better, certainly for diagnosis, and probably for considering treatment, to see the patient in his natural surroundings, so as to be able to form a proper opinion of the influence of his home, his home life, his way of living, and his surroundings generally, and so as to get a more accurate idea of his family history.

To meet this point I suggested, in a letter to your contemporary the *Lancet* on November 16th, that in any case of suspected mental disease the practitioner in attendance should have the right of calling in an appointed specialist, just in the same way as he can now do in the case of suspected tuberculous disease. If this was done—and it could be arranged that the medical attendant should meet the specialist in consultation—not only would it be of advantage to the patient, but the general practitioner would have the advantage of what would in fact be a clinical lecture, and the consultant would have the advantage not only of seeing the patient in his ordinary surroundings, but of learning his previous history from the family medical attendant. In that letter I made the suggestion that the most suitable person to appoint as specialist would be the medical superintendent of the county asylum of the area in which the patient resided.—I am, etc.,

Bradford-on-Avon, Dec. 3rd.

CHAS. E. S. FLEMMING.

#### THE PAST AND FUTURE OF THE CRUSADE AGAINST TUBERCULOSIS.

SIR,—If the tuberculin reaction is an anaphylactic phenomenon, there is abundant evidence that in infants any tuberculin reaction is due to post-natal infection, and therefore I do not understand what Dr. R. E. Tottenham means by saying that "the state of anaphylaxis is transmissible by the mother, and possibly to some extent by the father."—I am, etc.,

London, W., Dec. 10th.

W. CAMAC WILKINSON, M.D.

#### REMUNERATION OF RURAL PRACTICE UNDER THE INSURANCE ACT.

SIR,—I think it would be useful to have some further expression of opinion on the part of rural practitioners as to renewal of contracts under the National Insurance Act before we are invited to do this.

The conditions in rural and urban practices are so utterly different, especially in respect of distances, cost of travelling, and cost of drugs, that rural practitioners may have to take their own line in the matter of further service under the Act. The doctors I have in mind are those in one-man and two-man villages and townlets, with panels of 250 to 1,000 patients, and a radius of five or six miles.

My own opinion is that the multitude of rules and regulations which have been imposed on us, and the bureaucratic way in which we have been answered, when appeals have been made for consideration in view of conditions due to the war and unforeseen when we entered into the contracts, have proved to the hilt the soundness of the contention in 1912-13 that the conditions of service were derogatory to the profession.

I think it is generally agreed that these conditions have only been tolerated thus far from a patriotic desire not to embarrass the Government while the war continued, but this need is no longer operative, and some clear thinking is required before the day when contracts are presented for renewal.

We are scattered all over the country and have no means of meeting, as have urban doctors, and there seems no available or more suitable channel for the expression of opinion than the columns of the *BRITISH MEDICAL JOURNAL* if space for it can be afforded.—I am, etc.,

Tadworth-in-Avon, Nov. 29th.

J. HENRY STORMONT.



## THE FUTURE OF THE MEDICAL PROFESSION.

SIR,—While glad to see the protest against settling terms of State military service in the absence of those serving with the forces, the ardent desire for such a service expressed by "Lieut.-Colonel R.A.M.C." (November 2nd, p. 501) leaves me very cold.

When released from my voluntary contract I shall have had four years' service as temporary Lieutenant and Captain R.A.M.C., and my most earnest hope is to be able then to resume my individuality again after being for that period snowed under by A.F.'s, A.C.I.'s, and "pleases"; and nothing but compulsion, *absit omen*, would make me accept a position in which I was not my own master and able to choose my own patients.

When I reoccupy my old house I shall have to start my practice again, not because my personal friends and colleagues who have been carrying on will not act loyally by me—I know they will to the utmost—but because they cannot return patients who are not there; in a suburban practice in ordinary times the individual families do a lot of moving out of district in four years, but when present one has a share of the newcomers. Now in four years' absence the number of patients left to be returned to one will form only what advertisement would describe as a nucleus, and one can only wait for better times.—I am, etc.,

November 22nd.

TEMP. CAPT. R.A.M.C.

SIR,—In a letter in the BRITISH MEDICAL JOURNAL for November 23rd Dr. P. Macdonald said, "I profess my preference for the present personal relations, and I believe them to be best for the community." The majority of the doctors who were in practice before the Insurance Act came into force will support his views. Panel practice does not meet the ideals of doctors or of the masses of the artisan classes. The panel system has been tried and found wanting. It is now ready to be scrapped. In the army and navy the doctor is the "hiring of the State." The panel doctor is very much akin to the "hiring," and his conditions are on business lines. The work of the clerical and medical professions is, or should be, based on higher ideals. In the past the family doctor has been the trusted confidant and health pilot. A State medical service might possibly be modelled so as to be far better than the panel system if the excessive clerical work were reduced and the remuneration such as to ensure reasonable conditions for doing work, with provision for holidays and superannuation at 65. There are many panel doctors who are overworked, worried with financial difficulty, and absolutely unable to take a much-needed holiday. My experience of panel work and Poor Law work is that the latter is far preferable. The former I gave up after one year's experience. The latter I kept until I retired from general practice with superannuation.—I am, etc.,

Blackpool, Dec. 2nd.

JOHN BROWN, M.D.

## A.M.S. AND S.M.S.

SIR,—Not a few will feel and resent Dr. Gordon's attack on the officers of my corps (November 30th, p. 616) who had the honour and pleasure of serving before 1898. The officer whose suggestion he singles out is about an 1898 man, but, apart from that, he was purposely showing the extreme side to stimulate the interest of the profession in this important matter.

Dr. Gordon lays what he is pleased to designate as a catastrophe at the door of the regular medical service, and this is absolutely unfair. I was the second member of a board at Simla in 1910 to reorganize hospitals, which made many very radical suggestions, but all were thrown out by the finance department. If these had been carried out things would have been better. We were all aware of the necessity for reform for many years. There may have been faulty administration, and those involved have been dealt with, but it is unjust to attack the whole regular medical service.

I would venture to remind Dr. Gordon that the medical profession is the chief upholder of the virtue of charity, and the cultivation of this is never more needed than in these days. I will give this distinguished gentleman credit for appreciating that he has been unfair when he sees his letter in print, for I am confident that he is too big a man yet not to have the courage to own it.—I am, etc.,

W. A. MORRIS, Lieut.-Col. R.A.M.C.(R.P.),

Deputy Commissioner, National Service.

Cardiff, Dec. 7th.

## GOOD-BYE! TAKE CARE OF YOURSELF!

SIR,—It may interest and assist other Territorial officers who mobilized in August, 1914, to have the experiences of one recently selected for early demobilization.

Having received orders to report to the War Office and so reported; having filled in various forms and been admitted to the presence, my name was looked up and information imparted: (1) That I was for immediate demobilization, and (2) would enter the T.F. Reserve next day; (3) that I was now mainly a civilian but might wear uniform at military ceremonies; (4) I was asked if I claimed to suffer any physical disability resulting from military service and to sign a form that I did not so claim; (5) I was referred to another room for a warrant to proceed to my home.

In answer to protest and subsequent questions I learned, (1) that I could not be demobilized to the active list, from which I mobilized, but would not forfeit any seniority if recalled, or if at a later date replaced on the active list by my own application. (I have not noticed a regulation to that effect among the many stripping all privileges from the R.A.M.C.T.F.) (2) That, as I had not myself applied for demobilization, the gratuity paid would be that of my permanent rank, not of the acting rank held for two years in the field and in which I was ordered to report and demobilized. (Temporary field rank was recently abolished in the T.F.; permanent field rank and gratuity as such requires twelve years' service—temporary field rank, and gratuity on that rank, is obtainable for temporarily commissioned officers with any or no service; in fact, a temporarily commissioned officer, lieutenant or captain for two years and major for two, scores on gratuity over a territorial officer, major for four years.)

There was no offer of even a week's leave with pay. (I was next on my unit's leave roster, and hoping to get away about Christmas for fourteen days; twelve days' leave is being given at Christmas to as many home service men as possible.) There was no offer of part-time duty—*à la suite* or as civilian medical practitioner—to tide over the period while trying to regather the threads of a consulting practice, dropped in August, 1914.

I may add that some complaint appeared to be anticipated.—I am, etc.,

December 9th.

CAPTAIN R.A.M.C.(T.F.R.).

## MEDICAL ADVISERS OF INDIAN GOVERNMENTS.

SIR,—In a report which appeared in your issue of July 6th regarding a deputation from the British Medical Association which waited on the Secretary of State on June 27th, Surgeon-General Benson, once Surgeon-General with the Government of Madras, is reported to have said that the Surgeon-General has no access to the members of council or to the Governor. This statement is quoted in your editorial comment.

In order to show how far Surgeon-General Benson's statement corresponds with facts, will you allow me to say that His Excellency Lord Pentland, who for the last six years has been Governor of Madras, has made it a regular practice to see the Surgeon-General on one fixed day every week, while both the past Surgeon-General (Major-General Bannerman, C.S.I.) and the present Surgeon-General (Major-General Giffard, C.S.I.) have had interviews with the member of council in charge of the portfolio of medicine whenever they wished and with no more notice than is involved in a previous call on the telephone to make sure that he is not absent?—I am, etc.,

Madras, Oct. 10th.

A. G. C.

\*.\* We have referred this letter to Surgeon-General Benson, who expresses his pleasure at learning that Lord Pentland has made it a regular practice to see the Surgeon-General weekly. This practice did not obtain during his tenure of office as Surgeon-General of Madras. We, however, must reiterate the opinion that the Surgeon-General should have access to the Governor as a matter of right, independently of the personal view held by the Governor of the day. The British Medical Association pointed out in its memorandum that the Surgeon-General in each province should be a secretary of the Government in the medical and sanitary department, so that his recommendations, and the reasons on which they are based, shall reach the executive of the province directly and not secondhand. The antiquated method under which the



head of the health service of a province has to make his recommendations and explain the grounds for them through a lay member of Council should be abolished.

### THE SCOTTISH UNIVERSITY CONSTITUENCY.

SIR.—The address of Dr. Peter Macdonald, M.A., is before me, an elector of the Scottish universities. He is out for the reconstruction of medicine—apparently rather an unfortunate phrase, for I judge he really means a recasting of the method of work of the medical profession as individual medical practitioners. He would have us all become so-called specialists—that much-abused term both by the profession and the general public. A young man, after qualifying, frequently specializes on this or on that, and becomes a most unfortunate individual, not able to see his patient in any way save through his own pet instrument—the skin lens, the ophthalmoscope, the otoscope, and so on. The rest of the body can hang as far as concerns this enthusiast, and with what result? The unfortunate victim has his ideas focussed on one part of his body only to the neglect of the rest, and until he gets into the hands of a general practitioner of wide experience and general erudition he will never recover.

As to Dr. Macdonald's other points, they are those of the Labour party. This body, I understand, binds its parliamentary nominees strictly down to its programme, which at the present time aims at the destruction of existing social methods of our daily life; their reconstruction by Labour methods will tie the British working man and woman hand and foot—everything ordered by a bureaucracy and paid for by their wages, for the so-called wealthy classes have not the cash to do it with.

Many Scottish, including sons of the manse, have had brilliant scholastic careers, and have in later years justified their bright young manhood; others, unfortunately in narrow groove, do not grasp the high ideals of life. I expect the Scottish universities will return as their members men of mature judgement, scholarship, and general erudition befitting these ancient seats of learning.—I am, etc.,

ALAN E. L. GRAY, M.B., C.M. (Edin.)

Darlington, Dec. 9th.

SIR,—We understand that the supporters of Professor W. R. Smith's candidature for the Scottish universities are stating that Professor Smith was adopted by this Committee as a suitable representative for the constituency.

This is an erroneous reading of the action of the Committee, which has adopted no candidate for any particular constituency.

A list has been made of medical candidates for the election now upon us, and these medical men have been approved for Parliament by the Committee, in discharge of the responsibility laid upon it by the general meeting of the medical profession at which the Committee was formed.—We are, etc.,

ARTHUR LATHAM,  
CHAS. BUTTAR,

Hon. Secretaries.

Medical Parliamentary Committee,  
20, Hanover Square, London, W.1.  
December 10th.

### THE LONDON UNIVERSITY ELECTION:

#### A PROTEST.

SIR.—I find that Sir R. Douglas Powell, Dr. Sidney Phillips, and Mr. Eccles have circulated a postcard on which they state that "the chance of returning a medical candidate, who is not a graduate of our university, is very remote." As I am the only medical candidate, the statement is that my chance is very remote.

That is not political manners. You may say of your opponent that he will ruin the country or that he has ruined his grandmother. But, as regards the election itself, you treat him with courtesy and suppose that you meet on equal terms. You do not adopt the boastful manners of Homeric heroes or Goliath of Gath before the fight begins. From that point of view it is an impertinence. From another it comes very near to being a lie, for they state as a fact what they cannot possibly know to be true, and the statement is, so far as I know, quite unwarranted. I am not relying on medical votes alone. All of us, I suppose, draw our support—at least I know I do—from all faculties. The medical vote alone is not large enough to return a candidate, but if I get a fair share of it I shall, as

far as I can see, stand a very good chance. At any rate, I am quite sure they do not know the contrary, and they have no business to state it as if they did. Four days ago I was told by an elector—and an experienced elector, too—that Sir Philip Magnus would be at the bottom of the poll; and, upon my word, when I see his committee reduced to such tricks I begin to believe that they think so too. The statement has just as much foundation as their own. The truth is that in a constituency like this no one knows what any one else's chances are. He only knows the cards he holds himself. If there is not a medical member for the university it will be due chiefly to these three medical men.

And why in the world should they single me out for an attack of this kind, who am of their own profession and a colleague? Why do they not say that Mr. Somerville's or Mr. Nordon's chances are very remote? They know just as little about theirs as they do about mine, and have just as much ground for the statement. But they have no right to say it of any one, and they ought to be ashamed of themselves. That is what comes of party.—I am, etc.,

London, W., Dec. 9th.

W. P. HERRINGHAM.

### THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

The time is approaching, in the opinion of the Committee of Management of this Fund, when a decision will have to be made as to the future. The money in hand is nearly exhausted, and the war is over, but there is still need for help; and what part, if any, the Fund can still play in meeting these needs must soon be determined.

Sir Rickman Godlee, the Chairman of the Committee, has received a letter from Dr. V. Pechère, the President of the Comité National de Secours et d'Alimentation, representing the Aide et Protection aux Médecins et Pharmaciens Belges Sinistrés; this is the representative Belgian Committee, sitting in Brussels, to which the munificence of the Belgian Doctors' and Pharmacists' Relief Fund have been transmitted for distribution, while the minutes of this Belgian body have been summarized frequently in our columns and those of our contemporaries, to show alike the receipt of our contributions and the manner of their allocation. Dr. Pechère promises to send a complete report of the combined work of the Committee in this country and in Belgium. In his letter he expresses on behalf of himself and his colleagues, both doctors and pharmacists, in the warmest terms their appreciation of the assistance given through the Belgian Doctors' and Pharmacists' Relief Fund. They know, he says, and will never forget, what they owe to their British brethren and to all those who by their generosity have contributed to mitigate the calamities which imposed so much suffering on Belgium.

#### SUBSCRIPTIONS TO THE SECOND APPEAL.

The following subscriptions have been received up to Monday last, December 9th:

	£	s.	d.		£	s.	d.
Dr. H. O. Williams	2	2	0	Ross and Cromarty Division B.M.A. per Dr. E. Macdonald, honorary secretary	8	17	6
Dr. S. Osborn	1	1	0	Mr. L. Boulanger	7	15	8
Dr. C. C. S. Watson	5	0	0	Royal Faculty of Physicians and Surgeons of Glasgow	26	5	0
Woodward and Lewisohn Division B.M.A. per Dr. C. J. Futer, hon. secy.	7	0	0				
Sir Alfred Pearce Gould (monthly)	5	0	0				

#### Monthly Subscriptions.

The following monthly subscriptions have been received for November:

	£	s.	d.		£	s.	d.
Dr. Vincent Tighe	0	10	0	Dr. A. Graham	1	1	0
Dr. G. Grey Turner	1	1	0	Dr. Hyla Greaves	0	10	0
Dr. W. L. Good	0	10	0	Dr. H. Canger	0	10	6
Dr. W. Latham	0	10	0	Dr. K. J. Donohue	0	10	0
Dr. A. E. Nairn	0	10	0	Dr. A. W. Forrest	1	0	0
Dr. J. O. Mission	0	10	0	Captain H. L. P. Hulbert, R.A.M.C.	1	0	0
Dr. T. W. Goodbody	1	0	0	Dr. E. C. Morland	0	10	6
Sir T. Barlow	0	10	0	Dr. H. Whitehouse	0	10	0
Surg. P. G. S. Davis, R.N.	0	10	0	Dr. A. Hawkward	0	10	0
Dr. A. B. Stevens	1	0	0	Dr. W. Stewart	0	10	0
Major E. R. Fothergill	0	10	0				
Dr. W. S. Hart	1	0	0				

Subscriptions to the Fund should be sent to the treasurer, Dr. H. A. Des Vaux, at 14, Buckingham Gate, London, S.W.1, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited.



## Obituary.

ALFRED ELLINGTON STANSFELD, M.A., M.D. CANTAB.,  
F.R.C.P. LOND.

Physician to the Metropolitan Hospital, and Demonstrator of  
Pathology, St. Bartholomew's Hospital.

We have to record with great regret the death at the early age of 35, of Dr. Alfred Ellington Stansfeld, which took place on November 25th from pneumonia following influenza. Entering St. John's College, Cambridge, with a major scholarship in 1902, he gained first class honours in both parts of the natural sciences tripos, and graduated B.Sc. in 1909, proceeding to the M.D. degree in 1915. At St. Bartholomew's Hospital his career was exceptionally brilliant. He won there an entrance scholarship, the Kirkes scholarship and gold medal, the Burrows prize, the Brackenbury medical scholarship, and the Lawrence scholarship and gold medal. After holding the post of house-physician he was appointed casualty physician, and assistant demonstrator of pathology in the medical school; and at the date of his untimely death he was senior demonstrator of pathology at St. Bartholomew's, and physician to the Metropolitan Hospital. He also carried out the pathological work of the venereal disease centre for pregnant women at Thavies Inn, which has been referred to on several occasions in these columns. In 1911 he obtained the membership of the Royal College of Physicians and was elected to the Fellowship this year.

Stansfeld's death almost at the outset of a distinguished professional career is a great loss to St. Bartholomew's Hospital, where his high attainments and his loyalty and devotion to duty were fully appreciated by colleagues and students alike. In him was recognized that rare combination of clinical taste and aptitude, scientific ability, and skill in teaching, which marks a man down for the highest honours in our profession.

The following words which we quote from the current number of *St. Bartholomew's Hospital Journal* convey something of the sense of loss felt by those who knew and worked with him: "In his day one of our most brilliant and popular students, his later work had more than fulfilled the promise of his earlier years. The tremendous amount of work always so willingly undertaken by him in this and other hospitals had brought him a reputation unique for a man of his years. There can be little doubt, indeed, that the result of overwork lessened his chances of recovery. The hospital, and indeed the medical profession as a whole, has lost one of its most promising members."

DR. FREDERICK LUMSDEN MACKENZIE died very suddenly at Lockwood, Huddersfield, on November 24th, aged 62. Six years ago he had a serious illness due to overwork, and he never recovered his normal state of health. He was educated at the Madras College, St. Andrew's, and graduated at Edinburgh University, taking the M.B. and C.M. degrees in 1885, and the M.D. in 1898. Dr. Mackenzie was a man of gracious personality, always courteous, and full of kindly feeling. His patients loved him as a friend—their troubles he took upon himself, and nothing was too much to do if he could help them. He avoided all inducements to enter into public life, for his happiness lay in his own work, and the opportunities it offered for service. He was a keen golfer, and when captain of the Fisby Golf Club, Huddersfield, in 1893, was largely the means of founding the Yorkshire Union of Golf Clubs, of which he was the first president. He was laid to rest at Woodfield Cemetery with every evidence of affectionate regard, many of the Huddersfield doctors and other friends being present. He leaves a widow and two sons—the elder, Captain Melville Douglas Mackenzie, R.A.M.C., now serving at Bazra; the younger, Captain Kenneth Mackenzie, M.C., in France.

DR. THOMAS RICHARD BEALE-BROWNE, who was drowned at sea on October 3rd, was educated at Dean Close School, Cheltenham, and Guy's Hospital, and obtained the M.R.C.S. and L.R.C.P. diplomas in 1901. He was always keen on sports and distinguished himself in rifle shooting both at home and in Nigeria. After a few years spent in lunacy work he entered the West African Medical Service, and on his first tour, 1907-8, accompanied the Anglo-German Boundary Commission, and afterwards did good

work as medical officer in various districts of West Africa. He was greatly interested in microscopical work, and while stationed at Yaba, near Lagos, made some most helpful investigations along with his friend Dr. Connal, Director of the Research Institute. His chief work in Yaba was in connexion with leprosy, when, after months of special treatment, he had the satisfaction of noting improvement in several cases and in one an apparent cure, which lasted for at least two years, but, unfortunately, this patient was lost sight of after that time. Since January, 1917, he was stationed at Victoria in the Cameroons, and after a prolonged and strenuous tour was on his way home for leave. When within a few hours of the English coast his boat, the ss. *Burutu*, owing to storm and the war conditions of no lights under which they were sailing, collided with the ss. *City of Calcutta*, and he, with many other passengers, was drowned. One of his colleagues writes: "Dr. Beale-Browne was so genuine and straightforward that he at once commanded respect from all who came in contact with him." He had in a marked degree the confidence of the native population and was popular with all Europeans who knew him. He was in his 41st year and is survived by his widow.

## Universities and Colleges.

### UNIVERSITY OF CAMBRIDGE.

THE Raymond Horton-Smith prize for the best M.D. thesis presented during the academic year has been awarded to H. Hartridge, M.D., and H. F. Marris, M.D., who are declared equal.

The following medical degrees have been conferred:

M.D., B.Ch.—A. R. Hargreaves, J. D. Jones.

### UNIVERSITY OF LONDON.

THE Senate has called the attention of the Controller-General of the Civil Department of Demobilization to the necessity for releasing at the earliest possible date students whose university studies had been either interrupted or prevented by service in H.M. Forces.

Sir David Ferrier, M.D., F.R.S., has been appointed chairman of the Physiological Laboratory Committee, and Professor G. A. Buckmaster, M.D., Chairman of the Brown Animal Sanatory Institution Committee.

### ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

At a meeting of the Royal College of Physicians of Edinburgh on December 5th Sir Robert Philip was elected President of the College, and the following Fellows were appointed to form, along with the President, the Council of the College for the ensuing year: Dr. A. H. Freeland Barbour (Vice-President), Dr. T. J. Thyne, Dr. Francis D. Boyd, Dr. G. M. Robertson, Dr. Harry Rainy, Dr. J. Lorrain Smith.

## Medical News.

THE inaugural address of the Listerian Society of King's College Hospital was given on Wednesday by Sir St. Clair Thomson, who described the advent of Lord Lister to King's College Hospital in 1877.

THE house of the Royal Society of Medicine (1, Wimpole Street) will be closed from Monday, December 23rd, to Saturday, December 28th, inclusive. The library, however, will be open to military medical officers except on December 25th and 26th.

A WARNING poster with regard to Christmas entertainments in hospitals, camps, billets, and private houses, has been issued by the British Fire Prevention Committee (8, Waterloo Place, Pall Mall, S.W.1) and copies will be supplied on receipt of the necessary postage.

A SCHEME for the creation of clinical professorships of tuberculosis in the medical faculties of France is now before the Chamber. It has the support of a large number of deputies. In addition to clinical teaching, instruction will be given in the working of the laws relating to tuberculosis and of the institutions of social hygiene.

AT the fifty-sixth annual meeting of the Royal Surgical Aid Society, held at the Mansion House on December 9th, it was reported that during the past year 30,000 surgical appliances had been supplied, and that since its foundation in 1862 the society had assisted 649,133 patients and supplied 995,000 appliances. The Lord Mayor was elected a vice-president.



DR. JAMESON HURRY has presented to the Art Gallery, Reading, another historical picture. It is painted by Mr. Harry Morley, A.R.C.A., and represents the "Trial by Combat" of Henry of Essex and Robert of Montfort, which took place at Reading Abbey in 1163. The combat is mentioned by Carlyle in his *Past and Present*. The picture has been given as a thankoffering for armistice day, November 11th, 1918.

At a meeting of the Académie des Sciences, Paris, on November 11th, Marshal Foch was unanimously elected a member in the room of the distinguished surgeon, M. Léon Labbé. On December 3rd M. Clemenceau was elected by acclamation a member of the Académie de Médecine. He was begged to accept the seat in order that the Academy might have the advantage of his great experience in framing a scheme of social hygiene.

THE first Indian Science Congress founded on the lines of the British Association was held at Calcutta in January, 1914; it held its second meeting at Madras in 1915, under the presidency of Surgeon-General Bannerman. The third congress was held at Lucknow (1916), the fourth at Bangalore (1917), and the fifth at Lahore (1918). The sixth meeting is to take place in Bombay early next month under the presidency of Sir Leonard Rogers, F.R.S., I.M.S. Lord Willingdon is patron of the congress, and Sir Dorab Tata chairman of the local committee.

## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitology*, Westrand, London; telephone, 2631, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Medisecra*, Westrand, London; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical Way Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

## QUERIES AND ANSWERS.

### PROLONGED GESTATION.

C. B. G. states that the husband of a primipara left his wife for the army on January 5th. Her baby was born fifty days after the 280 days usually assigned for the period of gestation. It weighed 8 lb. The labour was a very severe instrumental one, owing to the hardness and roundness of the baby's head.

\* According to a statement in Maun and Brend's *Forensic Medicine* (1914) the longest gestation yet allowed in an English law court was 301 days, but in America a period of 317 days has been allowed. In Dr. F. J. Smith's edition of Taylor's *Medical Jurisprudence* it is stated that Murphy has allowed 324 days and that Meigs considers that gestation might be continued for twelve months. Dr. Thurstan Holland read a note at the meeting of the Liverpool Medical Institution on February 27th, 1902 (BRITISH MEDICAL JOURNAL, March 15th, 1902, p. 659), on the duration of pregnancy based on the case of a young primipara; dating from the last date of normal menstruation to the birth of the child, the duration was 340 days; from the date of the last coitus to the birth was 323 days; from the date of the menstruation following the coitus (an abnormal period only lasting two days) the duration was 316 days.

### INCOME TAX.

C. D. S. has been acting as medical officer in charge of troops stationed in his neighbourhood, receiving payment at the rate of £1 a day. Is the full "earned" rate of income tax payable?

\* From the particulars furnished we understand that our correspondent is not in the army and is probably not amenable to full military discipline, consequently he falls within the

category of a temporary civilian employee and is not entitled to the special "service" rate of income tax and is assessable at the "earned" rate.

## LETTERS, NOTES, ETC.

### THE ORGANIZATION OF AMBULANCE WORK.

THE EARL OF RANFURLY, Director of the Ambulance Department of the St. John Ambulance Association, writes: I was very glad to see in your issue of December 7th a letter from Sir James Cantlie, a Knight of Grace of the Order of St. John, referring to the organization of ambulance work. As Sir James points out, the first Voluntary Aid Detachment formed in London was about the year 1908, and it will be interesting to those of your readers who may be ignorant of the fact to know that the St. John Ambulance Brigade is the pioneer of voluntary ambulance work. This work has been one of the most important duties of the Order of St. John under its Charter since 1877, being carried out by the St. John Ambulance Association so far as teaching is concerned, and by the St. John Ambulance Brigade in keeping up and putting to practical effect the knowledge so gained. So long ago as 1878 there was in existence a body of workers, formed by one of the centres of the St. John Ambulance Association, and consisting of duly qualified first-aiders. This might also be called the first Voluntary Aid Detachment; at any rate, it was the origin of the St. John Ambulance Brigade, of which the membership is now over 66,000, and which maintains the Royal Naval Auxiliary Sick Berth Reserve and Military Home Hospitals Reserve, and which, during the South African war, supplied the R.A.M.C. with 2,000 fully trained men, and during the present war supplied the naval and military authorities with over 22,000. The St. John Ambulance Association and Brigade have now established centres and divisions not only at home but also throughout almost the whole world.

DR. JOHN WISHART (Newcastle-upon-Tyne) writes: The paragraph in your issue of December 7th (p. 644) contains a small error in claiming that the London College of Ambulance is "the only school of the kind in the kingdom." The Newcastle and Northumberland College of Ambulance was organized on October 1st, 1912, and became the North of England College of Nursing and Ambulance on January 1st, 1914. It was established in order to put ambulance and nursing work on a higher plane, and has conducted, in addition to the ordinary courses, a course of training in midwifery.

### BACTERIAL DIAGNOSIS OF DIPHTHERIA.

LIEUT.-COLONEL J. S. WARRACK (London) writes: With reference to Dr. A. Lyster's letter on the bacterial diagnosis of diphtheria and his comments on my article on differential diagnosis in your issue of November 23rd, I would reply that I was dealing with diphtheria as a mixed infection and not with morbid conditions of the throat generally. Does Dr. Lyster seriously suggest that swabs are to be taken from the throats of all cases of scarlet fever and measles?

### CALOMEL IN PRURITUS ANI.

A FEW months ago that admirable weekly *Ugeskrift*, the journal of the Danish Medical Association, contained a short note on the remarkable effect of calomel on even old-standing obstinate cases of pruritus ani. The note evoked a chorus of approval from other writers whose contributions on this subject to later numbers of *Ugeskrift* have often been illumined by the whimsical wit of the Dane. Some of these writers could claim many years' experience of calomel in pruritus, and others expressed the enthusiasm of the newly converted. One writer drew a picture of the local magnate and profiteer, scornful the local practitioner, journeying to some famous German spa to rid himself of his anal itch and returning unrelieved, while his poor and humble compatriot stayed at home and was cured in a trice of the same ailment by a doctor drawing his inspiration from *Ugeskrift*. The only discordant note was as to whether calomel should be used in powder or in an ointment. Dusted on as a powder, calomel, it is stated, will stick like a white lacquer for twenty-four hours. Applied as an ointment it is apt to soil the linen and to be less effective.

## SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	...	...	0 6 0
Each additional line	...	...	0 0 9
Whole single column	...	...	4 0 0
Whole page	...	...	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.



## Excerpts

FROM

# THE FITZPATRICK LECTURES.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS  
OF LONDON, NOVEMBER, 1918.

BY

ARNOLD CHAPLIN, M.D.CANTAB., F.R.C.P.,

HARVIAN LIBRARIAN.

## THE EARLY HISTORY OF THE ARMY MEDICAL SERVICE.

THE early history of the Army Medical Service is somewhat obscure and difficult to follow. But the germ of the system is to be found—at any rate, so far as regards its control—in the practice which obtained from early times of appointing a physician and a surgeon to accompany the monarch or the commander-in-chief when he went to the war. Naturally the men were appealed to by the commander in any medical difficulty that arose, and soon, in addition to being responsible for the health of its head, they were saddled with the additional care of the health of the army. One of the first appointments in this capacity was that of Thomas Muffett, who accompanied the Earl of Essex to Normandy in 1591. During the Civil War a serious attempt was made to place the medical department of the army under proper supervision, and to this end the Parliament ordered three physicians, one of whom was Paul de Laune, to be attached to the army under the command of the Earl of Essex. The commission lists of the Cavaliers and the Roundheads also show that to each regiment a regular surgeon was attached. In 1649 a further step was taken, and Jonathan Goddard was appointed by Cromwell to the post of "first physician" to the army. In this capacity Goddard accompanied Cromwell to Scotland and Ireland, where he was succeeded by Sir William Petty in 1652. The position of a single medical head in supreme authority over medical matters in the army was thus established, and a surgeon came to exercise supervision over surgeons. At first these chief physicians and surgeons held their appointments only during a war; but in 1660, when a standing army was authorized, a physician-general and a surgeon-general were appointed who exercised authority continuously during peace and war. The first physician-general was Thomas Laurence in 1685, and the first surgeon-general was John Knight in 1664. Physicians and surgeons-general were also appointed for Scotland and Ireland, and from 1660 until 1756 no material change was made in the method of government of the medical department in the army.

According to Richard Brocklesby, the first attempt to form an Army Medical Board of Control was made in 1756 by the Duke of Cumberland, who desired Viscount Barrington, Secretary of State for War, to establish a hospital board for the army. The board was composed of the Physician-General, the Surgeon-General, the Physicians to Hospitals, the Principal Surgeon of Hospitals, and the Purveyor-General. The board recommended that the physicians should examine, superintend, and control the hospital mates, but that the surgeons should be allowed to nominate mates for their own department. Much was expected from the deliberations of the board, but its career was suddenly cut short by the outbreak of war, when the physicians to hospitals and most of the surgeons were sent abroad, and the Principal Hospital Surgeon, after having been appointed Inspector of Regimental Infirmaries, gradually assumed all the functions of the board. He appointed all the hospital mates and accepted the examination at the Surgeons' Hall as a test of fitness. The board, therefore, virtually ceased to exist, and was not revived until 1793.

During the early part of the reign of George III the post of Physician-General was held by Sir Edward Wilmot from 1740 to 1787 and Sir Clifton Wintringham from 1787 to 1794. The combined posts of Surgeon-General and

Inspector of Regimental Infirmaries was held first by Mr. Adair and afterwards by the great John Hunter.\* On Hunter's death in 1793 the two appointments held by him were separated, and two of his surgical colleagues at St. George's, Mr. Gunning and Thomas Keate, were appointed respectively Surgeon-General and Inspector of Regimental Infirmaries. They were instructed to consult together regarding all army medical affairs, including the appointment of physicians, surgeons, and hospital mates. In this manner the Army Medical Board was reconstituted. On January 15th, 1794, after the death of Wintringham, Sir Lucas Pepys was appointed Physician-General as a reward for services rendered to the King during his illness in 1789. Pepys had never served in the army and had no special knowledge of the conditions and requirements of the Army Medical Service. From 1794 to 1798 the three members of the board performed their functions in a collective capacity, and, although they had their special departments, the board as a whole was responsible to the Commander-in-Chief for the acts of each member.

On March 12th, 1798, a new order regarding the Army Medical Board was issued by the Commander-in-Chief, by which many of its collective functions were abrogated, and each member was made more or less supreme in his own department.

Even after a patient study of the report of the Commissioners of Military Enquiry for 1808; and of the evidence given by the members of the board before the Committee of the House of Commons in 1810, regarding the Walcheren expedition, it is most difficult to determine the functions of the board in either its individual or collective capacity. The position, so far as it can be ascertained, was as follows: Collectively the board was supposed to meet if questions were submitted to it. It was to obey orders, but it was no part of its business to make representations. In their individual capacities the members were assigned special duties, but the conduct of these duties could not be brought under the criticism of the board as a whole. The Physician-General, with a salary of 40s. a day, was responsible for the choice of physicians, for the supervision of medical drugs, and for the examination of candidates for the posts of physician in the army. The Surgeon-General, who had a salary of 40s. a day, and also an extra £800 a year as the holder of the sinecure post of surgeon to Chelsea Hospital, appointed the surgeons for the army, and provided surgical drugs and appliances. He also occupied a seat on the Court of Examiners at the College of Surgeons for granting certificates to hospital mates. He consulted with the authorities on medical matters while the troops were on foreign service, and he received the returns of sick and wounded. The Inspector-General was entrusted with the duties of providing inspectors of hospitals and hospital mates. He had charge of regimental hospitals, and was surgeon to the staff of the Commander-in-Chief. In addition to his salary of 40s. a day, he received an equivalent amount on account of his position of Controller of Army Hospital Accounts. Finally, he was responsible for the provision of drugs for the Guards regiments, and superintended the education of cadets for hospital mates. To complete the description of this edifice of inconsistencies it remains to be said that the Guards chose their own surgeons, that the medical department of the ordnance was a separate concern under the control of an Inspector-General, and that the medical comforts were under the control of the Commissary-General. Finally, all the members of the board were engaged in active private practice.

In spite of all the manifest imperfections of the board, one great principle was instituted: the medical examination of all candidates was obligatory, although in the case of surgeons it was only an easy pass examination specially framed by the College of Surgeons for hospital mates.

The hospital system in the army was a cause of much trouble. Originally each regiment had a regimental hospital, under the care of the surgeons, but the board instituted general hospitals which were largely staffed by physicians, and the regimental hospitals were depleted in order to fill the general hospitals. Owing, it was alleged, to the want of military medical experience of physicians, the patients were not so well treated as in the regimental hospitals.

NOTE.—A report of Dr. Chaplin's first course of FitzPatrick Lectures, given in November, 1917, was published in the BRITISH MEDICAL JOURNAL on November 17th and 24th and December 1st in that year. The second course, from which excerpts are here made, will, together with the first course, shortly be published in a volume now in preparation.

\* Hunter held his posts for scarcely a year, although he had been Deputy Surgeon-General for several years.



The method adopted by Sir Lucas Pepys, the Physician-General, in appointing physicians caused much discontent. When he assumed control, he at once established the rule that he would appoint as physicians only those who were Licentiates or Fellows of the Royal College of Physicians. He followed this plan in defiance of the express order of the Commander in Chief in 1793, that, "for physicians, a medical degree in an English university or a licence from the College of Physicians, although desirable, must not be considered indispensable." Scarcely any medical men already in the army held the licence, and consequently the superior posts of physician were given to men who had no previous connexion with the army. Staff surgeons and regimental surgeons, however able, were entirely shut out. In all, during his occupancy of the post of Physician-General, he appointed fourteen physicians, not one of whom had ever served in the army before.

As the result of these causes of complaint, the Commissioners of Military Enquiry investigated in 1808 the manner in which the Army Medical Board was performing its functions; their exhaustive report led to the thorough reorganization of the Army Medical Service and the inauguration of an era of increased efficiency. They advised a reconstruction of the board, so that it should be a consultative body with one supreme head assisted by a certain number of other individuals. They pointed out the injustice of the manner of selection for various medical posts, and indicated the way in which this selection should be conducted. Finally, they took exception to the loose manner in which the members of the board had supervised the contracts for drugs and appliances, and recommended the employment of some person skilled in accounts to check them.

In 1809 a military committee, appointed to give effect to these recommendations, advised the following changes:

1. That the medical department of the army should be presided over by a single head, to be called the Director-General, with a salary of £2,000 a year.
2. That two others, to be called Principal Inspectors, should be associated with the Director-General in the control of the department, with a salary of £1,200 a year.
3. That in future all promotions must take place among those already in the army, with due regard to seniority.
4. That the whole time of the Director-General and the Principal Inspectors should be devoted to their duties.

District surgeons were abolished, and the various grades in the service were settled as follows: Inspectors, Deputy Inspectors, Physicians, Staff Surgeons, Regimental Surgeons, Assistant Surgeons, and Hospital Mates, with respective salaries of 40s., 20s., 15s., 12s., 7s. 6d., and 6s. 6d. per diem. It was the duty of the Director-General to examine hospital mates as to their professional knowledge, but they were to possess the certificates of the Court of Examiners at the College of Surgeons for regimental surgeons. Physicians were to be chosen from staff surgeons, or were to hold a degree in medicine from a university, or were to be licentiates of the College of Physicians. The Director-General, however, was empowered to hold in addition such examination as he thought proper.

These changes were made on February 24th, 1810, and Dr. John Weir was appointed the first Director-General, with Theodore Gordon and Charles Ker as the first Principal Inspectors. Weir did not hold his position long; he was succeeded in 1815 by Sir James McGrigor, the glory of army medicine, and from his assumption of office may be dated the real efficiency of the service.

While reform was slowly making headway in the control of the Army Medical Service, a considerable advance was taking place in the knowledge of medical conditions as they existed in the army. Sir John Pringle gave the first impetus to the study of diseases in the army by the publication, in 1752, of his *Diseases in the Army*, a book which marks the first attempt to systematize the subject, and to place it on a sure basis. The work is founded on the experience of Pringle while engaged as Physician-General to the Forces during the campaigns of 1742-48, in Flanders, Germany, and Scotland. This shrewd observer collected facts concerning the incidence of disease in the army, the effects of climate and locality, and the influence of variations of temperature and moisture on the health of troops while engaged on active service.

It is an appalling tale of serious disease constantly following the footsteps of the army, destroying its efficiency, and producing havoc in its ranks, compared with which losses in battle were trivial. The chief diseases responsible for these losses in effectives were dysenteries, remitting or bilious autumn fevers, and hos-

pital fever or typhus, besides pneumonias, pleurisies, and rheumatisms, which were of frequent occurrence. Apparently hospital fever or typhus was present in every hospital where soldiers were crowded together, lying on straw which soon became rotten, and constantly breathing the pestilential air; in the open camp this disease scarcely ever attacked them.

For the prevention of these diseases Pringle advocated that the sick should be removed to small regimental hospitals rather than crowded together in the large general hospitals. He also laid much stress on the importance of fresh air, dryness, and warmth, and on the necessity for frequently changing the ground on which the camp was pitched. He studied with great care the climatic conditions and the endemic diseases of the countries passed through by the troops. In particular he described at length the insalubrity of the island of Walcheren, and had the Government paid attention to his advice the disaster of 1809 would have been averted.

In 1764, twelve years after the appearance of Pringle's work, Richard Brocklesby published his *Economical and Medical Observations tending to the Improvement of Military Hospitals*, a book scarcely less important, but far less widely known than its great forerunner. Brocklesby was a fearless writer, and as the lifelong friend and admirer of the great Burke it was only to be expected that his energies would be directed towards the reform of abuses. It required no little courage for a physician to the army to assail the imperfections of the system and its exponents, but Brocklesby threw caution to the winds and risked his position rather than allow what he conceived to be abuses to pass without comment. He had high ideals as to the duties of doctors and commanders towards those over whom they were placed, and he gave his opinions in no uncertain manner. Apart from the excellent style of the book, the observations contained were often far in advance of the times. Brocklesby was the first to point out and carry into practice the principle that hospital fever, or typhus, could only be checked by admitting abundant fresh air into the hospitals. At Sandy Heath, near Ripley, and at Winchester, he caused to be constructed temporary hospitals cut out of the chalk and sand in such a way that they admitted a constant current of fresh air, with the result that the fearful epidemic which had raged in those places quickly subsided. He also attacked the methods in vogue of commandeering, while on active service, small cottages to serve as hospitals, which were expected to accommodate forty sick men, although constructed to house a family of five or six people.

Concerning the organization of the Army Medical Service he was no less outspoken. He was of opinion that the surgeon of a regiment should occupy a position immediately after the field officers, and that both should work together for the preservation of the health of the troops.

Other physicians wrote concerning military medicine, notably Donald Monro and Cleghorn, but none of them exercised such a profound influence upon the subject as Pringle and Brocklesby. The work of these men was no doubt responsible for much of the progress made in this field of medicine, but it would have had little effect had it not been for the unremitting endeavours to secure departmental reform that came from within. The names of McGrigor, Borland, Jackson, and Young are closely associated with this movement, and it was largely owing to their ceaseless activities that the Commissioners of Military Enquiry were induced to examine the condition of the Army Medical Service in 1808.

After the system had been remodelled as the result of the report of the Commissioners for Military Enquiry in 1808 came Sir James McGrigor, and from the time he assumed control may be dated the modern army medical system. Although the Army Medical Service has passed through many vicissitudes since then, the main principles which have guided its destinies have not, I venture to think, materially changed.

It has always been stated that the Army Medical Board was deposed on account of its shortcomings with regard to the Walcheren expedition. This is a mistake, for the Commissioners for Military Enquiry had printed their report before that expedition was even thought of, and it was on the report alone that a change was decided upon. The



Walcheren expedition was a coincidence merely, which confirmed the War Office in its determination to effect a radical change.

The medical history of the expedition may be said to have begun with the capture of Flushing on August 15th, 1809, for at about that time sickness in an unusual degree began to be recorded among the troops quartered in South Beveland. The disease rapidly assumed alarming proportions, and by September 10th, when Lord Chatham returned with part of the army, leaving 16,000 men to hold the island of Walcheren, 8,000 of these were on the sick list. The diagnosis of the complaint presented no difficulty; it was clearly miasmatic in origin, and such as might be expected from a residence in the swampy islands of Beveland and Walcheren during the summer and autumn. Indeed, these islands had for a long time borne an evil reputation as being the most fever-ridden places in Europe. There was ample evidence of this, for fifty years before Pringle had given a full description of the complaint as it occurred in these same islands.

Much has been written concerning the conditions existing in Walcheren, but the most complete picture of the state of the army and the climate will be found in a letter written on September 11th, 1809, by Mr. John Webbe, the Inspector of Hospitals. He says:

Independent of the existing records of the unhealthiness of Zealand, every object around us depicts it in the most terrible manner. The bottom of every canal that has direct communication with the sea is thickly covered with an ooze, which, when the tide is out, emits a most offensive effluvia. Every ditch is filled with water which is loaded with animal and vegetable substances in a state of putrefaction, and the whole island is so flat and near the sea that a large proportion of it is little better than a swamp, and there is scarcely a place where water of a tolerably good quality can be procured. The effect of all the causes of disease is strongly marked in the inhabitants, the greater part of whom are pale and listless. The endemic diseases of this country, remittent and intermittent fevers, begin to appear about the middle of August, and continue to prevail until the frosty weather checks the exhalation from the earth, gives tone to the debilitated frames of the people, and stops thereby the further progress of the complaints. It is computed that nearly a third of the inhabitants are attacked with fever every sickly season. . . . The fever which now universally prevails in the army first appeared among the battalions cantoned in South Beveland, and only began to demonstrate its influence here about the time that Flushing surrendered. The rapidity with which the disease has extended itself during the short period that has elapsed is almost unexampled in the history of any military operations. . . . As the progress of the mischief is much greater than could rationally have been calculated upon . . . it must be an inevitable consequence of the British troops remaining in Walcheren that a very considerable loss must be sustained.

Three days after writing his letter, Webbe was stricken down with the fever, and the duty of supreme direction fell upon Francis Burrows, the next in seniority, after death had removed Mr. Aveling. The necessity for more doctors became urgent, and on September 14th one staff surgeon and three hospital mates arrived, with the excuse from the Army Medical Board that the war in the Peninsula had made such excessive demands upon the supply of surgeons as to render it impossible to send more. The condition of the army was now deplorable, and the dispatches of the Commander, Sir Eyre Coote, dealt with little else than the ever-increasing sickness. The accommodation for the sick was of the worst description: there were no convalescent hospitals, the supply of blankets, wines, and medicines began to fail, and typhus fever made its appearance.

The Government at last became alarmed, and, in response to the urgent solicitations of Sir Eyre Coote, they requested Sir Lucas Pepys, the Physician-General, to proceed to Walcheren to deal with the terrible sickness which existed in that island. But to the astonishment of all, Sir Lucas begged to be excused, on the ground that he, the Physician-General to the army, "knew nothing about the investigation of camp and contagious disease"! In this dilemma the Government appointed a medical commission composed of Sir Gilbert Blane, with the title of Acting Physician-General, Dr. James Borland, and Dr. William Lempriere, and, in addition, Dr. James McGrigor, Inspector-General of Hospitals. Blane and McGrigor arrived on September 30th, and at once made a close examination of the conditions as they existed. They found the roofless churches, houses, and other buildings crowded with sick men, and every day bringing fresh cases in hundreds. They found the medical staff quite

insufficient to cope with the work, and the stock of medicines and medical comforts almost exhausted, while pervading all they found an atmosphere of paralysis, panic, and despair.

The minds of Blane and McGrigor were soon made up as to the course to be pursued, and on October 1st they addressed a joint letter to Sir Eyre Coote. As a first precaution they recommended that about six thousand sick men should be shipped to England in ships of the line, since transports were inadequate. Sir Eyre Coote accepted this suggestion, and during the month of October the evacuation of the hospitals proceeded, with the result that for the first time the depleted medical staff was in a position to cope with the daily influx of sick soldiers.

Blane and his two colleagues returned home on October 10th, but McGrigor remained in supreme charge of all the medical arrangements. Here he laid the foundation of his immense reputation, and by his energy and sagacity quickly changed the state of medical chaos into one of tolerable efficiency. Sir Eyre Coote gave up the command of the army on October 29th, and was succeeded by General Don, the third commander in four months to occupy this unenviable position. It was a sorry army he was called upon to command, for he reported that he had only 4,534 men fit for duty, of whom about one-third was unfit for considerable exertion. But the agony of Walcheren was soon to be terminated; the Government decided to evacuate the island, and on December 9th the poor remains of the army embarked; and the heavy ordnance followed on December 23rd, and thus ended the famous expedition.

An exhaustive inquiry took place in 1810 by a Committee of the House of Commons, and the examination of the medical men connected with the expedition revealed an extraordinary state of divided control. The evidence showed that the authorities had never consulted the Army Medical Board with reference to the condition in Walcheren until the sickness began to be excessive. Indeed, until the expedition arrived in the Scheldt the board was ignorant of its destination, and therefore no special provision was made to counteract the dangers of the climate. Although it was proved that the medicines ran dangerously short, there was no evidence to show that the troops were ever in actual want. Blankets and other medical comforts were certainly in insufficient supply, and there was a totally inadequate medical staff to deal with the enormous amount of sickness, although some half-hearted attempts appear to have been made to remedy this defect. In fact, the chief blame that could be attached to the board was that, when the amount of sickness became known, it exhibited a supineness in grappling with the difficulty which nothing could excuse. No measures taken before the expedition started would have had any great effect upon the sickness, for the disease was malaria, which was endemic in Walcheren at the time the army landed. With the exception of some cases of typhus it was the sole cause responsible for the sickness, and removal from the evil climatic influences was the only remedy.

#### THE NAVAL MEDICAL SERVICE.

Materials for the study of the early history of medicine in the navy are extremely scanty, and it is not possible to describe with any degree of exactness the phases through which it passed until it became an established branch of the British Navy. Records from comparatively early times show, however, that physicians and surgeons were appointed from time to time to attend the commanders of various naval expeditions, and presumably to advise them concerning medical questions. One of the first of these appointments, if not actually the first, was that of Roger Marbeck, a Fellow, and the first Registrar of the Royal College of Physicians of London, who was appointed to attend on the Lord High Admiral Howard in his expedition to Cadiz in 1596. In the British Museum will be found a manuscript of Marbeck in which he gives an account of his adventures, and this may be regarded as the first report in existence dealing with the medical service of the navy. In the following year (1597), Henry Atkins, a president of the College, was appointed to the expedition of the Earl of Essex to Spain. The agonies of sea-sickness, however, only permitted him to go as far as Plymouth, where he was landed in an exhausted condition, and his place was taken by Thomas Moundford, another President of the College of Physicians.



In Cromwellian times it became the practice to appoint physicians to naval expeditions proceeding to foreign waters, and the duties attached to these appointments referred more to the care of the sick on board than to the care of the health of the commander of the expedition. Thus, Paul de Laune was appointed by Cromwell as physician to the fleet proceeding to Jamaica under Penn and Vennables. Soon after this the practice became established, and physicians and surgeons were regularly appointed to most of the warships in commission.

Early in the eighteenth century medical affairs in the navy were under the control of the Sick and Hurt Board, which was composed of medical and lay members. From an inspection of the minutes of this board in the Public Record Office, it does not appear that the authority conferred upon it was very ample, and for the most part its functions were advisory, and only when applied to by other naval departments. Indeed, at this time little care was taken of the health of seamen on whom depended the safety of these islands, and such solicitude as existed for their medical welfare was dependent almost entirely upon the energy and conscientiousness of individual naval surgeons. The standard of medical education required was of the lowest kind; they were obliged to provide their own drugs and instruments, and the authorities made no attempt to raise the medical service.

The work of the two great pioneers, James Lind and Gilbert Blane, produced a complete reformation in the Naval Medical Service. To Lind, perhaps, belongs the greater honour, for his was the first definite attempt to improve the position of medicine and hygiene in the navy. In 1754 he published his work on scurvy, a disease with which he was fully acquainted from the practical point of view. Previous to him many writers had, it is true, dealt with the subject, but in most of the accounts given no clear and precise description of the clinical features of the complaint is to be found. Lind sketched with really masterly hand the special features of this disease, and so ably did he delineate the picture that his description has been followed ever since. But he did more—he indicated the principles of the treatment of scurvy, and showed that, provided the proper antiscorbutics were carried on board ship, its terrible ravages would very soon become unknown. His wise advice, however, fell upon unheeding ears, and many years were to elapse before scurvy on board ship ceased to limit the naval and mercantile activities of this country.

In 1757 Lind published *An Essay on the Most Effectual Means of Preserving the Health of Seamen*. The book is not remarkable for its literary style, but is, nevertheless, full of shrewd observations and practical suggestions founded on an extensive acquaintance with disease on board ship. It is one of the most practical books ever written, and it is astonishing how true, even to-day, are many of the observations it contains. His recommendations concerning the care of the health of seamen, his insistence on the necessity for taking bark as a precautionary measure against miasmatic fevers, his remarks regarding hospitals on board ship, and the prevention of infection, had they been attended to, would have saved the lives of thousands of sailors. Probably, however, he was aware of the amount of prejudice his innovations would encounter, and that is the reason why his wise counsels are couched in a somewhat deferential tone.

Lind was essentially a pioneer in naval medicine and hygiene. In an age when no thought was given to the care of seamen on board fighting ships, when harsh and repressive discipline was common, he had the courage to point out to the authorities the importance of conserving the health of those on whom the country depended for its defence. His work was epoch-making, and from the time that he wrote, the attention of the Navy Board was drawn, though tardily, to this important subject.

If it be true that Lind sowed the seed of medical and hygienic reform in the navy, it is equally true that Blane tended and garnered the grain, and it is doubtful if the principles introduced by Lind could have obtained such wide acceptance without his powerful support. Blane was possessed of a most logical mind, a determined yet cautious spirit, and the ardour of a true reformer. He brought these qualities to bear on his work, and when he resigned the chief medical direction of the navy in 1802 a brighter

era of medical progress and efficiency had already dawned. In 1785 Blane published his book, *Observations on the Diseases of Seamen*, and it quickly ran through many editions. The plan of the work bears a somewhat close similarity to that of Lind. Its literary style is easy, almost graceful, and the method, true to the nationality of the author, is mainly deductive. But the chief excellence of the work is to be found in its foundation on a wide clinical experience.

The book is divided up into three sections. The first gives a detailed account of the sickness in the fleet under the command of Lord Rodney while cruising in the West Indies, from 1781 to 1783, to which fleet Blane was appointed physician in charge. He ordered the surgeons of ships to take complete notes of the cases and to furnish exact returns. These results he compiled, and almost for the first time made use of the statistical method in a manner simple yet correct. Although Blane's statistics would by no means satisfy an actuary, still his logical mind kept him clear of those pitfalls in figures and their manipulation into which our profession is so prone to stumble. The net result of his tables was that the annual mortality in the fleet from disease amounted to 125 per 1,000, not an excessive mortality when judged by the standards of those times. The second section of the book deals with the causes and prevention of disease, and here Blane frankly admits that much of the subject matter is derived from Lind. Indeed, in this section, it is Blane the disciple who is advocating the principles of the master. In the third division of the work observations on fevers are given, and, from the point of view of clinical acumen, this part is the most able and original of all.

The work of Blane and Lind had a profound effect upon the Naval Medical Service, but they were not the only pioneers in this field. The labours of Thomas Trotter in the direction of a more efficient medical service in the navy, and towards improvement in the naval hospitals, although scarcely less important than those of Blane, were handicapped by a disposition to attack the ruling powers for their failure to promote reforms. Robert Robertson was another reformer who did much to quicken the sense of the Navy Board towards the imperfection of the Naval Medical Service.

Not only were surgeons urged to fresh activity by the work of these reformers, but the naval authorities began to show interest in the subject of the preservation of the health of seamen, and in 1795 Lord Spencer, the First Lord of the Admiralty, reconstructed the old Sick and Hurt Board, and, under the name of the Commissioners for Sick and Wounded, set up an authority composed of two physicians and one civil member. To these he delegated the direction of all medical matters in the navy, and for the first time medical men were responsible for the Naval Medical Service. Dr. Robert Blair and Dr. Gilbert Blane were the two medical commissioners, and Sir William Gibbons was the civil representative. Blair, however, soon retired, and Blane at once began to put into practice the principles he had advocated years before. In all he remained seven years in supreme control of the medical service in the navy, and when, in 1802, he retired, the Naval Medical Service had been thoroughly regenerated; abuses had been modified or removed, and the way was left clear for progress on prudent lines.

Blane was succeeded by John Harness, who had been appointed a Commissioner in 1800, and who, with organizing ability superior even to that of his predecessor, carried forward still further the work of reform. At this time it was felt that the work of the medical department of the navy was onerous enough to demand the undivided attention of the Commissioners, and it was therefore decreed that they should not engage in private practice. It was, however, found that the Commissioners for Sick and Wounded were not sufficiently in touch with the other departments in the Admiralty, and in 1806 the board was abolished. The functions of the board were now performed by the Senior Medical Commissioner, who sat at the Transport Board, and thus the control of medical matters was vested in one head. Inspectors of naval hospitals were appointed in 1804, who acted under the direction of the Medical Commissioner, and in 1817 the Medical Commissioner was again transferred, this time to the Victualling Board, but his functions were the same. Besides Harness, John Weir and Andrew Baird shared in



the work, and at the end of the reign of George III the principles of medical control in the navy under one authority were well established, and have served as the model for all subsequent changes.

## BONE GRAFTING IN GUNSHOT FRACTURES OF THE JAW.

BY

WILLIAM BILLINGTON, M.S., F.R.C.S.,

CAPTAIN R.A.M.C (T.F.),

ARTHUR H. PARROTT, AND HAROLD ROUND,  
M.D.S., L.D.S., M.D.S., L.D.S.

For rather more than two years we have had charge of the "Jaw Department" at the 1st Southern General Hospital, Birmingham, to which all cases of injuries to the jaws requiring special treatment are sent from the whole Southern Command. A very large percentage of these cases suffer from compound fracture of the mandible. Successful treatment involves (1) osseous union, (2) functional occlusion, and (3) avoidance of disfigurement.

In the majority of cases these results have been obtained by means of mechanical technique associated with due regard to the establishment of aseptic conditions. In some, however, satisfactory results cannot be obtained by this technique alone. Where there is a gap between the bony fragments greater than half an inch osseous union is rarely obtained unless (1) the fragments are allowed to approximate at the expense of normal alignment, or (2) a bone graft can be successfully introduced.

The gap between the fragments may be due to extensive loss of bone at the time of the injury or to subsequent necrosis from resulting sepsis. Sepsis in these cases is always severe and unless adequately combated in the early stages may be extremely persistent.

It is essential that firm osseous union should be obtained even at the expense of deformity, otherwise the power of mastication is gravely impaired. When, however, the gap is wide, the deformity resulting from allowing the fragments to approximate is so great and renders the fitting of suitable dentures so difficult that it can only be the extreme resort. A satisfactory functional and cosmetic result can then alone be obtained by successfully bridging the gap by means of a bone graft.

Other classes of cases in which surgical assistance is necessary to secure osseous union are those in which (1) there is overriding or malposition of osseous fragments; (2) mobility of the fragments from muscular action cannot be prevented by mechanical means—for example, short posterior edentulous fragments.

Operation in these cases consists in carefully dissecting away the scar tissue from between and around the ends of the fragments, rectifying the deformity by the division of contracted muscular attachments and fibrous bands, and immobilizing the fragments by means of a plate and screws. If, as is often the case, a gap remains between the fragments when pared and brought into correct alignment, a small graft is introduced, and the technique is similar to that described for bone-grafting.

Bone grafting in fractures of the jaw resulting from war injuries has presented many difficulties, and at first success was so rarely obtained that the attempt was given up and discouraged by very competent surgeons as not being worth while. The alternative of obtaining union by allowing the fragments to approximate led to so much disfigurement and such awkward mouths to fit with satisfactory dentures when the gap was a wide one that we felt compelled to persevere, especially because osseous union could not be obtained in a definite percentage of cases in spite of all sacrifice of normal alignment, etc. To discharge such cases with non-union was a confession of failure that could only be made with extreme reluctance.

The technique we now employ has been reached only after much experiment, many devices having had to be abandoned. Without enumerating the various stages through which we have passed, we think that a short account of the preparation for and the performance of the operation now in use will be helpful. Whereas success was the exception two years ago, it is now the rule, and it rarely happens that the graft fails to heal firmly.

### Preliminary Preparation.

This is prolonged, and it may be many months after the original wound was received before the operation of bone grafting can be undertaken. The fracture is always complicated by sepsis, usually severe, and often by extensive injury to surrounding soft tissues. As soon as possible an x-ray examination should be made, after which the patient should be anaesthetized and the wound explored. Foreign bodies, teeth in and adjacent to the fracture, and loose fragments of bone should be removed. Larger fragments of bone with reasonably good attachments to soft tissues may be left in the hope that they will live. At the same time it is often possible to carry out some rough plastic work, the fragments of bone being replaced in as normal a position as possible and soft tissues being drawn together. Care must be taken to provide for efficient drainage and access to raw surfaces inside the mouth.

A more or less prolonged interval must now elapse while wounds are healing. Sepsis is apt to be persistent, and one or more subsequent operations may have to be performed for the removal of sequestra and drainage of pockets. During this interval careful attention must be paid to the maintenance of the patient's physical fitness by careful feeding and suitable environment. Much can also be done, by means of dental splints, etc., to correct or prevent displacement of the fragments of the jaw by muscular action and contracting scar tissue, even though firm bony union cannot be secured.

Finally, before attempting to bone-graft, it is very important that dribbling of saliva from the mouth should be prevented by plastic operations. This dribbling is very common when there is a defect in the lower lip, and saliva soaking into the dressings greatly increases the risk of sepsis in the operation wound.

After all wounds inside and outside the mouth have healed an interval of from four to six weeks should elapse before the bone-grafting operation is performed. During this time the patient is usually sent to a convalescent hospital.

Immediately before the operation all dental fixation splints are removed from the mouth. It was found that the retention of these militated against the success of the operation. They caused risk from post-anaesthetic vomiting, greatly added to the discomfort of the patient, and, where pressure was exerted by them in or near the operation area, increased the risk of sepsis. For these reasons, no attempt is made to fix the fragments of the jaw during the operation or for about two weeks subsequently. Everything which interferes with prompt "healing in" of the graft must be discarded.

### Operation.

A skilled anaesthetist is essential, and we owe much to the skill with which Captain McCardie has maintained successful anaesthesia under very difficult conditions.

A curved incision is made in the neck beginning one inch behind the extremity of the posterior fragment and ending one inch in front of the end of the anterior fragment. The incision commences and finishes about half an inch above the line of the lower border of the jaw and in the neck runs about one inch below that line. It is only by carrying the incision well below the jaw and raising a flap that sufficient soft tissue to satisfactorily envelop the graft can be obtained. Often at the site of the fracture there is nothing but dense scar tissue which extends through to the mouth, and great care has to be taken in splitting this to avoid opening into the mouth, an accident which necessitates postponement of the operation. The unsatisfactory bed provided by this scar tissue constitutes one of the difficulties of bone grafting in these cases.

The incision is deepened by cutting upwards and inwards until the lower border of each fragment is reached. The soft tissues covering the outer surface of each fragment are then raised for an inch away from the gap and turned up in the flap. The ends of the fragments and the



FIG. 1.



fibrous tissue occupying the gap between them are now carefully cut away. Finally, each fragment is bevelled by cutting away a flake of bone from its outer surface with bone forceps. In this way raw bone is exposed at the ends of the gap and on the outer aspect of the fragments for about one inch from its extremity. All bleeding is then carefully arrested and the bone graft prepared.

After experimenting with bone from the ribs, the tibia, and from the jaw itself, the iliac crest was finally selected as the site from which to take the graft. The bone is tough and can be cut with bone forceps without splitting. Further, a graft can easily be obtained of any length or breadth and the natural slightly curved contour of the crest is approximately that of the jaw. The graft should be taken preferably from the same side as the operation wound, thus allowing the patient to lie comfortably on the opposite side.

An incision is made over the crest commencing at the anterior superior spine and extending as far back as required. The muscles are then separated on either side of the crest and pressed back by retractors. The bone is cut by an ordinary Horsley's hand saw. The graft should be two inches longer than the gap to be filled. If a more curved piece of bone is required, as to fill a gap near the chin, the graft is made to include the bone between the superior and inferior spines.

In this way a graft four inches long has been obtained which filled a gap extending from the angle of the



FIG. 2.

mandible on one side to well beyond the chin on the other, and the curve was so accurate that no subsequent modelling was needed. After removal of the bone the muscles detached from it are sewn together with catgut and the wounds closed. No inconvenience whatever seems to result. The ends of the graft are now bevelled with bone forceps, the bevelled areas lying on the prepared outer surfaces of the jaw fragments. In this way the graft overlaps the gap at each end for an inch. Two advantages result from this: (1) A broad line of bony contact between the graft and the fragments is provided with increased prospect of speedy firm osseous union, and (2) there is practically no risk of separation in the event of the gap being increased by subsequent manipulations during the application of dental splints, as a certain amount of sliding can take place without contact being lost.

No attempt is made to fix graft or fragments by plates and screws, by wiring, or even by dovetailing the graft into the fragments. All these measures have been tried and discarded. The presence of foreign bodies greatly militates against successful healing, a sinus down to the plate or wire almost invariably forming. Attempts also to make the graft act as a splint by dovetailing it between the fragments have not led to satisfactory results.

Our practice now is to keep the graft in place by sewing the soft tissues closely over the graft and the ends of the fragments by hardened catgut. This has the additional advantage of closely surrounding the graft with living vascular tissue and abolishing dead spaces in which blood clot and serum can collect. This improves the nutrition of the graft and diminishes the risk of sepsis.

Finally, the skin is approximated with a few interrupted stitches. No drainage is employed beyond that of leaving spaces between the skin sutures to allow of the escape of serum. A simple dressing and bandage is applied and the patient sent back to bed.



FIG. 3.

No attempt is made to reintroduce dental fixation splints until the wound is firmly healed and the compound fracture has been converted into a simple one. This usually occurs in two weeks, after which the case is treated as one of simple fracture of the jaw. Firm osseous union occurs in from two to four months, but it is inadvisable to fit the final dentures until at least four months have elapsed, and it is perhaps wiser to allow an interval of six months.

We intend to supply notes of cases in a subsequent paper. We desire to record our appreciation of the very valuable assistance at the operations that we have received from Captain Learmonth and Sister Dorothy Jones of the 1st Southern General Hospital.

## INFLUENZA: ITS CAUSE AND PREVENTION.

BY

W. FORD ROBERTSON, M.D.,

PATHOLOGIST TO THE SCOTTISH ASYLUMS.

MANY who have read the recent writings on this subject in the BRITISH MEDICAL JOURNAL must feel there is great need that those who have had special opportunities for the study of the *Bacillus influenzae* and its pathogenic action should make public any knowledge they have that may be useful at the present time. I therefore hope that the following notes may be acceptable.

The best method of growing the bacillus of influenza seems to be still unknown, though it was described and demonstrated before a scientific society in 1916 and mentioned in a paper published shortly afterwards.<sup>1</sup> It has been constantly used since 1914 in the laboratory of the Scottish asylums, where it was originated by the senior assistant, Mr. John J. Ritchie. It takes advantage of the fact that the bacillus of influenza is stimulated to growth by the mere proximity of certain other micro-organisms, especially those of the *carrhalis* group and pneumococci. In this method, which may be referred to as the alternate drill method, generally three straight drills of, say, *Micrococcus carrhalis* are made from bottom to top of a suitable agar surface, one at each side and the third exactly in the middle. Between these drills two dri are made from colonies of *Bacillus influenzae*. Abundant growth, suitable for the preparation of vaccines, can generally be scraped off after twenty-four hours' incubation, but it is of advantage to continue incubation for two or three days.

The best medium is haemoglobin agar, which, though it has been used in the laboratory of the Scottish asylums for many years and repeatedly described, seems still to be rarely used, at least in a correct way. I obtain haemoglobin serum from sheep's blood (secured with aseptic precautions), which has been allowed to clot and from which most of the serum has been decanted. The tubes are placed for an hour or so in a freezing mixture. When thawing takes place the remaining serum contains a strong solution of haemoglobin. About 1 c.cm. of this haemoglobin serum is added to each tube of nutrient agar in the fluid state, while at a temperature of about 60° C. The medium is allowed to set in a sloping position. It is important to use a higher percentage of agar than is generally prescribed for nutrient agar. The tubes should be incubated for twenty-four to forty-eight hours before they are used for the making of cultures, in order to test their sterility. In the preparation of vaccines the culture material obtained by the alternate drill method is scraped off by means of a platinum loop and placed in 1 per cent. carbolic acid in normal salt solution. Twelve to twenty-four hours at 37° C. suffice for sterilization. The preparation of the vaccine is completed by the gravimetric method. It is greatly to be deplored that bacteriologists should still adhere, with false conservatism, to the inaccurate, time-absorbing and inconvenient plan of standardizing vaccines in millions. In the gravimetric method the whole batch of dried vaccine is accurately weighed in the chemical balance and made up to a strength of 1 c.cm. = 1 mg.

Influenza bacillus vaccines for use should consist of a one-tenth dilution of the emulsion in the stock tube—namely, 1 c.cm. = 0.1 mg. The dose of influenza bacillus for therapeutic immunization ranges from 0.005 mg. to 0.1 mg.



In the course of the past five years, by the application of these methods, I have investigated considerably over a hundred cases of chronic infection by the bacillus of influenza. Chronic infections of this kind are very much more common than is generally supposed. The only point I wish to dwell upon in regard to these cases is that of the evidence they furnish regarding the pathogenic character of this bacillus, which apparently is still in doubt on the part of many who are able to give publicity to their views. In nearly all of these cases therapeutic immunization has been carried out. The focal and general reactions produced, and the successful therapeutic results that have been obtained, are consistent only with the view that the bacillus from which the vaccines were prepared was the chief cause of the catarrhal conditions from which the patients were suffering. Correct therapeutic doses commonly caused distinct focal reactions; overdoses were followed by the development of symptoms simulating those of influenza. A continuation of correct therapeutic doses over a period of from six to ten weeks almost uniformly resulted in complete recovery from the malady. If the bacillus of influenza had not been the chief cause of the ailment these results could not have been obtained.

In acute influenza, therapeutic immunization acts, in my experience, with equal success. A dose of 0.02 mg., repeated after twenty-four hours, generally causes the temperature to fall to normal within forty-eight hours. With ordinary vaccines there is apt to be a good deal of reactive disturbance from twelve to twenty-four hours after the first dose. For these and other reasons it is of advantage to use sensitized vaccines in acute cases. For the purposes of the preparation of these sensitized vaccines, two sheep are kept immunized against *Bacillus influenzae* at the laboratory of the Scottish asylums. The administration of a sensitized vaccine is followed by comparatively little reactive disturbance.

The most convincing evidence of the causal relationship of Pfeiffer's bacillus to influenza can be obtained from the phenomena that may be observed in the carrying out of protective inoculation. I made a number of these inoculations at the time of the summer epidemic; none of the cases contracted influenza. I have recently immunized a much larger number of persons, but the evidence of the protection afforded has, of course, still to be obtained. I give, at intervals of from two to three days, successive doses of about 0.03 mg., 0.06 mg., and 0.12 mg., or two doses of 0.04 mg. and 0.12 mg. The smaller doses are given first in order to create a certain degree of tolerance of the toxin before the full dose required for complete protection is injected, and to provide against the possibility of hypersensitiveness, which occurs in all persons who are suffering from a chronic infection by the bacillus. After each of these doses most persons within twelve to twenty-four hours experience in mild degree the symptoms of influenza. If the dose of 0.12 mg. is given at once, severe disturbances are generally experienced. Any one who likes can have a controlled attack of influenza. If any sceptic will submit to the test, I believe I can convince him, by means of an injection of a full dose of the killed culture, that the bacillus of Pfeiffer is the cause of influenza.

It is very important that it should be understood that under existing conditions more is required than protective inoculation against the bacillus of influenza. In Scotland, at least, there has been for two months or longer also an epidemic of coryza, dependent upon infection by a special type of *Micrococcus catarrhalis*. Acute infection by this micrococcus generally causes, in addition to "cold in the head," severe headache, aching throughout the body, and some rise of temperature, especially at night. Correct therapeutic immunization is capable of cutting short the attack in forty-eight hours. Beyond question, any one suffering from this form of coryza is very specially prone to be attacked by the influenza bacillus. Most cases of acute influenza that I have recently investigated have been infected also by this special type of *Micrococcus catarrhalis*. When I am asked to protect against the bacillus of influenza I explain the importance of this other form of infection that is prevalent, with the result that all of the cases are given the double inoculation. The dose of this micrococcus is the same as that of the bacillus of influenza. In ordinary course it would have been about four times larger, but experience has shown that this type

of *Micrococcus catarrhalis* produces much greater irritation at the place of injection than the ordinary strains, already notorious for their unpleasant local effect.

I regret that I feel obliged to criticize adversely the recommendations of the War Office Conference of October 14th, which were published in the *BRITISH MEDICAL JOURNAL* of October 26th. If the errors contained in these conclusions are not recognized now, I challenge their future comparison with the orthodox teaching as it will stand, say, two years hence. It is not properly recognized that the dosage for therapeutic immunization is essentially different from that required for protective inoculation. The doses recommended are, so far as my own experience enables me to judge, strangely wide of the mark. The 30 million dose of *Bacillus influenzae*, given as the initial one, works out at about 0.005 mg. This is a small therapeutic dose, and neither it nor the second dose of double the amount can be expected to afford any valuable degree of protection against infection. The introduction of pneumococcus and streptococcus protective inoculation is a mistake. These bacteria are not commonly spread from one person to another like the bacillus of influenza. It is quite different, however, in regard to *Micrococcus catarrhalis*, protection against which is omitted in these recommendations. The coryza caused by this organism is extremely infectious, and those who have acquired it are, beyond a doubt, specially prone to be attacked by *Bacillus influenzae*. Therefore it is hardly less important to protect people against this micrococcus than against the bacillus. The doses recommended are also open to criticism. The initial dose of 100 million pneumococci and the second of 200 million represent about 0.03 mg. and 0.06 mg. In my experience, if the patient happens to be suffering from a chronic infection by the corresponding type of pneumococcus, these doses will cause rather violent focal reactions. Regarding their value for protective inoculation I cannot speak. The doses of 40 million and 80 million streptococci (presumably *pyogenes* and *anginosus*) represent about 0.01 mg. and 0.02 mg. These, in my experience at least, are merely small therapeutic doses. Protective inoculation should be directed exclusively against attack from *Bacillus influenzae* and *Micrococcus catarrhalis*. It is a different matter when we have to carry out therapeutic immunization in a case of influenza. It is then of proved advantage to add to the suitable dose of *Bacillus influenzae* (0.01 to 0.04 mg.), small doses of a polyvalent pneumococcus vaccine (0.01 to 0.02 mg.) and of *Streptococcus pyogenes* (0.01 to 0.02 mg.), as well as of *Micrococcus catarrhalis* (0.03 to 0.06 mg.). If possible, the vaccines should be sensitized ones.

## REFERENCE.

*J. Jour. of Mental Science*, January, 1917.

## BLOOD AGGLUTININS IN MENINGOCOCCAL ATTACKS.

By I. WALKER HALL, M.D.,

Lecturer of Pathology, Bristol University; Cephalo-spinal Fluid Bacteriologist for Somerset and Gloucester.

(Report to the Medical Research Committee.)

A study of the agglutinative action of human serum during an acute attack by meningococci involves the consideration of many factors.

It is granted, for purposes of argument, that the available technique is beyond criticism, there is still a possibility that the reactive combinations evoked by the acting antigens of living, or lysed, cocci may differ from those which follow the injection of organisms killed by heat or other coagulative measures. The emulsions of cocci prepared for the quantitative estimation of agglutinins may also be placed in the category of variants. Owing to inconstancy of amino-acid nutrients or vitaminic stimuli, or a failure to produce artificially the conditions under which the meningococci proliferate during infection, the cultures may exhibit variations in vigour of growth or extent of autolysis. It has already been remarked by Gordon, Ainley Walker, Hewitt, and Gibson, that the specificity of the agglutinins induced by the injection of killed meningococci is more or less dependent upon the species of animal used for the purpose.<sup>1</sup> That is to say,



while the antisera obtained from horses, rabbits, or man, all yield general agglutinins, they contain cross-agglutinins for individual strains or types.

Within certain limits, however, the contents of the animal immune serums are sufficiently well defined to permit of a preliminary differentiation between pathogenic and apathogenic cocci.<sup>2</sup> A statement of this kind must not, of course, be pushed too far, for from the practical standpoint it involves a necessity of erring on the side of precaution by the inclusion of doubtful positives among the definite ones.

The possibility of eliminating this margin of error is an incentive to investigate more closely the bases of the agglutinations and absorptions upon which our epidemiological recommendations are built. Perhaps it may become necessary to devise other methods, and to design some more definite problems for the functional capacities of the pathogenic and saprophytic organisms. There is at least the hope that the determination of the products they form from certain precise compounds may shed some light upon their standard of virulence.<sup>3</sup>

The acute stages of epidemic cerebro-spinal meningitis offer valuable opportunities for continued observation of the antigenic powers of the several types of meningococci. The prescribed routine of lumbar puncture, blood culture, nasopharyngeal swab, and urinary examination, brings an abundance of material at an early moment of the attack. The frequent lumbar punctures permit almost daily isolations of the infecting micro-organism. If the simultaneous collection of a few cubic centimetres of median basile blood was adopted, the subsequent estimation of the agglutinin content in a number of cases would add considerably to our knowledge of the continuance and subsidence of the agglutinins during the course of the disease and the convalescence therefrom. It might also add to our information concerning the types and persistence of the cocci in the nasopharynx, and shed more light upon the conditions following inoculation and those associated with the determination of the "carrier" stage.

In this laboratory it has become a practice to make frequent isolations and agglutinations throughout the course of each case. This has been made possible by the co-operation and scientific care of Drs. B. A. I. Peters and R. E. Thomas of the Ham Green Isolation Hospital, and the interest of the house-physicians of our local institutions. For purposes of comparison with the work of other cerebro-spinal fever laboratories, the procedures of the Central Cerebro-spinal Fever Laboratory have been followed. The primary and secondary subcultures have been grown on pea-flour tryptic agar medium adjusted to an amino content of 25-7 formaldehyde figure with 0.5 per cent. addition of ascitic fluid. The emulsions have been prepared according to Gordon's suggestions, and when type coccal suspensions were needed those issued under the direction of Major Hine have been employed.

The work now in progress has not sufficed for the drawing of conclusions or the making of hypotheses. It will be at once recognized that a large number of cases are necessary for adequate data. Several points of interest have, however, arisen which contain suggestions for further lines of inquiry and offer some explanation of certain "carrier" questions now under discussion. For this reason it may prove useful to state some of the findings, in the hope that they may be considered worthy of criticism or confirmation.

In the early days of the epidemic a case occurred which was meningococcal fever according to clinical signs, but negative on several occasions from the standpoint of lumbar puncture. A rough attempt to determine the content of the blood resulted in the agglutination of some mixed strains. It was considered worth while to extend the observation to definite bacteriological cases, and when the standard types and serums were issued by the Central Laboratory the daily isolations of spinal and nasopharyngeal cocci were undertaken and the agglutination titres of the patient's blood determined.

In Table I the findings are summarized. To save space the end titres only are stated, and as there was not any result with Type IV coccus in the later cases this too is omitted.

It will be noted that in four cases the standard type cocci were agglutinated, and in four cases they were not affected in the early stages, although in two of the latter agglutination was obtained on subsequent days.

TABLE I.—The Agglutinins developed with Different Types of *Meningococcus*.

	Day of Disease	End Titre of Patient's Serum on—			
		Stock Coccoi			Oxid. Carbons 1. Inocul. Same Day.
TYPE I.		I.	II.	III.	
Case G.: Aged 20; death 20 days.	6	250	25	25	25
	7	250	0	25	250
	9	500	0	25	750
	11	500	0	0	500
	12	500	0	0	500
	15	500	0	500	750
	17	500	0	500	50
	20	125	0	500	50
	22	250	0	750	125
	25	250	0	500	500
	26	125	0	500	50
Case D.: Aged 2; recovery 30 days.	10	0	0	0	10
	16	0	0	0	50
	19	0	0	0	25
TYPE II.					
Case B.: Aged 21; death 20 days.	2	0	0	0	10
	3	0	0	0	500
	4	0	125	0	—
	5	0	250	0	500
	7	0	125	0	500
	9	0	250	0	—
	10	0	0	0	500
	17	25	0	0	25
	19	0	0	0	50
	20	0	0	0	25
Case A.: Aged 21; death 20 days.	1	0	0	0	50
	7	0	500	500	1,250
	14	0	250	250	0
	20	0	0	0	0
Case C.: Aged 13 mths.; death 30 days.	4	0	0	0	250
	6	0	0	0	250
	7	0	500	0	1,250
	15	0	125	0	1,250
	16	0	125	0	1,500
Case E.: Aged 27; death 4 days.	3 a.m.	0	0	0	25
	p.m.	0	0	0	25
	4 a.m.	0	0	0	0
	p.m.	0	0	0	0
Case P.: Aged 26; recovery 70 days.	35	0	50	0	50
	50	0	50	0	250
	52	0	250	0	250
	64	0	500	125	00
TYPE III.					
Case D.: Aged 32; death 7 days.	3	0	250	0	250
	4	0	250	0	250

After the initial agglutination, the end titre varied considerably, both for the case coccus and for the type standard suspension. This variation was not uniform. In some cases cross agglutininations were the rule. In others the changed titre was one of intensity only. The general impression was gained that the blood changes evinced a closely adaptative mechanism to alterations in the antigenic properties of the case coccus.

It was thought that these presumed adaptations might



be confirmed, or discounted, by submitting the type and case cocci day by day to the same sample of immune serum and comparing the results with the titre of the patient's blood for the type and case cocci, supplementing these findings by estimations of the titre of the patient's blood for case cocci obtained on previous days. For this purpose the spinal cocci were isolated on the same batch of media, emulsified, and killed at 63° C. for thirty minutes and standardized and used after standing for twenty-four hours. The results are stated in Table II.

TABLE II.—Comparison of Agglutinations with Polyvalent Serum and Patient's Daily Serums.

(All three patients belonged to Type II. Cases A and B died in 2 days, Case C in 30.)

	Day of Disease.	Polyvalent Serum on Cocci Isolated each Day. End Titre.	Patient's Blood on Cocci Isolated each Day. End Titre.	Additional Agglutinations
CASE A.	1	12	50	
	7	125	1,250	Blood agglutinated 1st day cocci 70; on 17th day agglutinated 1st day cocci 25, and 7th day cocci 0.
CASE B.	2	50	0	
	5	250	500	Blood agglutinated 2nd day cocci 250.
	7	250	500	Blood agglutinated 2nd day cocci 125, and 6th 125.
	10	250	500	Blood agglutinated 2nd day cocci 25.
	18	125	25	Blood agglutinated 2nd day cocci 25.
	20	25	50	Blood agglutinated 2nd day cocci 10.
CASE C.	4	500	250	
	6	500	250	
	15	500	1,250	
	16	500	1,500	

*Polyvalent Serum on Stock Type Cocci:*

Type I ...	500	Type III ...	50
Type II ..	50	Type IV ...	750

In Case C it will be observed that the polyvalent serum agglutinated the case cocci to the same extent on each occasion, although the titre of the patient's serum increased on the fifteenth day. In Case A the cocci appeared to become more agglutinable in both the polyvalent and the case serum, although the increase in the latter is the more marked. In Case B the agglutinability of the cocci varied considerably with the stable serum and with the case serum. When the cocci isolated upon previous days were subjected to the action of the serum for the day, the values were altered. These results suggest the probability of some variation on the part of the cocci with regard to the stable serum, other things being unaltered. A somewhat similar change might account for the similar behaviour towards the case serum.

*Blood Agglutinins and Nasopharyngeal Cocci.*

The action of the blood on nasopharyngeal cocci is a matter of more than passing interest. Were it thoroughly worked out, it might be of assistance in some knotty problems. The degree of virulence inherent in the meningococci present in the nasopharynxes of temporary and permanent carriers is difficult to determine. The primary cultures are, on the whole, less agglutinable than the subcultures. Even with the latter there is sometimes irregularity with serums from rabbits and horses. Some workers hesitate to make definite diagnoses from the findings. Hence there are a number of men undergoing segregation more from the standpoint of precaution than of precise diagnosis. The transient carrier harbours the meningococcus for a few days or a week. The temporary carrier becomes free after a month or so; earlier, perhaps, if the general metabolism is increased by outdoor exercise and change of altitude. The permanent carrier does not create conditions inimical to the cocci. Whether the reason lies in the flora or in the secretions is not yet

finally settled. Gordon indicts the streptococci as an inhibitory factor,<sup>4</sup> but Vines states that in only a relatively small percentage of swabs is a pure culture of meningococci obtained, and that if swabs are taken immediately after a meal the nasopharynx itself contains particles of food infected with salivary organisms.<sup>5</sup> This has been my experience also. Gordon finds that nasal mucus does not inhibit the meningococcus.<sup>4</sup> Are there other secretions, and is the disappearance of the cocci from the pharynx during the attack due to these? Flack obtained nasopharyngeal cocci from three cases in which the cerebrospinal fluid did not yield any meningococci, and found that the patient's blood agglutinated those up to 1 in 40 on the fifth day and 1 in 100 on the tenth day.<sup>6</sup> He does not state whether polyvalent serum had been injected, but a careful study of the cases under review puts the possibility of any quantitative influence of the injected serum quite out of count.<sup>7</sup> In two cases we were enabled to grow the nasopharyngeal cocci on successive occasions, and to submit it to the action of the patient's serum.

*CASE I.—Type II Cocci.*

The cocci were obtained from the nasopharynx on the third, fifth, eleventh, and eighteenth days. Polyvalent serum yielded a titre of 1 in 500 on each day. The patient's blood on the third day gave a titre of 1 in 50. With this same cocci the blood on the seventh day agglutinated to 1 in 125, but the blood obtained on the tenth and twelfth days gave negative results. The cocci grown on the fifth, eleventh, and eighteenth days, although well agglutinated by the standard serum, were not agglutinated by the blood removed on the same days. The cocci were therefore agglutinable by specific serum to the same extent, but the blood had lost its powers. At the time the blood failed to agglutinate the nasopharyngeal cocci it also failed to agglutinate a standard emulsion of Type II, and commenced to show cross agglutinations, apparently associated with the changing antigens of the spinal cocci. The question therefore arose as to the possibility of the prolonged duration of the cocci in the nasopharynx being due to the decreased action of the serum, and whether it is a general rule that the escape of tissue fluids plays a part in the disappearance of the cocci from the nasopharynx.

*CASE II.—Type II Cocci.*

The cocci were grown from nasopharyngeal swabs on the first and seventh days. It was agglutinated by a standard serum up to 1 in 125 on both occasions. The blood serum of the patient obtained on the first day gave a titre of 1 in 250 with the first day cocci; the blood of the seventh day gave a titre of 1 in 1,250 with the seventh day cocci. After this day the cocci disappeared from the nasopharynx. The blood of the seventh day agglutinated the first day cocci to 1 in 250 only, although it had agglutinated the seventh day cocci up to 1 in 1,250.

*Remarks.*

It is perhaps unnecessary to repeat that these findings do not permit of the advancement of any hypotheses. They are detailed merely as a contribution inviting consideration and extension. For our own part we have felt that the customary technique calls for adjustments, and we are devoting time to this side of the question.

Since these observations were concluded Fildes and Baker have published the results of the estimations of the blood agglutinins in twelve cases.<sup>2</sup> For the coccal suspension they employed a standard stock emulsion of the type belonging to the case but not the strain isolated from the spinal fluid of the patient. Their findings may be tabulated as follows:

Meningococci, Type I	...	5 cases.	Two slightly positive.
Meningococcus, Type II	...	4 ..	All negative.
Meningococcus, Type IV	...	3 ..	All negative.

The examination in each case was made on one day only, namely:

Third and fourth days	...	2 cases.	Negative.
Tenth day	...	1 case.	Negative.
Sixteenth and seventeenth days.	...	6 cases.	Two weakly positive.
Twenty-first day	...	1 case.	Negative.
Thirty-sixth day	...	2 cases.	Negative.

They consider that these results indicate that blood agglutination as a matter of diagnosis in meningococcal attacks is valueless. Perhaps if the strains of meningococci obtained from each case had been compared with the stock cocci the figures would have gained fuller support. Also, if the serums had been examined more than once, the percentage of positives might have increased. With the more extended use of the method they may probably be inclined to modify their decision. From the standpoint



of diagnosis only, the routine estimations of the agglutinin content of the blood have here been found of such value as to justify a recommendation for their continuance.

The question of blood agglutinins opens up the whole question of the dependence which should be placed upon the agglutinability of meningococci with regard to the pathogenic properties. Vines draws attention to the fact that agglutinability varies in primary and subcultures and wonders whether it is possible to define a border line between pathogenicity and apathogenicity by using the agglutination test as a criterion.<sup>5</sup> In the present changing condition of our knowledge of the problem I am firmly convinced that no single one of the criteria in vogue serves to determine whether Gram negative cocci are pathogenic or not. The whole evidence obtained from the morphological, cultural, and serological observations demands review in every instance.

#### REFERENCES.

- Vin ey Walker: *Journ. Hygiene*, July and October, 1918. <sup>2</sup> Fildes and Walker: *Medical Research Reports*, No. 17, p. 69. <sup>3</sup> Sasaki and co-workers: *Ac a Scholar*, Med. Univ. Kyoto, 1917, vol. i, Fasc. 4; and vol. ii, Fasc. 2; and *Journ. Biol. Chem.*, 1917, vol. 32. <sup>4</sup> Gordon: *Medical Research Reports*, No. 3, p. 111. <sup>5</sup> Vines: *Journ. Path. and Bact.*, 1918, vol. 22, pp. 72-3. <sup>6</sup> Black: *Medical Research Reports*, No. 3, p. 111. <sup>7</sup> Walker Hall and Peters: *Journ. R.A.M.C.*, October, 1916, p. 22.

## NITROUS OXIDE AND OXYGEN IN COMBINATION WITH ETHER OR C.E. MIXTURE FOR NOSE AND THROAT OPERATIONS.

BY

H. EDMUND G. BOYLE, M.R.C.S., L.R.C.P.,

CAPTAIN R.A.M.C.(T.F.),

ANAESTHETIST TO ST. BARTHOLOMEW'S HOSPITAL.

IN November, 1917, I read a paper before the Medical Society of London on "The use of nitrous oxide and oxygen with regulated rebreathing in military surgery."

In that paper I went into detail with regard to the actual administration, and gave my results up to that date. Since then I have had further opportunities of enlarging my experience of this method in civilian surgery, and have developed a technique for the administration of nitrous oxide and oxygen in combination with ether or C.E. mixture for nose and throat operations.

In working out the details of this method I have had the cordial co-operation of Captain Douglas Harmer, the senior surgeon to the Throat Department of St. Bartholomew's Hospital, and we have now arrived at a stage at which we are both confident that the results we obtain are infinitely better than we ever got before with the older methods.

There are three points that stand out as a result of our work:

1. The exceedingly small amount of C.E. mixture that is required.
2. The enormous difference in the patient's well-being after the operation, as compared with the older methods.
3. The excellence of the anaesthesia.

The technique, briefly, is as follows:

A hypodermic injection of morphine and atropine is given half an hour before the time of operation. I vary the amount of the dose with the nature of the operation and the condition of the patient, and in some cases I add scopolamine to the injection. The largest dose that I use (and this is the routine dose for the military cases) is morphine  $\frac{1}{4}$  gr., atropine  $\frac{1}{100}$  gr., and scopolamine  $\frac{1}{100}$  gr.; whilst for some women, and children of about 15 years of age, the dose is usually morphine  $\frac{1}{8}$  gr. and atropine  $\frac{1}{200}$  gr., and for small children I omit the hypodermic altogether, or at most give atropine  $\frac{1}{200}$  gr.

The patient is then anaesthetized with nitrous oxide and oxygen with rebreathing in the method that I have described in my paper before the Medical Society, and as soon as anaesthesia is obtained, or, to be precise, just before that state is obtained, the nitrous oxide and oxygen is allowed to run through the ether or C.E. mixture until the requisite depth of anaesthesia is obtained; the face-piece is then removed, and the anaesthesia is maintained by running the combination either through the nose or into the mouth. The patient's condition will determine whether the mixture is given throughout the operation; usually it is unnecessary, the C.E. being only required from time to time for a few seconds.

Given in this way, and provided always that the airway is kept open and the breathing is not unduly obstructed by sponges, the anaesthesia will meet the requirements of most operators. Throughout the whole anaesthesia the patient should be pink in colour, there should be no cyanosis whatever, nor should there be any pallor; both of these conditions are signs of overdosage and of a bad administration of the anaesthetic. The former is easily remedied by additional oxygen but the latter is more serious.

It is a remarkable fact that in several of the anaesthetics I have given for the enucleation of tonsils only 1 drachm of C.E. mixture has been used, and with this in combination with the nitrous oxide and oxygen the anaesthesia has been all that was required.

This method as I have described it sounds easy, but I do not advise any one to try it until he has made himself thoroughly acquainted with the various points of nitrous oxide and oxygen anaesthesia with rebreathing for long cases. That I consider necessary as a preliminary training.

Apart from the ordinary throat operations, such as enucleation of tonsils, submucous resection of septum, and the like, I have used this method for bronchoscopies and oesophagoscopies, and have been particularly struck by the ease and quietness of the anaesthesia, and the rapid return to a condition of well-being and comfort after the operation.

The more I see of the anaesthesia produced by nitrous oxide and oxygen with rebreathing in combination with ether or C.E. mixture when necessary, the more am I convinced that whilst the anaesthesia is wholly adequate for the surgeon's needs, and can be prolonged as long as is necessary, so that there is no need for hurry on the part of the operator, the condition of the patient, both during and after the operation, is infinitely better than with ether, chloroform, or mixtures thereof.

To give but one instance. Even if the patient is "sick" after the anaesthetic, he does not have that horrible sickly smell of ether or chloroform hanging about himself and the room for hours and it may be days, but he is rid of his anaesthetic mixture in a few minutes, and is his normal self again.

During the administration of this combination of anaesthetics for nose and throat operations I have observed that—

1. Complete relaxation of the jaw is obtained, even in muscular subjects, and with this goes also the relaxation of the soft palate as well.
2. The swallowing and cough reflexes are easily abolished, and yet are restored almost immediately on withdrawing the anaesthetic.
3. The amount of bleeding appears to be less, both during and after the anaesthetic, than with other methods.
4. The rapid recovery to consciousness after the operation is a point of extreme importance, for one never sees patients lying, after the operation, in that deep unconscious state that so frequently follows the administration of chloroform, but on the contrary they are conscious in a few minutes, have a good colour, and are well.

The number of cases that I can now report as having been anaesthetized with nitrous oxide and oxygen with rebreathing, and with ether or C.E. mixture when necessary is—

Administered by H. E. G. Boyle	...	...	2,012
Administered by Captain Trewby and residents at 1st London General Hospital	...	...	1,165
Total	...	...	3,167

There have been no fatal cases.

I regret that circumstances over which I have no control have prevented me from publishing in detail the particulars of a machine that has been made for me for the administration of this anaesthetic, but I hope in the near future to be able to do so.

ON December 10th the Belgian Surgical Society, at its first meeting since July, 1914, elected Professor Depage president. A strong protest was recorded against the infamous manifesto issued in October, 1914, by ninety-three German professors, and a resolution was passed that no intercourse should be held with German scientists until their calumnies, especially those directed against Belgian medical men, have been publicly disavowed.



## HISTORICAL ACCOUNT OF TONSILLECTOMY.

BY

E. E. VIOLET GLOVER, M.D.,

LATE ASSISTANT RESIDENT MEDICAL OFFICER, CITY HOSPITAL,  
BRADFORD.

EXTIRPATION of the tonsils must have been commonly practised at a very early period. The first clear mention of it is made by Celsus (A.D. 10) in his *De Medicina*, cap. vii, sect. 12, but he speaks of excising the tonsils with such familiarity that it was evidently considered a very ordinary procedure. He writes:

Tonsils which remain indurated after inflammation, if covered by a thin membrane, should be loosened by working the finger round them, and then torn out; but when this is not practicable, they should be seized by a hook and excised with a scalpel.

Aetius (A.D. 490) gives the following account of the operation:

The portion which projects—that is, about one-half of the enlarged gland—may be removed; those who extirpate the entire tonsil remove at the same time structures which are perfectly healthy, and in this way give rise to serious haemorrhage.

Paulus Aegineta (A.D. 750) gives precise instructions as to excision of the tonsils.<sup>1</sup> He would not operate on them when inflamed, and describes them as fit for removal when they are white, contracted, and have a narrow base. The head of the patient is held, his tongue pressed down with a spatula by assistants, and the tonsil, being seized and drawn outwards by a tenaculum, is cut out by the root. Albucasis (A.D. 1120) takes Paul of Aegina as his model, and gives the same directions, but he is more cautious in his advice, and dreads haemorrhage.<sup>2</sup>

After this period the operation became almost obsolete, and succeeding writers omit all mention of it. Even Ambroise Paré (1509) advised tracheotomy where serious enlargement of the tonsils exists.<sup>3</sup> Fabricius (1540) believes "the operation is neither easy nor altogether safe."<sup>4</sup> Guillemeau, the pupil of Ambroise Paré, ligatured or cut away the diseased masses, but did not agree with removal of the entire tonsil.

In 1637 Severini, during an epidemic, removed large portions of the glands by caustics, hook, or semicircular knife; but for a whole century afterwards excision of the tonsils was discountenanced. Dionis (1672) opposed altogether the removal of the tonsils,<sup>5</sup> while Sharp (1688), a pupil of Cheselden, also feared to excise the tonsils and condemned the operation,<sup>6</sup> although he removed small portions of the gland by ligature and canter.

The surgical treatise of Heister was the most popular textbook during the first half of the eighteenth century, and his opinion is as follows:

This operation is not only too severe and cruel, but also too difficult in the performance, to come into the practice of the moderns, because of the obscure situation of the tonsils.

After 1740, however, the operation by means of the tenaculum and the bistoury was again much practised, the credit of the revival being largely due to Wiseman.<sup>7</sup> His practice was to ligature the tonsils and then to cut off the projecting portion. From 1757, when Cagüé commenced to excise tonsils at the Hôtel-Dieu of Rheims, excision of the tonsils became one of the recognized operations of surgery, the dread of haemorrhage being proved to be groundless. Instruments were improved, and new methods invented of performing the operation. Almost every eminent surgeon made some modification of the instruments used for the purpose by his predecessors. The method most generally favoured was to employ a bistoury or pair of scissors, the blades being curved or straight; an assistant pressed down the patient's tongue, the surgeon seized the tonsil with a vulsellum, and, drawing it out, cut off as much of it as he could. As late as 1880 many surgeons still operated with the knife or bistoury, but the guillotine and the wire écraseur were then coming into use. A general anaesthetic was seldom given, but sometimes potassium bromide was given in large doses for several days before the operation.

Velpeau (Chassaignac, op. cii, p. 109) reported four cases in which the internal carotid artery was laid open whilst a portion of the tonsil was cut away with the bistoury. About 1875 the common carotid artery was successfully ligatured at the London Hospital for continual

haemorrhage after excision of a tonsil. A tanno-gallic acid gargle was used for persistent oozing, or ice was given to suck,<sup>8</sup> or marsh-mallow lozenges.

The method of Celsus of tearing out the tonsils by the finger was revived in 1860<sup>9</sup> by the Italian Borelli, but again deservedly fell into disrepute.

The fear of haemorrhage was a spectre which dogged the steps of all the early operators on the tonsils, but with newer methods of removal and knowledge of the anatomy of the parts, this is a much rarer complication nowadays.

## REFERENCES.

<sup>1</sup> New Sclenham Society's Translation, vol. ii, p. 297. <sup>2</sup> *Al-Tasrif*, Oxford, 1778, cap. iii, sect. 36. <sup>3</sup> *Chirurgia completa*, Edit. Lugdunensis, Paris, 1340, 585. <sup>4</sup> *Opus Chirurgicum*, 1725. <sup>5</sup> *Chirurgia de op. altius de chirurgie*, 1714, p. 532. <sup>6</sup> *Surgical Observations*, 1761, p. 189. <sup>7</sup> *Eighteenth Century Treatises*, 1754, vol. ii, p. 30. <sup>8</sup> *Medical Times and Gazette*, 1864, p. 631. <sup>9</sup> *Gazzetta Med. Ital., Prov. Sard.*, December 30th, 1861.

OPERATING TO THE CLOCK.<sup>1</sup>

BY

JOHN O'CONOR, M.A., M.D., T.C.D.,

SENIOR MEDICAL OFFICER, BRITISH HOSPITAL, BUENOS AIRES.

RECENT reports of the treatment of war wounds by Sir Anthony Bowlby and others, in which particular stress has been laid on the necessity for operative rapidity in grave cases, tend to diminish the diffidence which one naturally feels in publishing personal matter, and to strengthen the conviction previously expressed, that more lives may be saved by surgeons "putting themselves under the authority" of the clock than probably has been heretofore generally appreciated.

In operative surgery, as in sport, there are some who focus the situation and put their ideas into action more promptly than others, but this by no means implies that the lightning operator or fast player is necessarily the best exponent.

Celerity in operation, apart from cinema or sleight of hand exhibitions, is, and always must be, sternly subject to one irrefragable law—there must be no scamping of the cardinal principles of surgery. Any infraction, notably inadequate attention to injured blood vessels, interferes with the physiological repair of wounds,<sup>2</sup> and not infrequently determines the fate of the patient. But given conscientious workmanship, it is reasonable to infer that the success of many desperate operations must be in ratio to the time occupied in their performance, since experience has amply proved that the longer the exposure the greater becomes the risk of shock and other complications.

The publication of this series of 1,200 and odd operations, each completed within twelve minutes, a number limit suggested by clock (and which contains 1,000 operations concluded within a ten minute limit), is solely intended to impress on surgeons, who may not, as yet, have found their stride, that design, detail, and execution form an interdependent trio, which by constant association and practice develop automatic co-ordination between the brain and hands, admitting of concentration and rapid application, with a corresponding economy of time, which may, in some instances, be the vital factor in the operative result.

A glance at the appended list will suffice to demonstrate that most of these operations are simple repetitive ones, and consequently renders it obvious that personal dexterity becomes a very secondary consideration in comparison to the methodical arrangement of the procedure; I have little hesitation in stating that, irrespective of the magnitude of the operation, it is the minute study of details and the correct order of their application which constitutes good workmanship. If I were asked what detail in particular merits most attention, the reply would be: keeping the parts from start to finish under manipulative domination, as there is nothing so prodigal of blood and time and nothing so bewildering as to allow severed structures—for example, the flaps of an amputated cervix uteri, the stump of a subtotal hysterectomy, or the incised wounds of a gastro-enterostomy—to slip out of control at the crucial moment and flood the whole field with blood. Also I think that there is nothing so conducive to expeditious surgery as knowledge of the anatomy of the part, nothing so detrimental as unnecessary chatter, and there is no greater handicap than that obsession of overcare which often ends in fumbling into or laying the very traps which the indecisive brain is labouring to avoid.



## Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

Operation.	Minutes.
Appendectomy, <sup>1</sup> some with drainage	24
Salpingo-oophorectomy, single ... (11)	1 7 2 3 6 1
Salpingo-oophorectomy, double ... (6)	1 2 2 3 5
Pyosalpinx (single); extirpation, drainage	1 2 2 3 5
Oophorectomy, single ... (1)	1 1 1 1 2
Oophorectomy (single); appendectomy	1 1 1 1 2
Oophorectomy (double); appendectomy	1 1 1 1 2
Hydatid tumour of omentum, enucleation	1 1 1 1 2
Extruterine gestation <sup>1</sup> ... (1)	1 1 1 1 2
Hysterectomy, vaginal ... (14)	1 1 1 1 2 3 2 4
Celio-hysterectomy <sup>2</sup> ... (16)	1 1 1 1 2 3 2 6
Hysterectomy and appendectomy	1 1 1 1 2 3 2 1
Omphorhaphy ... (15)	1 1 1 1 2 3 2 1
Cervix uteri, excision ... (11)	1 1 1 1 2 3 2 1
Cholecystectomy, drainage <sup>1</sup> ... (15)	1 1 1 1 2 3 2 1
Cholecystostomy ... (8)	1 1 1 1 2 3 2 1
Cholecholestomy, drainage ... (2)	1 1 1 1 2 3 2 1
Celio-hepatotomy (marsupialization; by drain) <sup>1</sup> ... (15)	1 1 1 1 2 3 2 1
Celio-hepatotomy (abscess), drainage	1 1 1 1 2 3 2 1
Hepatomomy, transhepatic; excision of rib; marsupialization <sup>1</sup> ... (25)	1 1 1 1 2 3 2 1
Nephropexy (Lano's operation) ... (21)	1 1 1 1 2 3 2 1
Nephro-lithotomy (single); drainage	1 1 1 1 2 3 2 1
Nephro-lithotomy, lumbar (double); large impacted "funnel calculi"; urethra recovery ... (1)	1 1 1 1 2 3 2 1
Decapsulation of kidney (double Kidwell's operation) ... (1)	1 1 1 1 2 3 2 1
Prostatectomy, suprapubic; drainage	1 1 1 1 2 3 2 1
Lithotomy, suprapubic; drainage ... (4)	1 1 1 1 2 3 2 1
Urethrotomy, ext.; perineal vesical drain- age; Wheelhouse operation ... (1)	1 1 1 1 2 3 2 1
Urethrotomy, ext.; perineal vesical drain- age ... (9)	1 1 1 1 2 3 2 1
Hydatid, post-vesical; drainage ... (1)	1 1 1 1 2 3 2 1
Varicocele; excision <sup>5</sup> ... (14)	7 2 4 4 6 4 2 9 1
Hydrocele; excision <sup>1</sup> ... (5)	1 1 1 1 2 3 2 1
Hernia, femoral (Bassini) ... (5)	1 1 1 1 2 3 2 1
Hernia, inguinal, radical cure (Bassini Hastled, O'Connor <sup>6</sup> ) ... (80)	1 1 1 1 2 3 2 1
Hernia, strangulated inguinal ... (1)	1 1 1 1 2 3 2 1
Hernia, umbilical ... (17)	1 1 1 1 2 3 2 1
Hernia, ventral <sup>1</sup> ... (19)	1 1 1 1 2 3 2 1
Hæmorrhoids (modified Whitehead op.) ... (201)	5 26 30 2 34 44 7 1
Pruritus ani (Ball's operation) ... (2)	1 1 1 1 2 3 2 1
Post-colic abscess; drainage ... (2)	1 1 1 1 2 3 2 1
Empyema; excision of rib; drainage ... (2)	4 1 2 2 1 2 2 4 2
Hydatid of lung; excision of rib; mar- supialization <sup>8</sup> ... (5)	1 1 1 1 2 3 2 1
Hydatid of pleura; excision of rib; drainage ... (2)	1 1 1 1 2 3 2 1
Gastrostomy ... (2)	1 1 1 1 2 3 2 1
Celiotomy ... (4)	1 1 1 1 2 3 2 1
Mesenteric serous cyst; drainage ... (1)	1 1 1 1 2 3 2 1
Hydatid of mesentery; enucleation ... (1)	1 1 1 1 2 3 2 1
Arthrotomy of ankle; drainage ... (5)	1 6 2 1 2 8 5 1
Arthrotomy of elbow ... (2)	1 1 1 1 2 3 2 1
Arthrotomy of hip ... (2)	1 1 1 1 2 3 2 1
Arthrotomy of knee <sup>10</sup> ... (115)	8 5 2 5 6 1 7 12 5 6
Arthrotomy of shoulder ... (6)	1 1 1 1 2 3 2 1
Arthrotomy of wrist ... (17)	4 5 7 1 1 1 1
Excision of hip (head of femur) ... (1)	1 1 1 1 2 3 2 1
Fractured patella—sutured ... (1)	1 1 1 1 2 3 2 1
Fractured tibia—Lane's plates <sup>1</sup> ... (3)	1 1 1 1 2 3 2 1
Cancer of tongue ... (2)	1 1 1 1 2 3 2 1
Amputation of breast (mastitis and ad- enoma) ... (17)	1 1 1 1 2 3 2 1
Semilunar cartilage excision <sup>1</sup> ... (2)	1 1 1 1 2 3 2 1
Sensile nerve stretching (open op.) ... (14)	2 1 1 1 2 3 2 1
Thyroid cyst excision <sup>1</sup> ... (1)	1 1 1 1 2 3 2 1
Variocoelex excision <sup>11</sup> ... (1)	1 1 1 1 2 3 2 1
Cervix (excision) ... (1)	2 1 1 1 2 3 2 1

The figures in brackets in the first column represent the total number of cases for each operation.

As to the personal equation I have nothing to remark except that the time resultant in my operations is largely due to the stimulating anticipatory help of loyal assistants.

In conclusion I wish to add that I never take the time of any operation; this is always done independently by two assistants, who likewise attend to the instrument and sponge count, and who transmit their figures directly to the hospital registrar, to whom I am indebted for all the enclosed figures.

## REFERENCES.

Two Years' Operating to the Clock. *British Medical Journal*, 1914, 1, 121. <sup>1</sup> An animal Wound Technique. *Annals of Surgery*, 1913, 1, 13. <sup>2</sup> Controversy of the Uterus. *Annals of Surgery*, 1913, 1, 13. <sup>3</sup> Cholecystectomy. *Lancet*, September 20th, 1915. <sup>4</sup> Radical Cure, Varicocele. *Lancet*, December 12th, 1914. <sup>5</sup> Radical Cure. *British Medical Journal*, July 18th, 1914. <sup>6</sup> Radical Cure. *Lancet*, September 24th, 1910. <sup>7</sup> Pulmonary Hydatids. *Lancet*, May 23rd, 1905. <sup>8</sup> Fixation. *Annals of Surgery*, January, 1915. <sup>9</sup> Streptococcal Arthritis. *Lancet*, July 26th, 1914. <sup>10</sup> Radical Cure. *Lancet*, October 14th, 1910.

THE AGE INCIDENCE OF THE PREVAILING  
EPIDEMIC OF INFLUENZA.

HAVING observed every epidemic of influenza since 1889 I have been much impressed by the liability of the present influenza to attack children and young adults. During the last three months I have seen several hundred cases, and only two of these (both very mild ones) have been over 50 years of age; in fact, most have been well under 40.

This is very different from all my previous experience, in which no age was exempt. Can the reason be that in this epidemic a streptococcus is the active agent? If so, the present epidemic resembles scarlet fever, also a streptococcal disease, in which the age incidence is most marked in children and young adults, and people over 50 are almost immune. If, on the other hand, a streptococcus is the active agent, is it not strange that the visible changes in the throat are so little marked, for I have not seen a single case in which follicular tonsillitis or enlarged cervical glands were present?

Bedford,

W. GIFFORD NASH, F.R.C.S.

SURGICAL EMPHYSEMA DUE TO PERFORATION  
OF THE LEFT BRONCHUS.

On November 1st I saw a child, aged 4 years, who was stated to have had influenza about a fortnight previously, leaving him with a cough which had been better the last few days. On the morning of November 1st he seemed in much better health; but he did not eat breakfast, and on picking him up in order to dress him the mother found that his body was swollen.

On arriving at the house about 11 a.m. I found the whole trunk, neck, and the right eyelids were greatly swollen and of a doughy consistency, but no crackling could be elicited. At 11.45 the left eyelids became swollen, and the swelling extended down the arms. By 12.45 the swelling had extended to about the middle of the forearms and down the thighs almost to the knees. A tympanic note could be obtained on percussion over any part of the swelling, and emphysematous crackling could be elicited on palpation. The swelling of the eyelids was so great that on attempting to separate them the inner surface of the lid became everted, obscuring the eyeball, and the scrotum was blown up to the size of a billiard ball. The child died at 12.55.

At a post-mortem examination made by Captain H. C. Tayler, at 3.30 the same day, the swelling was of the same extent, and on making an incision over the sternum the air could be heard escaping from the tissues; this was much more marked on opening the left pleura. The tissues in the anterior mediastinum were of a frothy appearance; both lungs were collapsed and congested. The heart, lungs, and trachea were drawn out and separated by cutting above the larynx, and some pus was discovered in the nasopharynx; no appearance of an abscess was found in this position, but on slitting the trachea longitudinally more pus was found at the bifurcation and could be squeezed from the left bronchus. On opening the bronchus a perforation about one-sixteenth of an inch in diameter was discovered just beyond the bifurcation of the trachea apparently connected with what seemed to be a suppurating lymphatic gland; and through this, no doubt, the air was forced by the movements of respiration.

Eastleigh.

R. R. GARRETT, M.R.C.S., L.R.C.P.

LEVADETI reported to the Société de Biologie, Paris (November 16th), the curious observation that a wound which has been infected by streptococcus is little likely to be reinfected by the streptococcus from another wound in the same individual, and that the same is true of an attempt to reinfected the wound with a cultivation of the streptococcus from the man's own wounds. On the other hand, the wound can be reinfected by the introduction of a virulent streptococcus from another person. Such an observation is rather bewildering, but the most probable explanation seems to be that the virulence of the streptococcus is reduced during the process of cure. At a previous meeting he had stated that the streptococcus disappeared from wounds treated with a lipovaccine and an ether-sensitized vaccine made from the streptococcus.



## Reports of Societies.

### LETHARGIC ENCEPHALITIS.

At a meeting of the Medical Society of London, held on December 9th, the President, Major A. F. VOELCKER, being in the chair, Colonel E. FARQUHAR BUZZARD read a paper on lethargic encephalitis. He thought that the medical profession had never realized that encephalitis, or inflammation of the brain, was by no means an uncommon condition. He was convinced from his own experience that a large number of cases of epilepsy, of mental deficiency, of hemiplegia, and of diplegia, were the permanent results of attacks of encephalitis occurring in early childhood, many of these disabilities dating from an illness occurring in the first few years of life, the history being that a healthy child had been taken ill suddenly with convulsions, fever, vomiting, etc., and that the diagnosis of meningitis, or gastritis, or teething, had usually been made; he thought that this large group of cases could be properly attributed to the virus of poliomyelitis. It should be remembered that there was a form of encephalitis which had the constitutional disturbances, the age incidence, the seasonal exacerbations, the sporadic and epidemic types, and the immunity from second attacks which were shared by measles, scarlatina, and other acute specific fevers, and that it presented an inflammatory lesion of a particular tissue in the same way as typhoid fever, diphtheria, and small-pox displayed inflammatory lesions of other tissues. This form of encephalitis had been shown to be due to the virus of poliomyelitis, and it should be noted that the disease was an acute one, running its course in a few days, but often leaving permanent results in the form of paralyses, mental defects, and epilepsy.

Lethargic encephalitis was an entirely different disease, the symptoms often being present for days or even weeks before the intensity of the process reached its height; the age incidence and seasonal incidence also were entirely different from those of poliomyelitis.

Three groups of cases were recognizable: (1) Those in which the infection mainly attacked the brain stem, the patients suffering from asthenia, lethargy, and disorders of ocular movements such as strabismus, diplopia, nystagmus, and ophthalmoplegia. (2) Those giving the clinical picture of acute paralysis agitans, with the same constitutional disturbances, but displaying no oculo-motor signs or symptoms. These were examples of encephalitis with its chief incidence on the basal ganglia, and in particular perhaps on the globus pallidus. (3) A third group, which he intended to consider, in which the force of the inflammation was spent upon the cerebral cortex, causing difficulty in diagnosis in regard to the possible presence of cerebral tumour, cerebral abscess, or cerebral haemorrhage. An account was then given of four fatal cases, in two of which Colonel Sargent had operated on account of obviously increased intracranial pressure. All four patients were over 40 years of age, but none of them presented cardio-vascular changes suggesting the possibility of cerebral haemorrhage as a diagnosis. In none did the clinical history conform closely to that of cerebral haemorrhage, but suggested some more subacute lesion, and naturally gave rise to the question of abscess or syphilitic thrombosis. In all four cases the Wassermann reaction of the cerebro-spinal fluid was negative. He had learnt from this experience that patients over 40—and even over 50—years of age might be the victims of encephalitis producing the general symptoms of hemiplegia, aphasia, hemianaesthesia, or hemianopia, and that a naked-eye examination of a brain on the post-mortem table was not sufficient to discriminate between an ordinary cerebral haemorrhage and a haemorrhage which was only an accidental occurrence in the course of an encephalitis. When no gross signs of disease were obvious in the cerebral arteries to account for a haemorrhage, it was essential that microscopical investigation should be carried out in order to determine the cause for the blood extravasation. We must look on the presence of thrombosed cortical veins associated with haemorrhage in the neighbouring brain substance as strongly indicative of an inflammatory process.

Microphotographs were shown illustrating the pathological lesions found in the brains of the patients whose histories had been given, the remarkable way in which the vessels of the brain reacted to this inflammatory

process being apparent. The chief features were: (1) perivascular infiltration, mainly with small round cells; (2) small capillary haemorrhages, suggesting a gradual oozing of blood through the damaged walls of small veins and capillaries; (3) thrombosis of small and middle sized vessels in different states of organization; (4) ischaemic softenings presenting the appearance of the haemorrhagic infarction seen in other organs; (5) subarachnoid haemorrhages and cellular infiltration of the leptomeninges; (6) general neuroglial proliferation; (7) changes in nerve cells, which in some places showed chromatolysis and in others a process resembling coagulation necrosis.

Lethargic encephalitis was not a new disease, endemic cases occurring from time to time. We were not yet in a position to say what was the nature of the infection, or to point to any method of treatment likely to abort or cure the disease. The experience of these four cases led him to think that operative intervention in the way of decompression was really contraindicated in spite of the presence of increased intracranial tension. Three of the patients died, partly at any rate, from haemorrhage, and it was hard to believe that decompression could be beneficial when this haemorrhagic tendency existed.

With regard to prognosis, at present we could only say that some cases recovered completely, others survived the acute stage but carried with them in after-life permanent defects due to the morbid process, whilst a certain number died either from toxæmia or haemorrhage in the acute illness, or from some complication following it.

Lieut. Colonel PERCY SARGENT spoke of the appearance of the brain, etc., during life, as seen at the time of operation. The dura mater was friable or thickened, and there was blood on the surface; the cortex was friable. Operation had been of no use in either of these cases, but might prolong life. A better method might be repeated lumbar puncture.

Dr. F. G. CROOKSHANK, speaking from the epidemiological point of view, said that we had no right to distinguish between epidemic prevalences and to say that they were due to a different disease because of difference in seasonal and in age incidence.

Captain J. G. GREENFIELD agreed that it was not a new disease. There was negative evidence from the clinical, bacteriological, pathological, and epidemiological points of view that it was not the same disease as poliomyelitis. Positive evidence showed that poliomyelitis was a lymphogenous infection—was carried by the lymph stream—whereas this was a haematogenous infection, the blood vessels bearing the brunt of the disease.

Dr. EDMUND CAULEY also spoke.

Colonel BUZZARD, in reply, agreed that if one could recognize these cases for certain one would not decompress. With regard to Dr. Crookshank's contention, he said that encephalitis was a prevalent disease. From the clinical standpoint there was a form of encephalitis like poliomyelitis and due to the same virus. From the pathological side he had examined numerous cases of encephalitis of the poliomyelitis type, and in these it was difficult to say where the infection began or ended—the whole nervous system was affected. In lethargic encephalitis, on the contrary, the condition was patchy. Poliomyelitis was an inflammation of the nervous matter; lethargic encephalitis was an inflammation of blood vessels with consequent effect on nervous tissues.

### COMPLICATED PREGNANCY.

At a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, held on December 5th, the President, Dr. J. D. MALCOLM, in the chair, Dr. G. DRUMMOND ROBINSON showed a skiagram of a foreign body in the gravid uterus. The patient, an unmarried woman, was admitted to hospital with a history that, thinking she was pregnant, she had tried to pass a crochet needle, the hook end of which was covered by a metal cap, into the uterus per vaginam. On withdrawing the crochet needle she was alarmed to find that the cap had not come away with it. She had haemorrhage from the vagina, and, becoming frightened, came to the hospital. The uterus was bulky, and the os slightly patulous. No part of the metal cap could be felt, but it was clearly seen in several x-ray photographs. Shortly after the skiagrams were taken the patient passed a two-months ovum, together with the metal cap, spontaneously during an action of



the bowels. The cap was two and one-tenth inches in length. Dr. Drummond Robinson also read a communication on a case of labour in a paraplegic woman. The patient, aged 31, had had seven children; she was admitted to Westminster Hospital in August, 1909, under the care of the late Dr. R. G. Hebb, suffering from paraplegia of recent origin probably due to transverse myelitis in the dorsal region of the cord. Examination in October revealed that the patient was three months pregnant, and she was transferred to the obstetric ward under the care of Dr. Drummond Robinson. During the time that preceded her confinement in April, 1910, she suffered from bedsores, many rises of temperature, two attacks of congestion of the lungs, and offensive urine. The gravid uterus increased in size abnormally slowly and at the full term was only as large as an ordinary seven months uterus. Labour took place 281 days from the cessation of the last menstrual period. It was painless but otherwise entirely normal. Involution and lactation were normal. In 1897 Dr. Amand Routh read a paper before the Obstetrical Society in which he gave notes of seven similar cases, the only ones up to that date recorded in medical literature (the most recent occurring in 1874), together with notes of a case of his own. Since that date no other similar case had been recorded. The fact that parturition and lactation occurred normally in these cases, and in animals after removal of the lumbar part of the spinal cord, suggested that these functions were carried on without the aid of the higher nerve centres. The physiological stimulus to both these functions appeared to be the result of some chemical substance or substances probably produced in some part of the reproductive system and conveyed direct to the uterine muscle and mammary gland by the blood stream. This view was supported by the most recent experimental research.

Mr. CLIFFORD WHITE showed microscopic sections of small portions of the kidney removed during nephrotomy on two patients suffering from puerperal anuria. In both patients the partial suppression of urine had lasted some ten days, and in both immediate recovery followed incision of the fibrous capsule of the kidney. The chief change shown by the microscopic sections was marked dilatation of the tubules. Thrombosis of the vessels was absent. It was suggested that in cases of puerperal suppression of urine the inflammatory swelling, producing increased tension within the fibrous capsule of the kidney, caused pressure on the collecting tubules and so prevented urine reaching the ureter. This was supported (a) by the fact that in some eclamptic patients passing little water the kidney was hard on direct palpation during Caesarean section, (b) by the dilatation of the tubules present in portions of the kidney removed during operation while the suppression still continued, and (c) by the presence of casts immediately after incision of the capsule although they had been previously absent.

Dr. LAPHORN SMITH said that there were no doubt cases like this where suppression was due to pressure on the tubules. In eclampsia he thought the suppression was due to pressure on the large veins, and as soon as this was removed the blood could circulate.

Captain G. S. FAIRBANKS said that many cases of suppression had no eclampsia at all, and often no symptoms except coma. He disagreed with the previous speaker. In eclampsia it was a toxin which caused the damage, and opening the capsule would do little good.

Dr. RUSSELL ANDREWS said that anuria was only part of eclampsia; the most remarkable part was the profound toxæmia.

### SPINAL ANAESTHESIA.

At a meeting of the Section of Anaesthetics of the Royal Society of Medicine, held on December 6th, the President, Mr. LLEWELYN POWELL, being in the chair, Mr. F. S. ROOP opened a discussion on the present position of spinal anaesthesia. He said that he had always used stovaine except in about 250 cases in which novocain had been employed, but he preferred stovaine, as the muscular relaxation was more complete. A 5 per cent. solution of stovaine was used, to which was added 5 per cent. of dextrose. Being heavier than the cerebro-spinal fluid, the position and extent of the anaesthesia obtained with it could be regulated by the position of the patient during injection. He had used

stovaine in saline in a few hundred cases, but found it was impossible beyond a certain point to limit or increase its action except by increasing the dose, and then only very slightly; the anaesthesia produced was found to be more transient, and it was generally necessary to employ almost double the dose of stovaine to produce equally long anaesthesia. During the injection and for the first few minutes afterwards the patient's head and the cervical part of the cord must be kept raised. The stovaine became fixed in about three to five minutes, and after this time he had found it impossible to increase the height of the anaesthesia. In a few minutes the patient was allowed to lie quite flat, and it was found that in this position a fall in blood pressure had been much less common, and there had been no cases in which stovaine had risen to a dangerous level.

The disadvantage of the conscious patient was overcome by the addition of twilight sleep or a little general anaesthetic. For severe operations he usually produced anaesthesia with ether, then injected the stovaine and kept the patient just unconscious by slight whiffs of ether. Out of about 8,000 cases, which included patients of all ages, from infants of a few hours to patients of eighty years, he had had two deaths. The results obtained in young children were very satisfactory. Infants required a relatively larger dose of stovaine than adults, 2.5 cg. being required for the smallest babies. The complications met with had been three in number:

1. Interference with the respiration owing to stovaine reaching too high a level had been very rare, and usually occurred in children or in patients who, for some reason, could not be got into a proper position before injection. Usually a little oxygen relieved the condition.

2. A fall of blood pressure caused the majority of difficulties. It was more common in earlier cases, but had been much less frequent since the adoption of the recumbent position.

3. Vomiting occurring during the operation seemed to depend upon the height of the anaesthesia, being rare if the stovaine affected the lumbar and sacral plexuses only. Measures directed to raising the blood pressure relieved this symptom. Post-anaesthetic vomiting was very rare.

Headache was more common in the conscious patient, and there was less likelihood of it occurring if the patient was moved very carefully after the operation. Out of about 20,000 cases of which he had actual personal knowledge in none of them had there been any permanent paralysis of muscles, abolition of sensation, or any trophic lesion, with the exception of three cases of paralysis of the external rectus muscle of the eye, which lasted about three weeks. Spinal anaesthesia was of great advantage for cases such as the following: Amputations for diabetic gangrene; operations of emergency which could not be done under a local anaesthetic, in patients suffering from acute respiratory diseases; acute or chronic septic conditions with considerable toxæmia; severe operations in young children; all operations associated with shock, such as Wertheim's operation, and various procedures for removal of the rectum; such operations as the radical cure of a large and irreducible hernia in a fat and muscular subject; and prostatectomy. Spinal anaesthesia should never be administered to patients who were likely to be affected seriously by a fall in blood pressure. It protected patients from the onset of shock due to severe and prolonged surgical procedures, but should never be administered to patients who were suffering from shock at the time. It might be useful in mitral disease with pulmonary congestion, but should never be used in aortic disease.

Mr. P. LOCKHART MUMFERY said that spinal anaesthesia protected patients from pain but not from fear. Inhalation anaesthesia protected from fear but not from afferent impulses reaching the brain from the site of operation. Fear affected the patient as much as pain in producing a lowered blood pressure, therefore it was advisable to use both forms of anaesthesia. The great advantage of spinal anaesthesia was that it did not produce vomiting, so that the patient could be fed until just before the operation, and food could be given immediately afterwards. This made a marked difference in the condition of the patient and the results of operation. He had reduced his mortality from excision of rectum to about 5 per cent. in the last five years. Under spinal anaesthesia the



patient was at the mercy of gravity, and must be kept head downwards.

Mr. P. P. COLE said that, with regard to prevention of shock, the posture and the maintenance of the same position after the operation were both very important. The elimination of vomiting by spinal anaesthesia was necessary where there was strain on the stitches. It was invaluable in prostatectomy and for all urethral work. With it he had never found an impassable stricture. It was also useful in emergency operations in acute abdominal conditions where the surgeon was single-handed.

Mr. ROBERT DONNELLAN preferred the saline form because the operation could be begun at once, and pallor, sweating, shock, and collapse were less than with the glucose solution. Nervous patients suffered more from shock, sweating, etc., than others. He had had a certain number of cases of retention of urine due to atony of the bladder, which required catheterization for some days.

Mr. H. M. PAGE preferred the saline solution. He had seen no vaso-dilatation, shock, collapse, etc., if the patient were in the Trendelenburg position.

Dr. F. E. SHIPWAY said that the fall of blood pressure depended less on the type of solution used than on the paralysis of a large portion of the musculature.

Dr. J. BLUMFIELD thought that Crile had underrated the power of general anaesthesia in preventing shock. It was difficult to produce shock in anaesthetized animals. Spinal anaesthesia was of most value combined with general anaesthesia.

Mr. ROOD, in reply, said that a fall of blood pressure superimposed on shock was dangerous. If the patient were in such a condition it was unsafe to give an anaesthetic which cut out the splanchnics. He had never seen a case of continuous retention of urine.

## Reviews.

### TRAINING AND REWARDS OF THE PHYSICIAN.

THE small volume recently published by Dr. R. C. CABOT under the title of *Training and Rewards of the Physician*<sup>1</sup> deals with a subject which possesses a personal interest for every member of the medical profession. Dr. Cabot evidently believes that the doctor is born rather than made, though he admits that "training, especially the trainer, counts for something." Post graduation instruction, which is the most valuable of all teaching in that it is given to men whose previous education enables them to appreciate its worth, and whose ambition to add to their store of knowledge prompts them to seek it, is, according to the author, better provided in America than elsewhere. But his enthusiasm for the institutions of his own country carries him too far when it betrays him into saying that "the majority of Americans who have gone to Europe in recent years for general medical improvement have, I think, wasted their time."

It is interesting to learn that of 132 practitioners who responded to the question, "What, if anything, was lacking in your medical course to fit you for your particular work?" no fewer than fifty-eight acknowledged their greatest deficiency to consist in an inadequate knowledge of pharmacology and therapeutics. It would seem that in America, as in England, there is urgent need for some revision of practical tuition in this important subject.

In discussing the training of the physician, apart altogether from his educational accomplishments, many arts not taught in medical schools are referred to in this small volume as necessary assets for the successful practitioner: he must know how to deal with people; he must learn "to touch, to reach, to control his patients"; he must select "good talking points that are worth memorizing and using again and again"; he must "avoid antagonizing his patient whenever this is possible without dishonourable submission"; he must encourage the sick man to "face the very worst that can happen"; and so on. All this means surely, when boiled down, a dissertation on the necessity for tact as a fundamental part of the equipment of the successful man whether he be a doctor or a merchant. But the psychology of tact is not to be found

in books, and this brings us back to the belief enunciated in the earlier pages of this book, that the doctor who proves himself suited to his job is, like other successful men, born, not made. Tact, sympathy, patience, and self-denial must be part of his make up, else all the acquisition of scientific knowledge, bedside mannerisms, and opportunism will prove so many Dead Sea apples.

Dr. Cabot enumerates many reasons for failure in practice—men who fail "do not keep up with medical progress"; they drop out by reason of bad habits, especially alcoholism and morphinism; "they chose the wrong place to settle in"; to them "the whole work of professional life is against the grain"; they have indecision as a fault of their character; they cannot adapt themselves to their surroundings; "cannot get on with their fellow-practitioners, and are always in hot water over some trifle." But all these reasons for failure are personal and cannot be regarded as more than incidental in the progress of professional success. To each man possessed of tact and common sense they are difficulties by the way which arise only to be overcome.

Among the factors of success Dr. Cabot enumerates "good training, good health, fitting temperament, right choice of his field of practice," and so forth. He also classifies as elements in prosperity, devotion to duty, a "gift of the gab," the assimilation and promulgation of new ideas, and resourcefulness. He believes in "group medicine, or the effort of doctors and others to work in turns, with proper subdivision of labour and specialization of function, such as are characteristic of other departments of industry." Most of the personal characteristics referred to are elemental conditions of success in any walk of life, and have no special bearing on the practice of medicine. The value of "group medicine" in civilian practice is at present *sub judice*, and the possible risk it connotes of curtailing the freedom of action of the general practitioner—who is, after all, the bedrock of the profession—causes to some observers a sense of uneasiness and doubt as to its wisdom.

As regards the rewards which may be expected to accrue from professional work, Dr. Cabot says truly that few doctors have ever grown rich from their medical fees, and, in his opinion, incomes are likely to be smaller rather than larger in America, where the average man, he says, is fond of bargains in any department of his existence, and forever hopes to get "a good article for his money." But if a large income cannot be the doctor's reward, he reaps some recompense from the gratitude of his patients, from the consolation of public approval for work conscientiously and laboriously accomplished, and from the personal sense of satisfaction that, in however small a degree, a trifle has been achieved from one's life work towards lessening the sum total of human misery and suffering.

The rewards of medicine are greater than we who belong to the profession are willing to admit, and they are worth working for even if they bring very seldom either fame or fortune. Dr. McLure, the hero of Ian MacLaren's wonderful Scottish story, epitomized these rewards in the record of a lonely Highland practice where a long life of unselfish and arduous toil assured for him in the end neither worldly success nor posthumous fame, but the greatest of all epitaphs, "Well done, good and faithful servant."

### FORENSIC PSYCHIATRY.

THE total failure of legal methods—namely, the investigation and punishment of the offence—has led to a much broader conception of criminology and to an intensive study of the individual delinquent from all points of view, but especially from that of psychopathology; it is the criminal not the crime that must be dealt with. This is the motif of Dr. GUECK's *Studies in Forensic Psychiatry*,<sup>2</sup> the second of the criminal science monographs which, following the lines of Kraepelin's school, give an analysis of criminal types by clinical psychopathological investigation of cases in the criminal department of the United States Government Hospital for the Insane. In the first chapter, on the psychogenesis of prison psychoses, the effect of the shock of conviction and

<sup>1</sup> *Training and Rewards of the Physician*. By R. C. Cabot, M.D. Philadelphia and London: J. B. Lippincott Co. 1918. (Gr. 8vo, pp. 153; illustrated. 5s. net.)

<sup>2</sup> *Studies in Forensic Psychiatry*. By Bernard Gueck, M.D. Criminal Science Monograph No. 2. London: William Heinemann. (Pp. 269. 16s. 6d.)



of the environment of prison life is considered, and the hysterical or degenerative nature of Ganser's symptom-complex or "twilight state" is discussed with illustrative examples. In the history of the prison psychoses are reflected the various views that in their day have dominated psychiatry. At the present time one school regards the prison psychoses as identical with those in the outside world, at most modified by the surroundings, whereas the other maintains that they are the product of predisposition and external factors.

The acute psychosis following a crime and arrest, to the lay mind obviously suggesting malingering, is comparable to the amnesia of an examination candidate who may forget his own name. The psychosis is the result of the shock following arrest, and is therefore, from a legal point of view, no excuse for the crime, but its occurrence is evidence of a degenerate personality. The prognosis of the acute prison psychoses is good and removal to a hospital usually effects a cure. A distinction is drawn between these acute psychoses in prisoners awaiting trial and often for the first time in conflict with the law, and the mental disorders of convicted and generally habitual criminals. The incorrigible criminal when free from psychoses does not come within the province of an insane hospital. He should not be sent to a penal institution as he exerts an evil influence on the as yet uncorrupted criminals, but, as he belongs to a distinct and undesirable species of humanity, should be segregated into a specially designed colony under the supervision of a psychopathic physician. A chapter is devoted to the litigious form of paranoia, a specially important subject from the forensic point of view. Malingering, discussed in the next chapter, is regarded as a form of mental reaction, manifested chiefly if not exclusively by those of an inferior mental make-up; like lying and deceit generally, it is not always a conscious act for a definite purpose, but not infrequently it is determined by instinctive biological forces over which the individual has little or no control. The last of these interesting collected papers is an analysis of a case of kleptomania. Owing to unavoidable circumstances this review is considerably delayed, but it is none the less sincerely appreciative.

#### NOTES ON BOOKS.

DR. MITCHELL BRUCE's small handbook on *Materia Medica and Therapeutics*<sup>3</sup> has for thirty-four years enjoyed great popularity amongst medical students and practitioners, and it would be difficult to find a better concise introduction to the rational use of drugs in the treatment of disease. The eleventh edition has now appeared. During the process of revision important changes were made in the *British Pharmacopoeia* owing to the increasing scarcity and cost of many drugs, and these have been incorporated within the text, while the substitute preparations of the War Emergency Formulary have also been included. Further, a new section on prescribing as affected by the war has been added to the introduction. Beyond these war-time modifications the manual has been revised throughout in the light of the most recent advances in pharmacology and therapeutics, and the descriptions of certain non-medicinal measures, such, for example, as electrical treatment, massage, and exercises, have been expanded somewhat. The subjects of antiseptics and surgical dressings, which have been so largely developed during the past four years, receive special attention throughout the book.

In the *JOURNAL* of February 24th, 1917, we reviewed at length *Le traitement des plaies infectées*, by Dr. A. CARREL and Dr. G. DEHÉLLY, and a few months later we welcomed the appearance of a good translation of this work by Captain HERBERT CHILD, under the title of *The Treatment of Infected Wounds*.<sup>4</sup> The second edition of the English version contains an account of certain technical improvements which have been effected in the method.

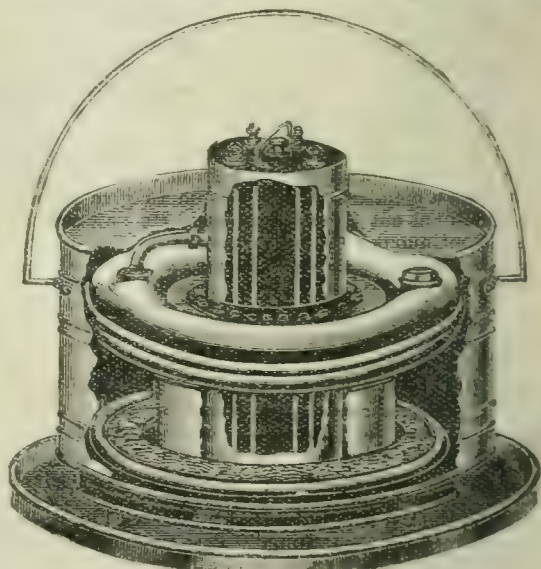
<sup>3</sup> *Materia Medica and Therapeutics: An Introduction to the Rational Treatment of Disease*, by J. Mitchell Bruce, M.A., LL.D. (Hon.), M.D., F.R.C.P., and W. J. Dilling, M.B., Ch.B., Cantab. R.A.M.C.(temp.). Eleventh edition, revised to correspond with the war amendments of July, 1917, and March, 1918. London, Cassell and Co., Limited, 1918. (Fcap. 8vo, pp. 688. 9s. net.)

<sup>4</sup> *The Treatment of Infected Wounds*, by A. Carrel and G. Dehelly. Translation by H. Child, temporary Captain R.A.M.C., with an introduction by Sir A. Bowdler, K.C.M.G., K.C.V.O. Second edition. London: Baillière, Tindall, and Cox, 1918. (Cr. 8vo, pp. 275; 117 figures. 6s.)

#### MEDICAL AND SURGICAL APPLIANCES.

##### *Gabriel's Improved Steam Sprayer.*

MESSRS. GABRIEL AND CO., brassfounders, of A B Row, Birmingham, have for some time been manufacturing and supplying the Admiralty and Ministry of Munitions with a steam sprayer for charging the atmosphere of a room with an antiseptic, and now, at the cessation of hostilities, offer this for general use in hospitals, public health departments, and also domestically. It will be seen from the illustration that the apparatus consists of a portable stand of wrought steel, at the bottom of which is attached a circular metal tray. In this is placed a circular copper burner containing asbestos wool, and arranged to burn methylated spirits. Suspended over this burner is a round copper boiler or jacket, in which is placed the water to generate the steam. In the centre of this water vessel is placed a circular copper boiler, in which is put the liquid to be sprayed. This was made in two halves bolted together, which can readily be taken to pieces for cleaning, but it is intended in future to make it in one piece of spun copper with a screwed cast top for carrying spraying tubes. The top will be readily unscrewed, leaving the



cylinder open for cleansing. The boiler is connected to the water vessel by means of a small bent brass tube. Attached to the top of this boiler and extending to the bottom are placed four copper tubes, and at the top of each is placed a valve with an adjustable cover, to regulate the pressure. This valve has four very fine holes drilled in, and a single hole drilled in the centre of the cap through which the steam and liquid are passed, the fitting being provided with a suitable safety valve. The working of the sprayer is as follows: When the steam is generated in the outer boiler it passes into the top centre vessel through the bent tube into the valve chamber through the four small holes, and draws up the fluid through the four copper tubes into the top valve, where it mixes with the steam, and then passes out through the small hole in the top cap to the atmosphere in the form of a very fine spray. The use of a spray of the original type in the treatment of carrier cases, especially of cerebro-spinal fever, has been on several occasions described in these columns by Colonel M. H. Gordon, of the Cerebro-spinal Fever Laboratory, and others. It has, in fact, been widely used by the army medical authorities in the prevention of diseases due to organisms in the nasopharynx and respiratory passages. It has been found of value in the prevention of diphtheria, purulent bronchitis, and measles. The apparatus is made in three sizes, the largest for hospitals, the medium size for public health authorities, and the small size for domestic use. The sprayer, it is believed, will be of use in school clinics and tuberculosis dispensaries. For these purposes formalin is recommended, but the selection of the antiseptic will, of course, be determined by medical advice in each case.

DR. VINCENT WANOSTROCHT of Market Drayton, who had retired from practice, disposed in his will of a ring containing a lock of Louis XVI's hair given by that monarch to one of his ancestors.



# British Medical Journal.

SATURDAY, DECEMBER 21st, 1918.

## REPRESENTATION.

THE widespread interest a general election must always arouse is increased on this occasion by the extreme uncertainty as to the result. The dislocation of parties and the enormous increase in the number of the electors have dumbfounded the prophets. Even if it be assumed that in constituencies in which there is no woman candidate the women voters, when it comes to the point of voting, will be influenced by much the same considerations as men, it is still, in the unprecedented circumstances of the time, impossible to foresee how the new House of Commons will be constituted.

This uncertainty and the great changes made by the last Franchise Act may dispose some who have not considered the matter before to investigate the machinery of representative government in this country. The first fact that may give them pause is that at more than one general election a majority of the members of the House of Commons has been elected by a minority of the electors. This will prove to any man of scientific bent that the machinery is faulty, and his curiosity will be stimulated by finding that in the universities, with two or more members (the system is not applicable to a single member constituency) the election is to be by the system of proportional representation known as the single transferable vote.

The aim of proportional representation is to secure to minorities their rightful share of representation. The details of the manner in which the method is to be applied in the university constituencies are set out in a schedule to the Act, but those who desire better acquaintance with the arguments upon which the claim for proportional representation rests may be advised to consult a small book by Mr. Fischer Williams, entitled *The Reform of Political Representation*.<sup>1</sup> Though the reform with which his book is concerned is proportional representation, and chiefly that form of it used in the new Act (the single transferable vote), it contains in an introductory chapter a discussion of general principles which, coming from one whose eminence as a constitutional lawyer is well known to members of the Association, seems particularly worthy of their attention.

He combats the contention, popular with some who label themselves advanced political thinkers, that the machinery of representation is unimportant. As the Prime Minister said the other day, there are reactionaries in all parties. The direct importance of the machinery becomes obvious when it is found that, as has been said, the majority of members at a general election has been returned by a minority of electors, and, further, that in a constituency or series of constituencies in the same area the difference between the majority and the minority may be so small that nearly half the electors are unrepresented. It is not a party question—the misfortune has happened to all parties; it is really a question of the application of simple scientific principles to attain an end all profess to desire. "Representative machinery," Mr. Fischer Williams writes, "is not merely a method

of getting things done more or less efficiently. It reacts on the individual citizen. It may depress the individual by treating him as an insignificant unit. . . . It may elevate and stimulate his interests by giving him a real choice as to the person who is to represent him. . . . And as the machinery produces one or other of these effects, so must it be judged as an efficient instrument of popular government. . . . It is not enough that citizens should consent; they should also co-operate, if we are to have a true democracy. The co-operation of all citizens will not only improve government; it will also enable the community to realize its own capacities"; and, finally, "the organ of discussion must be fully representative of all considerable portions of the population whose affairs it is charged to discuss."

These observations must have interest for members of the British Medical Association who desire to see it fully attain the position to which it aspires. The method of proportional representation is sanctioned by the constitution of the Association, and has been used by the Metropolitan Counties Branch in the election of its representatives to the Central Council. It is also used in connexion with the Insurance Acts Committee for the election of six members by the Annual Representative Meeting, and of eighteen direct representatives by Local Medical and Panel Committees. It is also used in the election of eight direct representatives of such committees on the Scottish Insurance Acts Subcommittee. As the method is not applicable to single-member constituencies, and as the constituencies of the British Medical Association (the Divisions) elect each, with relatively few exceptions, one member only of the Representative Body, the proportional method cannot be employed to ensure representation of minorities. The British Medical Association shares this defect with the House of Commons, but the architects of the present constitution introduced a peculiar limitation: they held that a member ought not to be allowed to vote in the election of his representative unless he attended the meeting at which the election was made, and heard the discussion which it was assumed would then take place. They objected to what they termed the "uninstructed vote." The constitution of the Association does, in fact, permit a Division to elect its representative and other officers by voting papers sent through the post, but apparently few Divisions have made use of this method. When the method of election by voting in person is pursued it has not infrequently happened that a meeting attended by half a dozen members, or even fewer, has elected the representative, who then speaks and votes for all the members. Further, as the Association has borrowed from trade unionism the system of the card vote, the representative can dispose of all the votes of the Division when that method of voting is resorted to.

It is unfortunately true that the Association numbers among its members only about half of the medical practitioners of the United Kingdom. The reason for failing to join the Association sometimes given by those who remain outside it is that they cannot consent to belong to an association in the determination of the policy of which they can take no active share. The reason perhaps savours of an excuse, but, as has been shown, it has a certain, not inconsiderable, measure of justification. The prime object of the Association is to embrace and speak for the whole British medical profession, and any stumbling stone or rock of offence should be removed.

That the Council of the British Medical Association recognizes that the feeling to which we have referred

<sup>1</sup> London: John Murray. 1918. (Demy 8vo, pp. 140. 2s. 6d. net.)



exists is shown by its action at its last meeting, when the Organization Committee reported that there existed to some extent among members, and more especially among non-members, an impression that individual members of the Association have practically no voice in the conduct of its affairs, especially when, as is often the case at present, the individual is unable to attend a Division meeting and cannot record his or her vote by post. The Committee advised the Council to point out that it was within the power of constituencies to elect their representatives by postal vote. While agreeing to this recommendation, the Council instructed the Organization Committee to report on the possibility of the extension of the use of the postal vote in the administration of the affairs of the Association.

### THE CULT OF THE EXPERT

THE word "expert" has become very familiar to the English-speaking public. Mr. Lloyd George has expressed his desire for expert criticism, and has even hinted that he will resent any criticism which is not expert, while the medical expert has almost replaced our old friend the "well known Harley Street physician" in the columns of the daily press. The manufacture of experts used to be one of the staple industries of Germany; Professor Huber contrasted English and German university systems to the disadvantage of the former in this particular, his words being: "English scholars live too much in and for the world, so that it is hardly possible for them to develop that species of almost monomaniacal love of the subject of their investigations." It is interesting to consider whether the production of medical experts is an end to be desired, since, as Germany proved, it can certainly be achieved.

Professor Huber's expert is, of course, a specialist, and the usual argument runs that, owing to the complexity of science in general, and of medical science in particular, specialism is a necessary condition of progress, because no man can keep abreast of the advances made in any but a small subdivision of knowledge. Hence, it is urged, the old-fashioned and largely English conception of the scholar and gentleman—the traditional ideal of, for instance, the London College of Physicians—however gracious and humane, must now give place to something more efficient. The old ideal was, and still is, attractive in the abstract, though it may be open to the criticism that was passed on the ancien régime of France—that it would be a fine way of life if there were only lords in the world and lords had nothing to do but to hunt. What we have to decide is an essentially utilitarian question.

In the report of the Medical Research Committee for 1917-18 the following passage occurs: "It has been specially noticeable during the past year that physiology, the science of the healthy living organism and of its reactions to disturbance, has been more and more brought into practical service by special needs revealed by the war. . . . It has often been pointed out that in England the work of the physiologist has been too much divorced from practical medicine, and that the British school of physiology, which by the admission of other nations stands perhaps second to none elsewhere, has not been brought in this country into due contribution to the work of the physician and surgeon. No doubt this is true, and mainly, perhaps, because of the defects in our system of medical education which have allowed the physiologist to remain too much in academic retreat and the

clinician too far from the laboratory and its methods. . . . The Committee believe that physiology will be found to have gained permanently itself while giving aid in these pressing problems of the moment. More than this, they hope that the active co-operation which has been established in more than one direction between the physiologist and the medical and surgical clinician during this time of war may long endure and bring lasting benefit both to the general cause of medical research and, by inevitable reflection, to that of medical education."<sup>1</sup> Now these conclusions, which will be endorsed by any one who has been intimately concerned with wartime scientific work, by no means support the contention that what we chiefly need is a rapid output of specialists; on the contrary, they suggest that we have not had available a sufficient number of generally cultivated men. Much can be done, as the Committee elsewhere points out, to remedy present evils by promoting frequent conferences between specialist investigators dealing with various aspects of a problem. But conditions of space and time set limits to the availability of this expert.

It seems to us arguable that the trend of medical education has already encouraged the expert to an undesirable extent. It was doubtless absurd presumption in the successful London practitioner of a past age to suppose that the possession of a large clientèle entitled him to give scientific law to the medical world, but we question whether proficiency in the study of colloids, for instance, or skill in the manipulation of correlation coefficients, really creates a better title. The difficulty is to steer between the Scylla of an intolerant reliance upon the skill attained through exclusive devotion to a narrow range of intellectual interests, and the Charybdis of a slovenly omniscience. What we have to produce is, as Sir George Newman has said, a man "with a forward-looking mind, able to participate in the growth and development of medical science, trained in the scientific method and inspired by the scientific spirit—in other words, a man of accurate observation, of ability in experimentation, and of sound judgement and interpretation."<sup>2</sup>

There is a further evil associated with the cult of experts which we view with the gravest apprehension. It is the tendency of political adventurers to inculcate upon the public a belief that profound modifications of the public health are immediately practicable, if only a sufficient number of experts are entrusted with public money. Much that has been written on the subjects of tuberculosis and infant mortality by those in authority has been painful reading for the judicious, and we see no signs yet that the tide of rash promises is ebbing. Those who have the ear of the public would do well to preach a sterner and truer gospel. Of the great causes of mortality few, perhaps none, are the mere consequences of extrinsic phenomena controllable by experts. The environment of the wealthy country squires of the early eighteenth century—the Westerns and Osbaldistones—was, as compared with that of our urban slum dwellers, as light to darkness; yet we have no reason to think the average expectation of life in country squires of that age was higher than that of the modern poor, and the explanation usually put forward is the hard drinking habit of our ancestors. Whether the specific explanation be true or false, the general truth of the doctrine it illustrates is beyond dispute: men's habits kill them. Infant mortality was as high in parts of Bavaria,

<sup>1</sup> Fourth Annual Report of the Medical Research Committee. Cd. 8981, pp. 6, 7.

<sup>2</sup> Medical Education in England. Cd. 5124. H.M. Stationery Office, 1918. 1p. 16. Price 5s.



which tourists used to visit in search of health and natural beauty, as in the slums of industrial cities; once again a matter of habits. When the slums have vanished, man will hardly fail to replace some of the dangers he has escaped by others which come at his bidding, and Charon's load may not be much the lighter. The slums must go, as must all other environmental conditions which make it impossible for man to live a healthy life; but the utmost these reforms can achieve is to make a healthy life possible.

In the encouragement of disinterested scientific research, in the raising of the standard of both professional and general education, we shall gradually extend the scope of knowledge and the means whereby that knowledge may be translated into practice. Only in this way can we hope for improvement of the public health. The politician's expert is but a reincarnation of the witch doctor, and must in the long run produce popular discontent, and discredit real science.

#### THE CARE OF THE CONSUMPTIVE SOLDIER.

LITTLE by little the need for a combined effort in the interests of the home-coming soldiers and sailors who have developed tuberculosis while on active service is being realized. In a circular addressed by the Local Government Board to county and borough councils, and dated December 4th, the welcome announcement is made that by arrangement with the Ministry of Pensions a system of visitation of all men discharged after treatment for tuberculosis is to be established, the cost of such visitation being guaranteed by the local War Pensions Committees. Provision has also been made for the supply of extra nourishment in specially certified cases. The tuberculosis authority of the district or area into which the discharged man is returning will be notified, and visits will then be made under the general supervision of the local tuberculosis officer. The reports which the visitors may make will be brought to the notice of the medical officer of health, and to some extent will serve to correct the defects of the present methods of notification. It is worthy of note that power is to be given to local War Pensions Committees to pay the expenses of the removal of patients who may be living in unhealthy surroundings, and that it will be the duty of tuberculosis officers to report as to earning capacity in respect of pensions, a fee being payable for such work. This is a step in the right direction, but it is a preliminary step only. A far larger undertaking, which sooner or later will have to be faced, lies before the county and borough councils. It is on all hands agreed that the establishment of farm and industrial colonies, where sufferers in every stage of the disease can be properly housed and profitably employed, is urgently needed. The idea is no longer the utopian dream that some gloomy critics have ridiculed. It has been translated into practical being, and one of the most successful of such colonies is to be seen at Papworth Hall, near Cambridge. Under the control of Dr. Varrier-Jones hygienic life has been made attractive to ex-soldiers, who find themselves in pleasant social surroundings and healthy environment with steady and not too laborious work. In the November number of *Reveille*, Dr. Varrier-Jones has put forward a strong plea for the wider application of this successful method of dealing with the problem. The tuberculosis dispensary and the sanatorium are as needful as ever for the detection of the disease, for the education of the patient, and for the preliminary treatment, but the colony system gives promise of that completion of cure or arrest of the malady which has hitherto been lacking. Those who have contracted or developed tuberculosis in the service of their country should be cared for by the State. It is a State duty and not an act of charity to provide them with the best known means of recovering their health.

#### THE GERMANS AND THE SCIENTIFIC WORKERS OF LILLE.

DR. ALBERT CALMETTE, Director of the Pasteur Institute of Lille, in his own name and on behalf of MM. G. Laguesse, H. Parenty, Duret, and Aimé Witz, representing virtually all the scientific workers detained in that city during the German occupation, has addressed to the Académie de Médecine a protest on the ill treatment which they suffered at the hands of the invaders. Without the slightest regard for their scientific work or their families, they were on several occasions subjected to domiciliary visits of the most insulting nature. Even their scientific apparatus and instruments were not respected, and the members of the faculty of medicine were expelled from their laboratories. Among the "hostages" deported to Poland was Professor Buisine, Director of the Institute of Chemistry, aged 62, and suffering from long-standing intermittent action of the heart and stricture of the oesophagus. His wife called the attention of the German surgeon-major, Dr. Krug, who was examining the prisoners, to her husband's condition, and received the brutal reply, "Madame, that is not contagious for the German army!" M. Calmette speaks of the responsibility of the German people for the misdeeds of its army, and says that those who, like himself, have witnessed the eagerness, even zeal, with which men who are not professional soldiers—for instance, doctors—did the most hateful things without a word of excuse, regret, or pity, are compelled to recognize that as a general rule, to which there are but too rare exceptions, the German heart is inaccessible to generous, or even simply human, feeling. Henceforth the German people, in spite of its laborious intellectual activity, can only excite disgust and horror at the crimes of which it has been guilty. For this reason M. Calmette and his colleagues state that they will not in future collaborate in any German publication or take part in any scientific meeting or international congress attended by any German workers who have not first expressed by a public declaration their disapproval of the antisocial acts of their Government in the war. They call upon their colleagues of the Institute of France, the Academy of Medicine and the Academy of Agriculture to join them in this declaration and to invite the scientific societies of all civilized nations to associate themselves with their action. The resolution of the Lille savants was unanimously adopted by the Academy. At the meeting of the Paris Académie des Sciences on November 4th M. Calmette made his first appearance since the liberation of the town. The president congratulated him and his colleagues on their courage in continuing their scientific work throughout the German occupation. On November 5th M. Calmette also received the felicitations of the Académie de Médecine.

#### BOTULISM.

DR. DICKSON's monograph on botulism<sup>1</sup> appears rather appropriately this year, as the first cases of epidemic stupor in the early spring were regarded as botulism. The investigation recorded in this, the eighth, monograph of the Rockefeller Institute for Medical Research was commenced nearly five years ago, when twelve persons were poisoned by a salad made of string beans in a students' club-house at the Leland Stanford Junior University. In the past botulism has generally been regarded as due to meat, and especially sausage, poisoning, but it has now been shown not to be essentially a meat poison and to occur in canned vegetables and fruit. How vegetables become contaminated with *Bacillus botulinus* is not definitely known, but it is possible that the bacillus is normally present in the intestinal

<sup>1</sup> Botulism: A Clinical and Experimental Study. By Ernest C. Dickson, M.D. Monographs of the Rockefeller Institute for Medical Research, No. 8. 1918. (Pp. 127; 19 plates. 1 dol.)



contents of pigs, and becomes attached to vegetables when pig manure is used as a fertilizer. Experiments show that the bacillus will grow and form its toxin in a medium consisting of string beans or other vegetables without the addition of any animal protein, that this occurs in a medium giving an acid reaction with phenolphthalein, and that animals dying from the effects of the toxin show a peculiar form of thrombosis, thus confirming what Ophüls observed for the first time in the fatal case at Stanford University. The toxin causes wide dilatation of the blood vessels, thrombosis, and multiple haemorrhages. How the toxin produces the characteristic nervous symptoms is not known, and the evidence available is against the view that the clinical manifestations depend upon the lesions described in the nerve cells by Marinesco or that they are secondary to thrombosis. The toxin is destroyed by boiling and its virulence varies considerably. It now appears that botulism is endemic in the United States and comparatively common in the Pacific Coast States. It is therefore important that special care should be taken with regard to boiling vegetables before home canning. The most common diseases with which botulism may be confused are cerebro-spinal syphilis, acute poliomyelitis, and hysteria. Several forms of poisoning—for example, by belladonna, fish roe, and decomposing fish—may imitate botulism. The mortality in the collected American cases was 64 per cent., and Dickson says that there are no available records of the curative use of antitoxic serum, except in laboratory experiments, but quite recently rapid improvement has been reported after intramuscular injection of 20 to 25 c.cm. of the serum by Nonnenbruch and others. The so-called limber neck of hens is often due to botulism, and the appearance of this in a hen that has eaten kitchen refuse should be regarded as an indication for injection of antitoxic serum into all persons who have eaten the suspected food.

#### OCULAR CONDITIONS AFFECTING THE EFFICIENCY OF THE AVIATOR.

COLONEL W. H. WILMER has carried out in America some investigations in reference to the effect of rarefied atmospheric conditions upon the sight of aviators. When the supply of oxygen becomes limited certain well known compensatory changes take place. The demand of the tissues for more oxygen is met in good subjects by an increase in the depth of respiration, by the dilatation of peripheral vessels, and by more rapid action of the heart. Increased frequency of respiration and a rise in blood pressure are clumsy attempts at adaptation, and lead to a breakdown. The changes in the blood itself consist of concentration and an actual increase in the red blood corpuscles. The investigations were carried out with two forms of apparatus. One was a large low pressure chamber from which the air was exhausted by means of an electrically driven pump, the oxygen tension and the barometric pressure being simultaneously lowered, while the amount of carbon dioxide increase was negligible owing to good ventilation. The Henderson rebreathing apparatus was used also; in it the subject breathes up his own exhaled oxygen from a tank, the excess of carbonic acid being absorbed by sodium hydrate. Tests made by these two different forms of apparatus agreed closely, so that the conclusion was that the physiological changes noted are caused by lack of oxygen alone, and not by lowered atmospheric pressure. As many pilots complain that at high altitudes they cannot see the registering instruments, this blurring of vision having led to accidents, Wilmer tested the various functions of the eye under lowered oxygen pressure. The visual standard required by the United States is much higher than that demanded by other nations. The fact that the functions of the eyes fall off under reduced oxygen pressure emphasizes the necessity for this careful selection. The tests have shown that there is not any great fall in acuity

under reduced oxygen, but there may be a very considerable deterioration in the muscular functions. Hypermetropic aviators are liable to failure of the ciliary muscle causing blurring of vision, whereas the slightly myopic may experience slight improvement for the same reason. Colour vision is not affected at high altitudes. On the other hand, the investigation showed that the field of vision might become contracted, and it appears that the retinal periphery is more sensitive to want of oxygen than the macular region. At 20,000 feet there is a marked contraction of the fields for form and colour. Wilmer concludes that candidates for the flying corps should have good vision, and be free from any marked errors of refraction and muscle balance. Hyperphoria is especially excluded, because under reduced oxygen pressure it is liable to be accentuated. The paper, which is not as detailed as it might be considering the immense importance of the subject, is to be found in the *Archives of Ophthalmology* for September, 1918.

#### PUBLIC HEALTH MEASURES IN INFLUENZA.

THE opinion that no public health measures can prevent the spread of influenza is shared, among others, by the medical members of the Board of Health (Sundhetskommision) of Christiania. This confession of impotence is apt to provoke exasperated criticism at a time of panic, and in Norway the refusal of the medical advisers to the Sundhetskommision to shut down schools, theatres, and the like has started an agitation in the daily press for the summary dismissal of such unsatisfying public servants. Professor A. Holst, a member of the Sundhetskommision, defends his attitude by a comparison of the morbidity and mortality returns from influenza in towns which have or have not adopted the wholesale shutting down of public institutions. In Christiania itself, where in July of this year schools, theatres, and some cinemas were closed, the notifications of influenza were, in round figures, 2,100 in the first week, 6,100 in the second week, and 5,000 in the third week. In the autumn epidemic, while the Christiania institutions remained open, most of the Copenhagen institutions, including the university, were closed, the view being held by the authorities of Copenhagen that by this measure infection might at least be delayed in so many cases that pressure on hospital accommodation would be relieved. But the death-rate from influenza in the period October 20th to November 9th was somewhat lower in Christiania than in Copenhagen. Again, in Gothenburg, with a population of 197,000, where public meetings, including auctions in private houses, were prohibited this autumn, though not on the advice of its Board of Health, the deaths from influenza numbered 476. During the same period the deaths from influenza in Christiania, with a population of about 260,000, were 325. Professor Holst appears to consider that every town-dweller who is susceptible must sooner or later contract influenza whatever the public health authorities may do; and that the more schools and public meetings are banned and the general life of the community dislocated the greater will be unemployment and depression. And this without any corresponding benefit.

#### THE ARMY VETERINARY CORPS.

MAJOR-GENERAL SIR FREDERICK SMITH, F.R.C.V.S., in a communication to the Royal Society of Arts on December 11th, described the work of the British Army Veterinary Corps at the fronts. He said that 1,300 officers and 27,000 men, exclusive of 6,000 coloured troops, were employed in the various theatres of war looking after the health of army animals, especially the horse, though the mule bulked largely, and oxen and camels in the eastern campaigns. Every division of the army possessed a mobile veterinary section, the function of which was to combine a collecting station for the sick with a field veterinary



hospital. From this section the sick were handed over to the veterinary evacuating station, where they received more thorough and deliberate inspection. The evacuating station then entrained its sick for the base, where the hospital group consisted of a reception, a general, and a mange hospital, with a convalescent dépôt for cases of debility needing time to recover. Sir Frederick Smith, with the help of the cinematograph, described the routine treatment of mange, which chiefly consisted of immersion in a swimming bath containing parasiticide solution. Side by side with improved methods of treatment, during the whole campaign inquiries had been going on into the nature of diseases, their prevention, diagnosis, and treatment. Bacteriological laboratories were established in every theatre, and the whole of the mallein employed was made in an army veterinary laboratory, which sent out hundreds of thousands of doses each year. The Duke of Portland, who occupied the chair, read a statement from Major-General Moore, D.V.S., to the effect that since the commencement of the war (presumably on the Western front alone) 689,387 horses and mules had been admitted to veterinary hospitals and convalescent horse dépôts for treatment, and of this number 500,604 had been cured and returned to the Remount Department for re-issue to the front. The last figure represented 72 per cent. of admissions, which must be considered most satisfactory, when it was remembered that the admissions included many thousands of battle casualties, and all forms of contagious disease. General Moore added that the animals of the force, on the date the armistice was signed, were freer from contagious disease than at any previous time; and mange, which had proved a scourge in previous campaigns, had now practically ceased to exist.

#### RELATIVE VALUE OF DOMESTIC FUELS.

The relative value of various fuels for domestic purposes formed the subject of the first of a series of lectures on fuel economy, delivered recently at University College, London, by Mr. A. H. Barker, B.A., B.Sc. He said that the British thermal unit, the amount of heat required to raise 1 lb. of water 1° F., might be popularly described by stating that 500 such units were equal to a quart kettle of boiling water, and 20,000 to a bath of water at body temperature. The heat units given by a stated quantity of coal or gas varied within wide limits according to the quality of the fuel, but the calorific energy per unit of electricity consumed, though it varied in pressure or voltage, was constant. A gas meter marked the cubic feet irrespective of the quality of the gas, so that when the gas companies impoverished the gas in heating constituents and at the same time raised its price, they were taking from the consumer at both ends; but to the electric supply companies this double manoeuvre, fortunately, was not possible—they could only raise the price. The value of 1 lb. of good coal was 15,000 Board of Trade units; of very poor coal 10,000; of good coke 13,000; and of present-day coke, some of which was scarcely worth calling fuel, 9,000. One cubic foot of rich gas yielded 650 Board of Trade units, and of present-day gas no more than 480. The value of electricity per unit was always 3,410 Board of Trade units, and of 1 lb. of petroleum 18,000 units. If these values were recast in terms of prices it would be found that coal at 47s. a ton (as high as it had ever been in London since the Franco-Prussian war) yielded 56,000 heat units for a penny; gas, at 4s. per 1,000 cubic feet, yielded 10,500 heat units for the same sum, and electricity, at 8d. per unit, only yielded 426. From this point of view coal as a fuel was five times cheaper than gas. It was not, however, the heat used that was so expensive, but the heat wasted, and the responsibility for this must fall not so much upon the householder, as upon the makers of domestic appliances. An open fire, for instance, only yielded 10 to 15 per cent. of really useful heat, and by a simple experiment the waste of gas in boiling a kettle was

demonstrated. The kettle contained 4.25 lb. of water, and the gas consumed in raising it from 56.5° to 212° F. was 4.3 cubic feet. This amount of gas represented 2,150 heat units, but the water at boiling point was only equivalent to 691 such units, so that the efficiency of the process was only 32 per cent., and two-thirds of the heat from the gas had been wasted in the air. A good electric kettle, on the other hand, was efficient to approximately 85 per cent. If a coal fire had to be lighted specially to boil the kettle its efficiency would be no more than 1 or 2 per cent.; but if the fire was being used all the time for warming the room it was impossible to estimate how much of the heat might be expended on boiling the kettle, and the efficiency might even be reckoned at 100 per cent. Mr. Barker concluded by giving the heat units yielded by the Coal Controller's equivalents: Coal (one ton) 31,400,000, gas (15,000 c.f.) 7,200,000, electricity (800 units), 2,730,000. These equivalents were framed on the basis of coal destruction, and he thought the figure for electricity much too generous. It was only in electric supply plant of exceptionally good quality that 800 units could be produced for each ton of coal destroyed.

#### NEOPLASTIC OBSTRUCTION OF THE INFERIOR VENA CAVA.

Occlusion of the inferior vena cava by new growth is rare. Among Pheasant's collection of 314 cases of obstruction of the inferior cava there were but 43 due to this cause, and in only one was the inferior cava obstructed the whole way from the iliacs to the right auricle. Jacobson and Goodpasture<sup>1</sup> describe a case remarkable in several respects. A large hypernephroma of the upper pole of the left kidney extended through the renal vein into the inferior cava, which was distended in its whole extent, the right auricle being occupied and the tricuspid valve mechanically interfered with. The orifices of the hepatic veins were obstructed by clot, which, however, did not contain any growth, and there was acute necrosis with haemorrhagic infiltration of the centres of the lobules. The patient, a man aged 63, was admitted with oedema of the feet; rather later the abdominal veins became prominent, and twenty-four hours before death the liver suddenly enlarged and acid intoxication came on. The sudden hepatic enlargement coincident with the onset of acidosis is held to point to acute thrombosis of the hepatic veins. Other noticeable points were the absence of haematuria and the late appearance of definite signs of obstruction of the inferior vena cava, although that vessel was occluded in its whole length at the necropsy.

#### GERMAN EXPERIENCES OF WAR NEUROSES.

Of the innumerable papers published on war neuroses in Germany, one by M. U. Hartung<sup>2</sup> possesses the unusual merit of succinctness. In the course of a year he treated 780 cases at Thal, a military sanatorium for such cases. In 162 cases the patients suffered from hysterical paralyses, the lower limbs being twice as often affected as the upper. Atrophy of muscles and stiffness of joints were a common sequel in these cases to the misuse of splints and other appliances; in many instances considerable force was necessary to straighten deformed hands. About 98 per cent. of all the cases were cured by a combination of psychic and mechanical treatment. Tremor occurred in 28 per cent. of all cases, the parts most frequently affected being the head and upper limbs. Fine tremor was harder to cure than coarse, but a cure was ultimately effected in every case. Hysterical convulsions, which were observed in 8 per cent., were easily cured, either by suggestion combined with electricity, or simply by ignoring them. Disturbances of speech occurred in 5 per cent. of all cases and every one was cured. Hearing was affected only in 1 per cent., and in some cases

<sup>1</sup> A. C. Jacobson and F. W. Goodpasture, *Arch. Int. Med.*, Chicago, 1918, xx, 85-95.

<sup>2</sup> *Zentralblatt f. d. Gesamte Neurol. u. Psych.*, vol. xl, Nos. 2-5, 1918.



the deafness had lasted for years. Recovery was effected in every case under a combination of suggestion and local treatment. The restoration of hearing was often instantaneous. Cardiac and respiratory neuroses were found only in 1.5 per cent., and the most common manifestations were tachycardia, dyspnoea, and "heart cramp." The only patient in this category who failed to respond satisfactorily to treatment was also both deaf and imbecile. Neuroses of the digestive system comprised aerophagia, vomiting, "stomach cramp," eructations, and tympanites. They constituted 1.5 per cent. of the total, and all yielded satisfactorily to treatment with the exception of one patient, in whom vomiting proved intractable. The bladder neuroses, found in 1.5 per cent. of the total, consisted of incontinence in all but one case in which there was sphincter spasm; all were cured. Neurasthenia, in the strictest sense of the word, was present in 20 per cent. Hartung concludes that the principle of special hospitals for war neuroses has been fully justified, and insists that the atmosphere of military discipline in such institutions is of inestimable value in securing a high rate of recovery.

THE usual half-yearly indexes to the JOURNAL and to the SUPPLEMENT are being prepared and will be printed. They will, however, not be issued with all copies of the JOURNAL. Any member or subscriber who desires to have one or both of the indexes can obtain a copy of what he wants, post free, by sending a post-card notifying his desire to the Acting Financial Secretary and Business Manager, British Medical Association, 429, Strand, W.C.2. Such copies will be dispatched shortly after the middle of January.

### THE MILK SUPPLY.

THE third interim report of the Government's Advisory Committee on the Production and Distribution of Milk<sup>1</sup> has been issued this week. The Committee was set up in April, 1917; its chairman is Major Waldorf Astor, M.P., and the medical members are Sir George Newman, Chief Medical Officer of the Board of Education; Dr. A. W. J. MacFadden, of the Local Government Board; and Major G. R. Leighton, of the Scottish Local Government Board. Its policy has been, first, to try to maintain as far as possible the volume of milk previously produced; secondly, to distribute it fairly and according to the needs of the community; and thirdly, to consider what steps are necessary to develop and increase the dairy industry after the war. The need for such development is shown by the following facts: The total number of cows has not increased proportionately with the growth of the population since 1871, while the value of dairy produce imported into the United Kingdom has increased almost fourfold in the same period, and the proportion of cows to the human population and of the area of cultivated land is lower than in any other European country for which the figures are known. The Committee also desires to emphasize the value of cows as actual producers of food, for cows yield more human food than pigs, sheep, or cattle, from the same quantity of vegetable matter.

The shortage of milk during the winter of 1917-18 was found to be due largely to want of organization in distribution. This and other considerations, which are fully set out in the report, led the Committee to believe that the only satisfactory method of dealing with the distribution, utilization, and transport of milk to the best public advantage was for the Government to make itself responsible for the control of wholesale distribution. The Committee also came to the conclusion that the first vital requirement for the maintenance of an adequate milk supply must be a guarantee to producers of such a price as would encourage and enable them to meet the special difficulties due to the war. Impressed with the fact that the fixing of a flat rate for milk discourages the production of milk of special hygienic quality, the Committee recommended the adoption of a scheme, put forward by the Ministry of Food, under which a producer who

keeps his herd free from tubercle and fulfils certain requirements in his method of production, can procure a licence authorizing him to charge a price above the maximum fixed for ordinary milk.

The Committee was of opinion that compulsory rationing could hardly be applied to milk, and should be avoided if possible. The hope was entertained that the plan of priority distribution of milk according to the needs of various sections of the community, and of distribution either free or at reduced rates to necessitous children, would suffice to meet the immediate national requirements. The inquiries made by the Committee, and the previous knowledge of its members, made it only too plain that the average consumption of milk by infants and children before the war was quite inadequate for their physiological needs.

The present report, which is dated November 5th, 1918, shows that the Committee has so far confined its attention almost entirely to questions of immediate urgency for the maintenance of the milk supply under war conditions, and to a consideration of those problems of future development which seemed to call for prompt action. The Committee expresses the hope that, after conducting careful investigations and taking the evidence of qualified witnesses, it may be in a position to recommend measures that will not only enable dairying to compete with cereal farming and other forms of industry, but will make possible that development in milk production which is needed in the interest of the country.

### ROYAL MEDICAL BENEVOLENT FUND.

At the last meeting of the Committee, held on December 10th, thirty cases were considered, and £282 voted to twenty-five of the applicants. The following is a summary of some of the cases relieved:

Widow, aged 82, and daughter, aged 42, of M.R.C.S.Eng. The daughter has recently had an operation, and is now unable to earn. Mother's income £79 from investments and an annuity. Owing to the high price of food, unable to manage. Rent £32. Voted £10.

Widow, aged 65, of M.R.C.S.Eng. Was left unprovided for, with one daughter, now aged 38, who earns about £20 per annum as daily governess and lives at home. Applicant receives two small pensions amounting to £24. Rent £12. Applicant is now very ill. Voted £10.

Daughter, aged 12½, of L.S.A. who died in 1914; mother also dead. This child is now in charge of an aunt, who applies for help towards clothes and holiday expenses. The aunt is a schoolmistress with £75 per annum, but, owing to increased cost of living, finds she cannot continue to keep her niece. Voted £10.

Widow, aged 61, of M.R.C.S.Eng. Has two daughters, now aged 37 and 34, working as temporary clerks. Husband left no means, and only income of applicant beyond help from her daughters is a small gift from another charity. Relieved once, £12. Voted £6.

Widow, aged 48, of L.R.C.P. Edin. Was left with six children, aged 27 to 10. She earns £30 by clerical work and receives £70 from children. Son on whom applicant mainly depends has been in hospital for three months. Relieved twice, £30. Voted £10 in two instalments.

Daughter, aged 49, of M.R.C.S.Eng. Applicant's income is £20, and she lives with her mother, who also receives help from the Fund, and both are invalids. Relieved four times, £20. Voted £5.

Widow, aged 76, of M.R.C.S.Eng. Applicant receives £50 in dividends and lives in own house. A married daughter, whose husband is in an asylum, lives with her. Applicant suffers from cataract in both eyes and is too old to work. Relieved three times, £36. Voted £12 in twelve instalments.

Widow, aged 60, of L.F.P.S. Glasg. Left with six children, four of whom are married; one daughter, aged 27, at home to look after applicant who is ill, and son, aged 19, who earns 28s. a week. Relieved thirteen times, £142. Voted £12 in twelve instalments.

Daughter, aged 52, of L.R.C.S. Edin. who practised in India. Applicant was left with about £20 per annum, and being delicate is unable to undertake any regular employment. Relatives help occasionally. Relieved five times, £42. Voted £12 in twelve instalments.

Subscriptions may be sent to the Acting Honorary Treasurer, Dr. Samuel West, at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild is now called upon, as a result of the war, to deal with many widows and children who, in happier times, would not have thought of asking for assistance. It is glad to receive secondhand clothing and household linen. The class of clothes most wanted is that suitable for boys and girls working in offices, for women, and for old men. The gifts should be sent to the secretary of the Guild, 43, Bolsover Street, W.1.

<sup>1</sup> Third Interim Report by the Committee on the Production and Distribution of Milk. London: His Majesty's Stationery Office. 1918. (Price 3d. net.)



# THE WAR.

## THE EAST AFRICAN CAMPAIGN.

In a dispatch from Sir J. L. van Deventer, K.C.B., Commanding-in-Chief East African Force, dated September 30th, 1918, the following references are made to the work of the medical service:

Great efforts were made to keep the hospital accommodation, and all health and sanitary conditions, up to the high standard which the Pike Commission and the visit of Major-General Scott indicated as being aimed at in other theatres. The result has been highly gratifying. The sick rate among the troops, and particularly among Europeans, must always be heavy in a tropical climate, but it is satisfactory to know that everything possible has been done to alleviate suffering and restore health. Among the porters there was an enormous improvement both in the sick and death rates; in fact, the latter is now very little in excess of peace rates.

A school for training natives as hospital attendants and dressers was started at Dar-es-Salaam, and has proved an unqualified success, and great credit is due to the officers responsible for it. After the completion of their military service the natives thus trained should prove a distinct asset to their respective protectorates.

The Commander-in-Chief makes grateful acknowledgement of the work of the Red Cross staff, and adds that the native medical corps recruited in Uganda was of special service. The dispatch records that on May 28th an enemy hospital containing fifteen Germans and seventy-eight other patients, fell into our hands thirty-five miles south of Kowewa.

It was a considerable advantage to the enemy that, when inconveniently hampered by sick and wounded, he could simply leave them behind for us to pick up.

In conclusion the Commander-in-Chief records his appreciation of the excellent work done by his own staff, and by commanders and staffs in the field, as well as by all services and departments. Among the officers whose names are particularly brought to notice is Colonel G. W. Tate, C.M.G., D.S.O., A.M.S.,

who deserves great credit for the very efficient manner in which the work of the medical services has been carried out in spite of the difficulties inseparable from active service in a tropical country.

## CASUALTIES IN THE MEDICAL SERVICES.

### ARMY.

#### *Died on Service.*

#### COLONEL H. G. MELVILLE, C.I.E., I.M.S.

Colonel Harry George Melville, C.I.E., Bengal Medical Service, died at Bagdad on December 7th, aged 49. He was born on March 24th, 1869, and educated at Edinburgh, where he graduated M.B. and C.M. in 1890, and M.D. in 1906, also taking the F.R.C.S.Ed. in 1900. After acting as demonstrator of anatomy in the university, and as resident physician to the Royal Infirmary, Edinburgh, he entered the I.M.S. as surgeon-lieutenant on July 27th, 1892, becoming surgeon-captain on July 27th, 1895, major on July 27th, 1904, and lieutenant-colonel on July 27th, 1912. He held the rank of colonel while serving as consulting physician to the Mesopotamian Expeditionary Force. After serving for some years as medical officer of the 5th Punjab Cavalry (now the 25th Cavalry, Frontier Force), he was appointed professor of anatomy in Lahore University in April, 1899, and in April, 1903, became professor of materia medica and second physician to the Mayo Hospital, Lahore. Prior to the present war he had seen much service on the north-west frontier of India, having served in the Waziristan campaign of 1894-95, including the action at Wana (medal and clasp); the Mohmand expedition of 1897-98 (medal and clasp); and the Tirah campaign of 1897-98, with the operations in the Bara Valley (clasp). He received the C.I.E. on August 26th, 1918.

#### CAPTAIN W. H. COMPTON, R.A.M.C.

Captain William Henry Compton, R.A.M.C., died of pneumonia in the Richmond Military Hospital on December 6th, aged 57. He was educated at Charing Cross Hospital, and took the diploma of L.S.A. in 1886. After serving as surgeon in the Royal West Indian Mail

Steamship Company, and as medical officer in charge of the hospital and quarantine ship H.M.S. *Edgar*, he went into practice at Brighton. He took a temporary commission as lieutenant in the R.A.M.C. on July 1st, 1915, and was promoted to captain after a year's service.

#### CAPTAIN J. DONALDSON, R.A.M.C.

Captain James Donaldson, R.A.M.C., died at the military hospital at Ras-el-Tin, Egypt, on December 5th. He was the son of the late Mr. James Donaldson, schoolmaster, Dundee, and was educated at the universities of St. Andrews, where he graduated M.A. in 1899, and of Edinburgh, where he took the degrees of M.B. and Ch.B. in 1903, after which he acted as clinical assistant at the Royal London Ophthalmic Hospital, and at the Throat Hospital in Gray's Inn Road. He took a temporary commission as lieutenant in the R.A.M.C. on July 13th, 1917, and was promoted to captain after a year's service.

#### CAPTAIN N. K. FOSTER, R.A.M.C.

Captain Norman Kessen Foster, R.A.M.C., died on board the hospital ship *Amara* on December 2nd. He was the younger son of Edward A. Foster, I.S.O., of Oxford; was educated at University College, London, and graduated M.B. and B.S.Lond. in 1908. He took a temporary commission as lieutenant in the R.A.M.C. on July 2nd, 1917, and was promoted to captain on completion of a year's service.

#### CAPTAIN G. E. KEITH, R.A.M.C.

Captain George Elphinstone Keith, R.A.M.C., died in the 62nd General Hospital, Italy, on December 6th, of influenza, at the age of 54. He was the son of the late Dr. Thomas Keith, and was educated at Edinburgh, where he graduated M.B. and C.M. in 1887. After acting as house-surgeon of the Women's Hospital, New York, and as assistant to the professor of clinical surgery at Edinburgh, he went into practice in London. He took a temporary commission as lieutenant in the R.A.M.C. on July 31st, 1915, and was promoted to captain after a year's service. He was joint author, with Mr. Skene Keith, of two works—*A Textbook of Abdominal Surgery*, and *Cancer: Relief of Pain and Possible Cure*—and was for some years secretary of the British Gynaecological Society.

#### CAPTAIN D. P. LINDSAY, R.A.M.C.

Captain David Paton Lindsay, R.A.M.C., died at Dar-es-Salaam, East Africa, on December 2nd. He was the second son of Ninian Lindsay of Uphall, and was educated at Edinburgh, where he graduated M.B. and Ch.B. in 1912, after which he went into practice at Wrekenton, Gateshead-on-Tyne. He took a temporary commission as lieutenant in the R.A.M.C. on June 5th, 1917, and was promoted to captain after a year's service.

#### CAPTAIN O. D. PRICE, R.A.M.C.(S.R.).

Captain Owen Douglas Price, R.A.M.C.(S.R.), died in Edinburgh, on December 10th, of pneumonia after influenza, aged 26. He was the son of the late Dr. Edmund Price of Edinburgh, and was educated at the university in that city, where he graduated M.B. and Ch.B. in 1915. He took a commission as lieutenant in the Special Reserve of the R.A.M.C. on October 7th, 1915, and was promoted to captain after six months' service.

#### *Repatriated Officers.*

Captain W. R. O'Farrell, R.A.M.C.

Captain J. P. Thierens, R.A.M.C. (temporary).

#### THE LATE CAPTAIN DENIS COTTERILL.

In the JOURNAL of last week there was a short obituary notice of the late Captain Denis Cotterill, R.A.M.C. We have received the following appreciation from a colleague: From December, 1914, to May, 1918, Cotterill was surgical specialist to the Red Cross Section of No. 11 Stationary Hospital, and the work that he did there must be counted as some of the soundest surgery of the war. He was an extraordinarily neat and thorough operator, and when the occasion demanded could be very quick; his results were surprisingly and consistently good. He had the confidence and respect of the successive consultant surgeons. He never spared himself and was very much beloved by his patients and staff. He was of a gentle and sympathetic



nature and a staunch and firm friend with a high ideal of honour. He was a keen lover of nature and spent much of his leisure in the summer months in making a collection of the local varieties of butterflies which abound in the country round Rouen. He resigned his appointment in May of this year and at once joined the R.A.M.C. and was appointed to No. 50 Casualty Clearing Station, where he died.

#### DEATHS AMONG SONS OF MEDICAL MEN.

Briscoe, C. W. Hylton, R.A.F., died of influenza pneumonia at No. 19 Casualty Clearing Station, Cawdry, near Cambrian, on December 7th, aged 23. He was the only son of Dr. J. S. Briscoe, D.S.O., M.C., of Charlestown, Natal, and was a student at University College, London, on the outbreak of war; he had been on active service for four years.

Bruce-Clarke, W. R., Captain Royal Air Force, only son of the late William Bruce-Clarke, senior surgeon to St. Bartholomew's Hospital, died at the 1st Eastern General Hospital, Cambridge, on December 1st, of pneumonia after influenza. He attained the rank of captain in the 14th County of London Regiment (London Scottish) on May 11th, 1917, and was seconded for service with the R.A.F.

Clark, R. A. Ronaldson, M.C., Lieutenant Royal Field Artillery, attached R.A.F., son of Lieut.-Colonel Ronaldson Clark of Douglas, Isle of Man, killed in a flying accident, October 18th, aged 24.

Creagh, H. J. P., Captain 11th Battalion (Cambridgeshire) Suffolk Regiment, only child of Major Creagh, R.A.M.C. (retired), died recently of wounds at Le Treport, aged 25. He was educated at Winchester and at Christ Church College, Oxford, where he graduated B.A. in 1914. He served in the Cadet Corps at school and in the O.T.C. at Oxford, and was in the shooting team at both Winchester and Oxford. He got a commission in November, 1914, became lieutenant on September 15th, 1915, and had recently been promoted to captain. He went to France in July, 1915, was thrice wounded, and was mentioned in despatches on June 18th, 1916.

Davis, G. M., Benbow Battalion, Royal Naval Division, second son of Dr. G. W. Davis of Sidcup, Kent, temporary Captain R.A.M.C., died of septic pneumonia at Delft, Holland, on November 2nd, aged 22.

Griffin, Richard Watson, only son of Dr. Watson Griffin of Crowborough, died of influenza on December 3rd while serving with the Nyasaland Force, East Africa.

Sansom, R. A. F., Second Lieutenant Royal Air Force, third son of Dr. C. Lane Sansom, C.M.G., of Kuala Lumpur, Federated Malay States, killed in a bombing raid over Saarbrücken, May 16th, 1918, aged 21.

Wilkinson, E. F., Lieutenant Royal Air Force, fourth and youngest son of Major Wilkinson, South African Medical Corps, killed in a flying accident in France on November 23rd, aged 19. He enlisted in the South African Infantry at the age of 17, came to England in May, 1917, and got his commission last August.

Wright, Walter Bryan, Private Canadian Infantry, youngest son of the late Surgeon-Major Daniel Wright, I.M.S., killed September 2nd.

[We shall be indebted to relatives of those who were killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]

#### HONOURS.

##### VICTORIA CROSS.

THE King has conferred the Victoria Cross upon Captain Bellenden Seymour Hutcheson, C.A.M.C., attached 75th Battalion 1st Central Ontario Regiment.

For most conspicuous bravery and devotion to duty on September 2nd, when, under most intense shell, machine-gun, and rifle fire, he went through the Queen-Drocourt Support Line with the battalion. Without hesitation and with utter disregard of personal safety he remained on the field until every wounded man had been attended to. He dressed the wounds of a seriously wounded officer under terrific machine-gun and shell fire, and, with the assistance of prisoners and of his own men, succeeded in evacuating him to safety, despite the fact that the bearer party suffered heavy casualties. Immediately afterwards he rushed forward, in full view of the enemy, under heavy machine-gun and rifle fire, to tend a wounded sergeant, and, having placed him in a shell hole, dressed his wounds. Captain Hutcheson performed many similar gallant acts, and by his coolness and devotion to duty many lives were saved.

##### FOREIGN DECORATIONS.

The President of the French Republic has conferred the decoration of Commander of the Legion of Honour upon Surgeon Vice-Admiral Sir William H. Norman, K.C.B., Medical Director-General, R.N., and that of Chevalier of the Legion of Honour upon Surgeon Commander William W. Keir, C.M.G., R.N., in recognition of distinguished services rendered during the war.

Miss Frances Ivens, M.S.Lond., surgeon-in-charge of the Scottish Women's Hospital, Royaumont, has been awarded the Croix de Guerre with palm. In recommending this award,

Marshal Petain, Commander-in-Chief of the French armies of the North and North-East, issued an Army Order from General Headquarters, dated November 20th, 1918, as follows:

Miss Ivens . . . foront l'admiration de tous, a assure de jour et de nuit le traitement des blessés français et alliés au cours des bombardements répétés de Villers-Cotterets en Mai 1918. A l'approche de l'ennemi, a repoussé sa formation au dernier moment sur l'Abbaye de Royaumont où elle a continué sa mission humanitaire avec le plus absolu dévouement.

Mrs. Berry, Miss Courtauld, Miss Martland, Miss Henry, and Miss Nicholson, surgeons to the Scottish Women's Hospital, have been awarded the Croix de Guerre with star. In recommending these awards Marshal Petain issued a regimental Order, stating that these medical women

ont prodigué a l'hôpital des Dames écossaises, tant a Villers-Cotterets, qu'a Royaumont, leur science et leur dévouement aux blessés français et alliés, sous des bombardements répétés.

#### NOTES.

##### THE U.S. MEDICAL SERVICE.

WHEN the United States entered the war in April, 1917, the medical corps of the navy numbered about 300 commissioned officers. Now it consists of some 3,000 officers all of whom have received special training for the naval service, and special professional instruction at the naval medical school at Washington, at naval hospitals, on board cruisers, and at great medical centres such as New York, Boston, and Philadelphia, where intensive courses were given by teachers of the highest standing. In July, 1916, the male nurses of the navy, who serve in battle-ships and go into action with the marines, numbered 1,585; now the hospital corps consists of 14,000 men, for whom there are four large fully equipped training schools with many smaller centres of instruction. The female nurse corps numbers 1,125 women. During the first year of the war the previously existing hospital accommodation in eighteen regular naval hospitals with 1,600 beds was increased by 144 new buildings; by July, 1917, additional beds had been provided to the number of 2,700. The buildings now nearing completion or contracted for will give the medical department of the United States navy between 11,000 and 12,000 beds.

Major-General William C. Gorgas, late Surgeon-General of the United States army, has been made a Grand Officer of the Order of the Crown of Italy in recognition of his distinguished work in military sanitation. The presentation was made on November 5th, in the office of the Surgeon-General at Washington, by Major-General Emilio Guglielmotti, military attaché to the Italian Embassy.

## England and Wales.

##### MEDICAL MEETING AT MANCHESTER.

THE Medical Secretary addressed a meeting called by the Lancashire and Cheshire Branch of the British Medical Association at the Onward Buildings, Manchester, on December 12th. The president of the Branch, Dr. R. Harris of Southport, was in the chair, and the room was crowded. The subject of the address was "Coming changes in medical affairs and the position of the British Medical Association in relation thereto." Dr. Cox dealt with the reconstruction problems which would face the medical profession and every other calling in the immediate future. He reminded the audience of somewhat similar problems following the publication of the reports of the Royal Commission on the Poor Law in 1909, which the Association dealt with by issuing a report in which the possible developments of medical services for the community were examined, and certain questions were put to the profession in order to elicit their opinion. The response of the profession was exceedingly good, and enabled the Association to place before the Government the views of the profession when the National Insurance Bill was introduced. He thought that the same course might be followed with advantage on this occasion, so that when the Ministry of Health was established and the new Minister proceeded to develop and improve the provision of medical attendance for the community he might know what line the medical profession thought should be taken in the best interests of the community. This discussion should take place as soon as the majority of the doctors in the Services had returned. It would be unfair to come to any definite conclusions in their absence. When they returned, the problems could be attacked with a perfectly open mind, the question for the profession being, not "What is the minimum service that the community could be induced to accept?" but "What is the kind of medical service that ought to be offered to the men who have been fighting for us, and their wives and



families?" Indeed he thought that an even more practical question would be "To what kind of service would medical men be content to trust their own wives and families?" Nothing less was good enough. In his opinion no body was capable of eliciting the opinion of the profession on a matter of this kind except the British Medical Association, and whatever criticism might be brought against that body, it was useless to think of setting up another to take its place. It had taken nearly a hundred years to get an Association which could speak for a majority of the whole profession, and for a large majority of general practitioners. Obviously it would take a very long time to establish another body which would be anything like as representative, in face of the strong opposition of the Association, which was not likely to give up the position it had established at so much cost. He was not arguing that the Association was perfect. Nobody who had the privilege of receiving so much candid criticism as he did could be under that delusion; but some of the best authorities had declared that the constitution of the Association was thoroughly democratic and a model for similar professional bodies, and if members of the profession would bring to it youth, enthusiasm, and new blood the Association could do anything the profession was likely to ask. He warned his hearers against alleged "short cuts." During his experience of medical organization several substitutes for hard individual work had been suggested, but nothing could take the place of that unselfish and unstinted personal devotion which had made the Association what it was. The legal immunities of trade unionism—the latest panacea—were exceedingly uncertain, according to the best legal authorities. Members of the profession would be depending on a very broken reed if they relied on this—which, in addition to its uncertainty, would be rejected for other reasons by large numbers of the profession—instead of on the strength to be obtained from a large body composed of all kinds of practitioners, and in which the social and scientific elements could reinforce the medico-political and "bread-and-butter" side.

## Scotland.

### ERSKINE HOSPITAL FOR LIMBLESS MEN.

SPEAKING at the second annual meeting of the Princess Louise Scottish Hospital at Erskine, held in the City Chambers, Glasgow, on December 10th, Sir William Macewen referred to the strenuous work of the surgeons and physicians during the year and of the benefit to the limbless men of continuity of treatment afforded by the fact that both preparatory and fitting treatment were given under the one roof by the same surgeons. He expressed the hope that if workshops were established in Glasgow continuity of training would be arranged between them and the hospital workshops. The Lord Provost stated that since the opening of the Erskine Hospital, 3,454 patients had been admitted to the institution, which now contains 400 beds, while 2,697 patients had been fitted with new limbs and 530 patients with parts of new limbs. A vote of thanks to the surgical and medical staff of the hospital for their voluntary service was carried, on the proposal of Sir Archibald McInnes Shaw.

### POST-GRADUATION INSTRUCTION AT GLASGOW.

At a meeting of the Glasgow University Court held on December 12th, Principal Sir Donald MacAlister, K.C.B., M.D., who presided, referred to a proposal which was made at the last meeting to institute post-graduation courses for medical graduates. The Senate, after considering the report on this subject by the Faculty of Medicine, stated that they would welcome a well considered scheme for the organization of such courses, and that as there existed a committee representing all sections of the Glasgow Medical School, which was instituted in 1914 on the suggestion of the Faculty of Medicine, they were taking steps to get into touch with this body as a preliminary to a full discussion.

### CENTRAL MIDWIVES BOARD FOR SCOTLAND.

At the last meeting of the Central Midwives Board for Scotland, held in the offices, 50, George Square, Edinburgh,

with Sir Halliday Croom in the chair, the cases of three midwives were heard. One woman was summoned on the charge of failing to send for medical assistance in a case of ophthalmia neonatorum, and other breaches of the rules. Her name was removed from the roll of midwives and her certificate cancelled. The second woman was charged with failing to send the proper form for medical assistance in a case of stillbirth. She was cautioned strictly to observe the rules of the Board, and the local supervising authority was instructed to report upon her conduct and fitness as a midwife. The third woman was summoned for failing to advise medical assistance for a child suffering from serious skin eruptions, and for other breaches of the rules. She was suspended from practice for one month, and the local supervising authority was instructed to report on her ability to take pulse and temperature before she resumed practice.

## Correspondence.

### EDINBURGH UNIVERSITY AND ANATOMICAL NOMENCLATURE.

SIR,—You have already called attention<sup>1</sup> to the confusion which has been caused by the introduction of the Basle Anatomical Nomenclature—a nomenclature which, as you have pointed out, is purely of German origin. I am glad to know that the Faculty of Medicine of the University of Edinburgh has taken the matter up and has issued a circular to "medical schools and corporations in Britain," suggesting the formation of a committee to consider our nomenclature, and also proposing that similar committees should be formed in the British Dominions and the United States of America. I am certain that the courteous Dean of the Medical Faculty of Edinburgh University, who has issued the circular on behalf of his Faculty, does not wish to misrepresent to medical schools and corporations in Britain what has already been done to restore our British nomenclature, but in several points his circular is misleading.

At a special general meeting of the Anatomical Society of Great Britain and Ireland, held at King's College, Strand, London, on March 1st, 1918, it was unanimously agreed to retain our British anatomical nomenclature—that nomenclature being defined as the one used in the tenth edition of *Quain's Anatomy*. The Edinburgh circular, while making the resolution of the Committee of the Anatomical Society the basis of its action, omits to state that the resolution was adopted by the society, which includes all the anatomists of this country and the majority of anatomists in the British Dominions. The circular also omits to state that at the same meeting committees were appointed to revise the English terms used in anatomy, and in every instance where an improvement was possible—no matter what the source of the better term might be—to recommend that improved term in their report to the society. As the Professor of Anatomy in the University of Edinburgh was appointed to serve, and so far as I know is serving, on one of these committees which are now at work, the Dean of the Faculty cannot be ignorant of the fact that the work proposed in the circular is already being performed by committees of British anatomists.

Further, the Anatomical Society was keenly alive to the importance of moving in harmony with the anatomists of the United States, and therefore requested its secretary, Professor J. E. S. Frazer, to communicate with the secretary of the Association of Anatomists in North America, inviting the co-operation of the association. In answer, a very sympathetic reply was received, one which leads me to suppose that American medical men are just as anxious as British to be rid of the Basle system of naming anatomical structures.

The Anatomical Society is fully aware that the settlement of a nomenclature is not the prerogative of anatomists, but is a matter in which every medical man and medical corporation has a right to be heard; but I think it is the duty of anatomists to make the first move and submit their proposals to the various medical corporations which are concerned. Also it must be remembered that Edinburgh University has been the chief sinner in

<sup>1</sup> BRITISH MEDICAL JOURNAL, 1917, II, p. 121.



adopting the foreign nomenclature, now the cause of so much confusion.

I append a memorandum, written in reply to the Edinburgh circular, by Professor G. D. Thane, who is and always has been regarded as the leading authority on all matters relating to the literature of British anatomy.—I am, etc.,

ARTHUR KEITH,

President of the Anatomical Society  
of Great Britain and Ireland.

December 16th.

*Professor G. D. Thane's Memorandum on the Circular issued by the Dean of the Medical Faculty of Edinburgh University.*

This movement is an attempt on the part of publishers and certain anatomists to force the use of the German anatomical nomenclature on those who do not desire it. The matter has been discussed several times at the Anatomical Society, and the change is not there regarded with favour, as is shown by the report cited in the circular. Being unable to get the support of the society, the promoters are now endeavouring to attain their end in another way. The movement originated with Americans who had studied in Germany.

The German anatomical nomenclature was drawn up by a committee of the German Anatomical Society, in which I had a small part, and was adopted by the society in 1895. It may be a good nomenclature for German use, but it is not, in my opinion, suitable for British use, and I have always refused to adopt it. My view is confirmed, and indeed intensified, every year, as I see the unfortunate students struggling with the cumbersome, and to them unintelligible, Latin names, badly selected, and in many cases absolutely false.

The established and venerable British nomenclature undoubtedly has faults, but it is, on the whole, far better than the German. The British nomenclature is closely associated with the French, through which language it has in large measure come into our tongue; and where the British terms differ from those either of the French or German systems I have no hesitation in saying that ours are generally preferable.

The confusion which certainly exists is due solely to the action of the persons referred to in introducing the German nomenclature into the textbooks without ascertaining the views of anatomists. The difficulty will be got over at once by their retracing their steps and restoring the *status quo*.

In the *Spectator* of December 7th there is a reference to German work on another medical subject. In this is the statement: "But we can reasonably hope to be saved in future from the hasty adoption of German nomenclature." It is much to be hoped that this will turn out to be true; and it is devoutly to be wished that it could be made retrospective.

December 12th, 1918.

G. D. T.

#### THE TREATMENT OF WAR PSYCHO-NEUROSES.

SIR,—Your suggestive paragraph under the above heading (December 7th, p. 634) has prompted me to the following comments, for which I hope space may be found. The two broad lines of treatment adopted in these disorders seem so curiously opposed to one another, both in principle and practice, as to be inevitably thought-provoking. Although, as you suggest, both schools either actually or tacitly assume a psychic basis for the symptoms in the majority of the cases, their paths soon diverge. The one adopts any means—physical, mechanical, or psychic—which will relieve or combat the immediate symptoms and at the same time assuage the pain or distract the mind from painful memories. The other, the true psycho-analytical school, so far from suppressing or seeking to repress the painful recollections and emotional experiences which have led up to the disorder, strive to bring them to the light of day—rehearse, as it were, revivify, and induce the patient to live them over again.

It may be interesting to consider how far this latter practice and the principle upon which it is founded accord with ordinary experience in the class of case here dealt with. Do we as a matter of fact find that the patients are unable to recall the emotional disturbance which has led up to the present disorder? Unwilling they may be, but not, I contend, as a rule unable. Indeed, in the majority of the cases, so far from being embedded deep down in the

consciousness and in need of the delving process of the psycho-analyst to unearth them, they are painfully and terribly near the surface. One would say rather that they occupy the foreground of the consciousness. That the patients in such a case are unwilling to recall their experiences one is ready to believe, and that they are eager to avail themselves of any and every means of distraction would appear equally natural. The difficulty lies in rendering such means of distraction available to a patient whose one preoccupation is his illness and all that has led up to it. The soldier suffering from nerve shock, for example, starts at the sound of a motor horn, and is transported into a panic of fear at the thoughts of an air raid—in the first case owing to a pure physical reflex acting on a tense nervous system, and in the second through a simple association of ideas. To suggest that in either case he is unaware of the mechanism which produces this terror is to suppose that which is not. True, he may not express himself in technical language—he starts because, as he says, he is "all nerves," and he fears an air raid because "it reminds him of past experiences."

The mechanism which produced the original symptoms and which continues to reproduce them obviously varies with the individual case, and may be, and frequently is, multiple in character. The tendency of symptoms to become fixed often through sheer lack of will power in the subject is now generally recognized, and the importance of early and energetic treatment in such cases quite rightly insisted upon by many writers. The lowering of the affective tone, the emotional impressibility (of which, by the way, the sufferer is painfully aware), offers a favourable atmosphere for the development of the psycho-neuroses. Superadded to and complicating the effect of depressing emotions one usually has the effect of auto-suggestion or hetero-suggestion to which a man in a depressed state of mind is peculiarly vulnerable. And here it may be noted that where the all-pervading sense of depression is present, argument, persuasion, and counter-suggestion are usually futile. Any one who has attempted suggestive treatment in true melancholia will realize the truth of this, the difference, after all, being in degree, not in kind.

Seeing that the morbid condition arose from military service, and is definitely associated with it in the patient's mind, anything remotely connected with army life cannot fail to perpetuate the symptoms. It is true that, in the milder cases, removal from active service conditions is sufficient to inaugurate a cure, but the effect of discharge from service and its raising of the emotional tone, with frequently "miraculous cures," is one of the everyday phenomena for the neurological wards. One does not wish to labour the point, but it seems to me that in a great majority of the psycho-neuroses of the war the causes are neither so reconcilable nor the treatment so esoteric as the psycho-analyst would have us believe. There remains no doubt a residuum of cases which do not yield up their secrets so easily, and which will constitute the peculiar province of the psycho-analyst. Perhaps, however, the most important fact which emerges from a study of these cases is the primary importance of a detailed study of the individual case, both from the point of view of the original mental make-up and antecedents and the manner in which he is likely to react to a given set of circumstances. The mental pattern of man is so various, and the type of reaction so curious, and at times inexplicable, that a rigid adherence to any formula or fixed system of treatment stands self-condemned.—I am, etc.,

J. E. MIDDLEMISS,

(Late Lieutenant R.A.M.C., and Medical Officer to the Leeds Committee for Care of Mental Defectives.)

December 13th.

#### ACIDOSIS.

SIR,—In the note on acidosis by Dr. Dougall, published in your issue of December 14th, p. 655, I think there is some confusion between cause and effect. Some time ago I published a note in your columns on acidosis in children. I believed then that acidosis existed as a clinical entity and that many symptoms were caused by the circulation of acetone and acetone-producing bodies in the blood. Extended experience has taught me that acetonuria is a constant concomitant of most bacterial invasions in children. Thus I have found it in pneumonia, measles, anterior poliomyelitis, and in influenza, and a systematic



testing of the urine would most likely reveal it in all febrile disorders. It is highly probable that one of the earliest effects of bacterial invasion in children is katabolism of the body fats, with the production of  $\beta$ -oxybutyric acid, which begets diacetic acid, which begets acetone.

No doubt these bodies, circulating in the blood, produce symptoms, but so do other products of katabolism in many disorders, and this scarcely justifies a diagnosis based solely upon the presence of an abnormal body in the urine.—I am, etc.,

Wanstead Park, Essex, Dec. 15th.

A. CAMPBELL STARR.

#### THE ETIOLOGY OF INFLUENZA.

SIR,—With reference to the editorial note on the etiology of influenza, in your issue of December 14th, may I be allowed to state briefly another view, which at first sight may appear to be at variance with the theories tentatively put forward but is nevertheless not necessarily so? The conclusions arrived at are based on observations made by me in the course of an investigation carried out at the Royal Berks Hospital, Reading, and have already formed the subject of a communication which I was privileged to make at a meeting of the Reading Pathological Society held on December 12th.

The general opinion at the present moment appears to be that there exist at least two separate infections—a primary which renders the soil suitable for the secondary and more fatal one. Those who hold this view may be divided into two groups. One of these, possibly the larger, considers that the primary infection is the *B. influenzae* (Pfeiffer); the other, led by Nicolle and Lebaillly, believes that it is an unknown virus of a filtrable nature. There is, however, a third possibility which I venture to suggest. Not once have I been able to isolate Pfeiffer's bacillus from the Reading series of cases. Those who hold to the Pfeiffer tradition will say that the technique has been faulty or the media employed unsuitable. A review of the literature published since the onset of the first wave of infection earlier in the year, reveals the fact that only in a very insignificant proportion of cases has Pfeiffer's bacillus been found present. One is driven to the conclusion, therefore, either that bacteriological technique generally is of a very poor order or that Pfeiffer's bacillus is not a primary agent in the etiology of the disease. I prefer to hold the latter view. The second theory, that the responsible agent is a filter-passer, is a fascinating one. If there be such an agent it is unlikely that any vaccine, prophylactic or otherwise, now in use will be of any value, and the substantiation of this view would probably condemn us to wait for some considerable time before an efficient and scientific method of prevention or cure is found.

There is another possibility, however, which I advance as a result of my own observations. From every case which I have examined I have been able to isolate a certain organism. It is the one organism which I have found common to all cases of the disease. Is it not a little extraordinary that, if there be a special primary infection such as Pfeiffer's bacillus, the secondary infection should always be one particular organism rather than one thing in one case and something quite different in another? The latter surely is what we ought to expect. In point of actual fact, however, I have found the so-called secondary organism always to be the same. Not only so, but it is an organism apparently not to be found in the textbooks. We are faced, therefore, with the proposition, if we accept the two-infection theory, that, common to all cases there is a primary infective agent, known or unknown, followed (to judge from the Reading cases at least) by another organism of a hitherto undescribed character, also common to all. Personally, I am unable to accept such a theory, and would suggest that, in view of the rarity with which Pfeiffer's bacillus has been found, the latter organism has nothing to do with the epidemic. I would suggest that the real cause is the organism which I have invariably found in the Reading cases. I would suggest, further, that one of the reasons why it has not received that attention which it deserved lies in the fact that it is extremely pleomorphic in its character, especially when first isolated. It may grow in the form of enormous bacilli, or as extremely long chains of giant cocci, or cocci alternating with giant bacilli of

all shapes. Later on, under certain conditions, it loses this pleomorphism and comes to resemble a staphylococcus (with certain minor differences), and finally assumes the form of large deeply Gram-positive tetrads. The cultural characters vary with the different morphological phases, and it shows an extraordinary variability towards Gram's stain. It is haemolytic, insoluble in bile, and is pathogenic to animals. Pleomorphism and apparent instability are its chief characteristics. It may simulate nearly every known type of organism. In spite of this it tends to assume, under certain conditions, a stable form mentioned above. It is interesting to note in this respect that from the spleen of two cases which died I was able to isolate in culture only the stable form of the organism. I therefore venture to put forward the theory that the organism possesses two phases at least, one pleomorphic and unstable, the other stable and more uniform. The former, I would suggest, bears some relation to the acute stage of the disease, and is the form found where a natural immunity is wanting. The stable form is assumed when immunity has been established or is present naturally. If the invariable presence of this organism is confirmed by other workers it will probably lead to radical changes in our ideas of bacterial activity. It would mean that certain organisms at least possess some sort of life-cycle, one or more phases (corresponding to the pleomorphic unstable stage) being associated with acute clinical symptoms and with lack of immunity, while in cases of natural or acquired immunity the organism is present only in the more stable stage—its end phase. Such a theory would at once explain the relationship of Hofmann's to the Klebs-Loeffler bacillus, around which so much controversy has raged. The latter, which is pleomorphic, may be regarded as the form met with in cases devoid of immunity, while the more stable form—the Hofmann's bacillus—would represent the organism as found in contacts who do not contract the disease, presumably because they already possess an acquired or natural immunity. It would also confirm a view which I expressed in 1915, and which Hort has independently expressed and elaborated—namely, that the meningococcus is merely a phase in the life-history of a pleomorphic diptheroid. The meningococcus in that case would represent the end or stable phase of the organism and its presence would be an indication of the degree of immunity present. Such a view could be still further illustrated and opens up important side issues in relation to treatment, etc., and would explain many things hitherto obscure in bacteriology. It is a view not inconsistent, as I have said, with a filter-passer theory, which I have not had the means to investigate. If, however, it be substantiated, it means that preventive and curative treatment are at once possible, and in this connexion may I add that a sensitized vaccine made from this organism has already given evidence of this curative power.—I am, etc.,

Reading, Dec. 17th.

ROBERT DONALDSON.

#### BOOT HEELS AS A CAUSE OF FLAT-FOOT.

SIR,—Under the above heading Captain Fairweather has published three letters in the *BRITISH MEDICAL JOURNAL*; yet in the last, on December 14th, he writes: "Consequently with high heels the arch is preserved"; which statement repudiates his own heading. He further says: "With heelless boots the weight falls mostly on the heels," and later, "the weight of mountaineers descending steep slopes falls mostly on the heels." Likewise two obviously contradictory statements, for a heelless boot lowers the heel and a downward slope raises it.

It seems to me that the only consistent part of the three letters is that the conclusions disagree, which is the logical consequence of the arguments advanced.—I am, etc.,

Clyst St. George, Devon, Dec. 13th.

D. W. SAMWAYS.

SIR,—Captain Fairweather, in the *JOURNAL* of December 14th, states that "standing tiptoe exercises unfortunately strengthen the gastrocnemius and soleus, whose action flattens the arch when the weight is on the ankle-joint." Let him try an experiment which I tried thirty years ago. I marked on the inner side of my own son's foot a black



curved line following the curve of the plantar arch. This was photographed in the standing position. Then the boy raised his foot to tiptoe and a second photograph was taken, which showed a marked increase in the curve of the black line. The explanation, of course, was that the flexor muscles, acting with the tibialis posticus and peroneus longus, concurrently with those muscles mentioned by Captain Fairweather, acted as bowstrings or tie-rods to the arch. All this I have published repeatedly.—I am, etc.,

Gloucester, Dec. 14th.

T. S. ELLIS.

\* \* \* This correspondence cannot be continued.

## Universities and Colleges.

### UNIVERSITY OF OXFORD.

The following candidates have been approved in the examinations indicated:

SECOND M.B.—*Materia Medica and Pharmacology*: C. K. J. Hamilton, M. H. Macketh. *Pathology*: H. P. Hodge. *Forensic Medicine and Public Health*: T. A. Brown. *Medicine, Surgery, and Midwifery*: C. F. Krige, A. E. Thomas, H. W. Toms, B. Tordoff.

At a congregation held on December 14th the degree of bachelor of medicine was conferred on the following:

A. L. Thomas, B. Tordoff, H. W. Toms, C. F. Krige.

### UNIVERSITY OF CAMBRIDGE.

The Special Board for Medicine has elected Dr. G. H. F. Nuttall, F.R.S., Quick Professor of Biology, as its representative on the General Board of Studies for a period of four years.

### UNIVERSITY OF EDINBURGH.

The following candidates have been approved at the examination indicated:

FINAL M.B., Ch.B.—R. F. Boltman, H. C. Braysbaw, E. B. Brown, D. H. Cameron, E. Chongdon, A. Chen Yu Chow, J. M. M. Cole, K. C. Crosbie, H. N. Daniel, C. G. L. van Dyk, W. Y. Eccott, E. C. Fahmy, N. D. P. de V. Graaff, G. H. Gunn, G. J. Hughes, L. W. Jones, N. W. Johnston, E. G. Joseph, T. W. Lowden, Anne L. MacDonald, A. L. McIlwaine, J. K. Mitchell, G. Nicholson, I. Platzky, J. J. Wessels.

### ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary Council was held on December 12th, when Sir G. H. Makins, President, was in the chair.

The late Mr. Nottidge Charles Macnamara.—A vote of condolence was passed to the relatives of the late Mr. Macnamara, past Vice-President and past member of the Council.

Issue of Diploma of Fellow.—The diploma of Fellowship was granted to three candidates found qualified at the recent examination.

Election of Examiner.—Mr. V. Warren Low (St. Mary's Hospital) was elected a member of the Court of Examiners.

Harveian Oration.—This will be delivered by Sir Anthony Bowlby on February 4th, 1919.

## The Services.

### INDIAN MEDICAL SERVICE PROMOTION.

IN view of the special conditions under which promotion has been made in certain ranks of the Royal Army Medical Corps during the present war, the Secretary of State for India in Council, in consultation with the Army Council, has adopted the following special measures in regard to the promotion of officers of the Indian Medical Service:

Lieutenants of the Indian Medical Service appointed up to December 31st, 1916, will be promoted to captain, with effect from the completion of one year's service for promotion. For officers appointed thereafter the usual period of service for promotion (three years from date of first commission) will again come into force. Previous military service rendered after July 16th, 1915 (the date of first commission of officers appointed in the last competitive examination for the Indian Medical Service), as a medical or combatant officer, or in a post usually filled by an officer, will count towards promotion as already announced.

Special promotion under the measure now announced will not be given from an earlier date than September 1st, 1915, and will not carry pay and allowances from an earlier date than September 1st, 1916. Such promotions dating between September 1st, 1915, and September 1st, 1916, though not carrying pay, will be effective for purposes of wound, injury, and family pensions or gratuities.

The Secretary of State for India in Council has also approved the antedating of the promotion of certain captains of the Indian Medical Service with the view of securing for them a

relative equality in seniority with that of corresponding officers of the Royal Army Medical Corps whose promotion was specially accelerated by war conditions. These antedates will carry pay.

Promotion in each individual case will be subject to the officer being recommended as fit for promotion.

On the conclusion of the war officers will not be eligible for promotion to higher substantive rank until their total period of service for promotion is equal to that which would have been required if the special measures herein detailed had not been adopted.

Officers are not entitled to assume higher rank on completing the above-mentioned periods of service until their promotion has been notified either in Expeditionary Force Orders, the *Gazette of India*, or the *London Gazette*.

Antedates of rank and retrospective promotions due under the measure will now be gazetted as soon as possible, but some interval must necessarily elapse in those cases in which recommendations as to fitness for promotion have to be obtained.

Respective adjustments of pay becoming due in consequence of these promotions will be made as soon as practicable after the appearance of the *Gazette* notification of promotion.

The Secretary of State for India in Council has also decided that, with retrospective effect from the beginning of the war, acting rank for officers serving in the field shall be granted in the Indian Medical Service to the same extent generally as obtains in the Royal Army Medical Corps.

### SERVICE MEMBERS OF PARLIAMENT.

THE Army Council has made the following rule with regard to officers who may be elected members of Parliament:

Regular officers on the active list will either be seconded or placed on half-pay from the date of their election to Parliament; those in the Reserve of Officers and on the retired list will revert to unemployment. Officers in the Special Reserve will be demobilized; those in the Territorial Force will be demobilized (officers at present in the Territorial Force Reserve will remain therein), and those in the New Army will relinquish their commissions on election to Parliament.

## Obituary.

GEORGE OGILVIE, M.D., B.Sc. EDIN., F.R.C.P. LOND.,  
Senior Physician to the French Hospital.

THE death of Dr. George Ogilvie at the age of 66 will come as a surprise to a very large circle of professional and non-professional friends. He was a familiar figure at many social gatherings when such were common, and his fame as a raconteur, especially of Scottish stories brimful of the unctuous humour especially characteristic of them, will not soon fade from the memories of those who knew him best. But George Ogilvie was much more than a good story teller. He was an exceedingly well trained scientific physician, a man of wide human sympathies and sterling honesty, and a staunch and trusty friend. His big, sturdy frame and his somewhat severe expression were at first sight somewhat awe-inspiring, but when his kindly, genial smile irradiated his features even a casual acquaintance felt at home with him at once.

Dr. Ogilvie took first of all his B.Sc. degree at Edinburgh University in the mathematical sciences, and gained numerous prizes and distinctions. He then proceeded to the study of medicine, and took his M.B. in 1876. After graduation he went to the Continent, and studied in Austria, Italy, and France, and in his Continental wanderings he acquired that easy command of foreign languages—especially French—which proved so useful not only to himself but in many instances to the medical profession of London. He was always in request on the occasion of Continental medical deputations to this country, and his assistance on such occasions was invaluable. He early became associated with the Hospital for Epilepsy and Paralysis at one time in Regent's Park and now in Maida Vale—and he remained up till his death on its active staff. His association with this hospital naturally stimulated his interest in nervous diseases, and his contributions to medical literature had reference chiefly to the problems connected with these diseases. He was also senior physician to the French Hospital, and he was a Chevalier of the Legion of Honour, and had been decorated by the late King of Portugal and by the King of Italy. He was elected a Fellow of the Royal College of Physicians in 1908.

Two or three years ago he had an illness which caused concern to his friends, and those who knew him best recognized with no little concern that he had to a large extent lost the spring and energy which used to characterize him. His final illness was brief, and was no doubt



aggravated by an accidental fall which occurred a few weeks before the end came. He had a strong and striking personality, and his death leaves not only his friends but the whole community poorer. He had no family, but he leaves a widow, to whom all his friends will wish to offer their sincere sympathy.

WE regret to record the death at West Kensington on December 9th of Dr. REGINALD PERCY COCKIN, assistant medical entomologist to the London School of Tropical Medicine, and director of the Seamen's Hospital venereal disease clinic at the Albert Dock. He was born at Hull in 1879, and studied medicine at Caius College, Cambridge, and the London Hospital; he graduated M.A., M.B., and B.C. in 1906, and proceeded M.D. seven years later. After acting as casualty house-surgeon of Hull Royal Infirmary he entered the West African Medical Staff, where he served as district surgeon of Okigwi in Southern Nigeria, and as medical officer of the Niger Cross River expedition in 1908-09. In 1910 he joined the Colonial service in Cyprus, where he was a district medical officer and examiner under the Pharmacy Act. In 1913 he was transferred to Grenada, West Indies, where he held the posts of resident surgeon to the colony and yaws hospitals and bacteriologist. In 1915 he took a temporary commission as lieutenant in the R.A.M.C., and served under Colonel Leiper in Egypt in the investigation of bilharziosis. After his promotion to captain he was invalided, and then rejoined the staff of the London School of Tropical Medicine as assistant helminthologist and assistant medical entomologist under Lieut.-Colonel Alcock, C.I.E., and also acted as deputy director of the school. He was a Fellow of the Society of Tropical Medicine and Hygiene, and the author of several papers on tropical diseases.

WE regret to record the death of Dr. HUGH PALLISER COSTOBADIE, which took place at Midsomer Norton, Somerset, on December 3rd, from pneumonia following influenza. He was born in 1880, the eldest son of Ackroyd Palliser Costobadie of Torquay. His early life was spent in New Zealand, Canada, and America. He entered Guy's Hospital for his medical education in 1899, and obtained the M.R.C.S. and L.R.C.P. diplomas in 1905 and the F.R.C.S. Edin. in 1913. After holding appointments as house-surgeon to the Royal Ear Hospital and resident surgical officer at St. Mary's Hospital for Women, Manchester, he settled in Midsomer Norton. He was surgeon to Paulton Memorial Hospital and medical officer to Downside School; at the former he did a large amount of excellent surgical work. Dr. Costobadie was the Representative for the Bath Division at the Representative Meetings of the British Medical Association. At the outbreak of the war he offered his services, and was in France with the 12th Field Ambulance in August, 1914; he served with the same ambulance for twelve months, and was mentioned in despatches. At the expiration of his contract he resigned his temporary commission and returned to practice. Later he joined the staff of the Bath War Hospital, where his good surgical work was highly appreciated. He was held in high esteem both as a doctor and a friend in the country surrounding his home. He married Ellen Constance, the daughter of Hamilton Norman Sleight of Melbourne, Australia, who survives him, together with his three sons.

Dr. MALCOLM BLACK of Glasgow, who died on December 12th at the age of 70; received his medical education at Glasgow University, where he graduated M.B., C.M. in 1874, and M.D. in 1887. He had practised in the Town-head district of Glasgow for forty years, and was consulting physician to the Glasgow Maternity Hospital. He was a member (and late president) of the Glasgow Obstetrical and Gynaecological Society and of the Glasgow Eastern District of the British Medical Association.

Dr. ALEXANDER CAMPBELL NICHOLSON MCHATTIE, medical officer of Zanzibar, East Africa, died there of pneumonia after influenza on November 17th. He was educated at Edinburgh, where he graduated M.B. and Ch.B. in 1900, subsequently taking the D.P.H. at Cambridge, with distinction in hygiene, in 1911, and the diploma in tropical

medicine and hygiene in 1912. After holding the post of chief medical officer to the Government of the Bahamas Islands, West Indies, he joined the West African Medical Staff, and served in Nigeria. He had recently been appointed to Zanzibar.

THE death took place, on November 7th, at Dundrum, co. Tipperary, of Dr. STEPHEN KEOGH from pneumonia following influenza. He received the diplomas of L.R.C.S.I. and L.A.H. in 1891, and was for some twenty-six years Poor Law Medical Officer and Medical Officer of Health of the Kilpatrick Dispensary District in the Cashel Union. He had a large practice and was very popular with all his patients. Dr. Keogh was a man of fine stature and physique, so that his death at a comparatively early age, and after a few days' illness, came as a great shock to his many friends. He was much respected by his fellow practitioners in South Tipperary.

Dr. LEON BRAILLON, sometime professor of clinical medicine in the medical school of Amiens and physician to the hospitals of that city, died on October 9th of streptococcus infection. He was mobilized at the beginning of the war, and was taken prisoner at Charleroi. He had suffered much in captivity, and was repatriated in broken health. He returned to France to find his home destroyed. Nevertheless he insisted on resuming his military duties, and it was in the course of a bacteriological research at the Val-de-Grâce Hospital that he met his death.

Dr. MORELLI, professor of medicine in the University of Pisa, died on October 16th, 1918, as the result of infection contracted in the course of a bacteriological research in influenza.

## Medical News.

PROFESSOR EMILE ROUX has resigned the post of director of the Pasteur Institute, Paris, and Dr. Albert Calmette of Lille has been appointed his successor.

THE programme of lectures to be delivered before the Royal Institution of Great Britain, 21, Albemarle Street, W.1, during the early months of next year, has been issued. The Friday discourse on January 24th will be given by Lieut.-Colonel Andrew Balfour, C.B., C.M. M.D., on "One Side of the War"; that on February 7th will be given by Colonel J. G. Adami, F.R.S., C.A.M.C., on "Medical Research in its Relationship to the War"; and that on March 14th by Professor Arthur Keith, M.D., F.R.S., on "The Organ of Hearing from a New Point of View."

THE London County Council has decided to increase temporarily the remuneration of its district medical officers. For attendance, including all requisite medicines and simple surgical dressings, together with such certificates as may be required, the fee has been raised from 10s. to 11s. 6d. a year for each man; for certificates for persons not allowed medical attendance by the Council, from 2s. 6d. to 3s. for each certificate; for each certificate given under the regulations dealing with suspected infectious disease in common lodging-houses, from 7s. 6d. to 8s.; and for each certificate under the regulations in connexion with the Children Act, from 10s. 6d. to 12s.

THE Local Government Board has issued a circular dated December 16th, stating that it is now, in conjunction with the Treasury, prepared to consider applications from local authorities for permission to raise loans in order to enable them to put into operation schemes of public utility, such as housing, water supply, sewerage, hospitals, gas and electricity, and construction and improvement of roads, which are of urgent importance. The president, Sir Auckland Geddes, is desirous of receiving as early as possible particulars of any works which county or district councils are proposing to carry out at once and pay for by means of loans. It is Sir Auckland Geddes's particular desire that all schemes for the housing of the working classes after the war should be submitted to the Board without delay.

THE sixteenth annual report of the Gordon Memorial College at Khartoum shows that in spite of adverse conditions and lack of personnel the work, both educational



and research, is proceeding satisfactorily. The proposal to erect a medical school in Khartoum as a Sudan memorial to Lord Kitchener has been endorsed by the governing body. A committee appointed to give effect to this proposal has not yet issued an official report, but it appears that about £9,000 has been already collected in the Sudan, very largely by subscriptions from natives. There is every hope of raising a worthy building to commemorate the founder of the College as soon as conditions are favourable for building on a large scale. Dr. Chalmers, in his report on the work of the Wellcome Tropical Research Laboratories during 1917, states that the difficulty of obtaining apparatus and reagents has increased and seriously interferes with the work of the chemical section; but, fortunately, the bacteriological and entomological sections have so far been able to keep up their supplies. The number of routine examinations carried out in the laboratories was larger than ever before; this was partly due to the presence of cerebro-spinal meningitis in the Sudan. Until last year it was not possible to carry out the proper technique of the Wassermann test in routine examinations, owing to the difficulty of keeping guinea-pigs alive in the climate of the Sudan; but through the aid of the Zoological Gardens authorities this trouble has now been tided over, at least for the time being.

## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Attilology*, Westrand, London; telephone, 2631, Gerard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate*, Westrand, London; telephone, 2630, Gerard.

3. MEDICAL SECRETARY, *Medisecra*, Westrand, London; telephone, 2634, Gerard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

## QUERIES AND ANSWERS.

### INCOME TAX.

"IN DOUBT" explains that A., B., and C. were in partnership. A. retired in December, 1917, selling his share of the practice, but not of the book debts, to D. He asks: What is the position with regard to payment of income tax on the book debts of the old firm?

A.'s liability ceases as from the date of his withdrawal from the firm; the new firm become liable to income tax on the basis of the previous earnings of A., B., and C. Assuming that the cash basis has been adopted and will be continued, it would seem to follow that B., C., and D. must compute their liability according to the full cash receipts of their present practice, including those debts (or an estimate of their amount) being paid to A. On that basis D. commences to pay tax on his share of the full earnings of the practice as from the date of his entry, even though the cash has not reached him, but will become entitled to the same ultimate treatment as A.—that is, he is liable for tax on unrealized profits now, but will not be liable for profits realized after his connexion with the new firm ceases.

## LETTERS, NOTES, ETC.

### QUININE IN BRONCHOPNEUMONIA.

DR. T. R. PROCTOR-SIMS (Canonbury) writes to record his experience as to the value of quinine in the bronchopneumonia of children: In the recent epidemic of influenza I had many cases to treat, and directly I detected the signs of bronchopneumonia in the lungs I put the child on quinine, with a previous dose of calomel if necessary. I did not lose a single case. The ages of the children ranged from 12 months

to 12 years, and some were very ill when I first saw them. The surroundings and facilities for nursing were very bad in some cases, facts which give me all the more confidence in recommending the drug. I pressed it in doses proportionate to the child's age until the temperature began to fall. I then gave it twice or three times a day. For the restlessness and sleeplessness which so often accompany the disease I found nothing to equal brandy in carefully regulated doses.

### SPIRITS FOR INFLUENZA.

THE Ministry of Food issued the following notice to the press on December 16th: In view of representation that have been made that there is in some districts a shortage of spirits required in treatment of patients suffering from influenza, arrangements are being made by the Ministry of Food that in the event of information reaching the Ministry indicating that an additional supply of spirits is necessary in any particular district for the treatment of such patients, the Ministry will direct a special supply to that district. Steps are being taken by the Ministry to obtain representative medical opinion as to the reality and extent of the need in the various localities affected. All bottles of spirit supplied for this purpose will bear distinctive labels, and will only be sold against a certificate from the doctor attending the patient.

### TEMPORARY PEG LEGS.

A MAKER of artificial legs with forty years' practical experience sends us the following note:

Major Chapple's report on temporary pegs in your issue of November 30th (p. 597) is interesting and instructive; but neither he nor any other surgeon has yet noticed the importance of gradually weighting (with lead strips) the bottom end of pegs, to give the pendulum swing so important in walking. The craze for lightness in legs is illogical, and the absence of pendulum swing greatly increases the difficulty of control by the fragmentary muscles left on a short stump; hence the jerky sudden step of the wearer. When he gets his complete leg, weighing from 7 to 12 lb., he has to learn walking all over again. Some of my best walkers wear a lead plate in their boot to obtain this easy pendulum swing which matches the sound leg (weight about 18 lb.). The necessity for a contracting socket to compress and follow the shrinkage of the stump is obvious, but the gradual adding of weight to the peg end until it is nearly the weight of the finished jointed leg to come is never mentioned. The "Eaton gate" is the best practical temporary peg, as described by Major Chapple, and would be perfect if intelligently and gradually weighted at the foot for swing. The contracting thigh bucket should be made of the best bend leather, which makes a perfect socket for the finished jointed leg when required, and saves all waste of material.

### COAL FOR INVALIDS.

DR. R. ACKERLEY (Llandrindod Wells) writes as follows with reference to the notification from the Coal Controller regarding additional rations for coal for invalids, published in the JOURNAL of November 25th, p. 592: Is not the Controller badly advised? He says: "The only condition under which a medical certificate for an extra coal ration on account of illness should be given is where the patient is to remain in bed." I feel sure that other medical men will agree with me that the warmth of a fire is required much more when the patient begins to get up but is not yet able to leave the bedroom; and also that chronic invalids—such as sufferers from certain cardiac or pulmonary conditions, and also from rheumatism and arthritis—need the warm bedroom far more than those who remain in bed, as the latter can be kept sufficiently warm by hot-water bottles and extra blankets.

MESSRS. CADBURY of Bournville have for some considerable time prepared, at the suggestion of the Ministry of Food, a special preparation of sweetened cocoa and milk powder. The mixture makes a very palatable beverage which in the present shortage of milk should be very useful. The preparation can also be utilized for making plain chocolate by the addition of cocoa butter.

THE appointment of medical referee under the Workmen's Compensation Act, 1906, for the Dartford and Gravesend County Courts, Circuit No. 48, is vacant. Applications to the Private Secretary, Home Office, by January 6th.

## SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	...	...	0 6 0
Each additional line	...	...	0 0 9
Whole single column	...	...	4 0 0
Whole page	...	...	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restantes* letters addressed either in initials or numbers.



## An Address

ON

THE TREATMENT OF SOME COMMON  
FEMALE AILMENTS.\*

BY

FREDERICK J. McCANN, M.D. EDIN., F.R.C.S. ENG.,

SURGEON TO THE SAMARITAN FRUIT HOSPITAL FOR WOMEN,  
LONDON, N.W.

It must be with feelings akin to despair that the practitioner turns for guidance to the modern textbooks on the diseases of women. The penumbra has swung so far in the opposite direction that one arises from the perusal of the recent textbooks thinking that surgical treatment is the one and only remedy for suffering women. Yet it is by the judicious combination of medical and surgical treatment that the practitioner becomes a safe guide to his patient in her struggle against disease. All common ailments are important because they are common, and for this reason, it for no other, require serious consideration. My purpose, then, is to direct attention to those remedial agencies which I have found useful in the treatment of what may be termed "common female ailments."

## MENSTRUAL DISORDERS.

Amongst common female ailments menstrual disorders are frequently encountered. The recent work on the ductless glands has shed a new light on the phenomena involved in the process of menstruation and has been helpful, too, in pointing the way to more rational methods of treatment. When, therefore, a woman seeks advice for disordered menstruation it is necessary to observe her closely, in order to determine whether she exhibits any signs or symptoms suggesting disturbance of function on the part of one or more of the ductless glands. Has she, for example, deficient or excessive thyroid secretion? or has she deficient or excessive ovarian secretion? or is the pituitary gland at fault?

*Amenorrhoea.*

It is now possible to treat successfully many examples of amenorrhoea and scanty menstruation which were formerly the flotsam and jetsam of gynaecological practice, cast hither and thither by the tide of therapeutic fashion.

Amenorrhoea, in the absence of genital defects, was generally treated with preparations of iron and arsenic, on the assumption that the cause was "poorness of blood." Observation and experience teach that many of those who suffer from amenorrhoea and scanty menstruation are not anaemic, and that the cause must be sought in other directions. Here glandular therapy comes to our aid, and the employment of thyroid and ovarian extracts marks a distinct advance in treatment.

The obese female with scanty and irregular menstruation accompanied by headaches, depression, and pelvic pain can be successfully treated by thyroid extract. To obtain success the thyroid extract must be administered in small doses for a lengthy period. Not more than 1 grain should be given daily, and this dose is best administered at bedtime. Indeed, it would appear that smaller doses are more efficient, and I now frequently prescribe  $\frac{1}{2}$  or  $\frac{1}{4}$  grain doses. The dose should be taken without intermission unless there is evidence of intolerance, when a still smaller dose of  $\frac{1}{10}$  grain may be given, or the remedy discontinued for two or three weeks. Ovarian extract gr. v administered thrice daily may be added.

When the amenorrhoea is associated with anaemia or chlorosis the addition of thyroid to the usual treatment with iron and arsenic is productive of quicker and better results.

*Dysmenorrhoea.*

Those who complain of pain in varying degrees before or during menstruation form a large group of female sufferers. The first step towards correct treatment is to determine where the pain is located. In the commonest type of menstrual pain—the so-called spasmodic dysmenorrhoea—the pain is located in the uterus and is due to painful contractions of that organ. When the pain is so

severe as to produce vomiting, dilatation of the cervical canal should be recommended, and if done as it should be, without injury to the hymen, it can be repeated should one dilatation not produce the desired effect. For those who suffer in a less degree a variety of pain-killing remedies are advised. Let me add, however, that the treatment prescribed during the intervals between the periods is of prime importance. Everything should be done to increase the strength and power of resistance and under no circumstances should the woman be encouraged to become an invalid. Fresh air and a moderate amount of exercise short of fatigue should be advised, whilst the gastro-intestinal tract should receive attention. Climate and environment have a marked influence on menstrual disorders, and this serves to emphasize the importance of general treatment.

To relieve menstrual pain a saline purgative before the expected period is both a simple and efficacious remedy, whilst the mustard foot bath is sanctioned by antiquity. Ammonia gr. v-x, followed if required by gr. v every hour for two doses, is one of the best analgesics. Where there is excessive blood loss at the monthly periods, and even apart from this, thyroid and ovarian extracts are useful adjuncts.

A uterus struggling with spasmodic pain or profusely shedding tears of blood in its sexual agony is frequently relieved by marriage, but this brings me into the domain of eugenics and is beyond the scope of this paper.

*Menorrhagia.*

Brief reference must be made to some examples of excessive loss of blood during menstruation, more particularly to those where at the time of puberty the onset of menstruation is heralded by profuse blood loss. For such the administration of calcium lactate, gr. x-xv one hour before food, will be found beneficial. Others, again in the absence of detectable pathological lesions, are assumed to be due to excessive ovarian secretion, and these are improved by the administration of thyroid extract.

## CLIMACTERIC DISORDERS.

To enumerate the remedies which have been used in the treatment of climacteric disorders would occupy a large part of the time at my disposal. I will only refer to two remedies which I have found to be of real value—to wit, thyroid extract and ichthyol. There is probably no remedy which has such power in controlling the vasomotor effects which follow the cessation of menstruation as thyroid extract. After menstruation has ceased a rearrangement of the action and interaction of the ductless glands takes place in the human female. In some individuals the disturbance is slight and transitory, in others profound and long-continued, but while it lasts it is distressing, and causes both physical and mental discomfort. Ovarian extract and corpus luteum extract have been tried with varying degrees of success, either alone or in combination with thyroid, but as yet I have failed to convince myself that they are of real value, and I am disposed to pin my faith to thyroid alone.

Ichthyol given in pills, 2 grains thrice a day, is a method of treatment which is certainly beneficial. How it acts I do not know, probably as an intestinal antiseptic, for purgation by salines is undoubtedly helpful, thus suggesting that intestinal toxæmia plays a part in the causation of the symptoms. For the artificial menopause produced by surgical operations a similar mode of treatment should be adopted.

## UTERINE AND VAGINAL DISCHARGE.

The presence of a discharge—the commonest ailment in women—is variously regarded according to the habits of the individual. By the unclean it is looked upon as an old friend, whilst to those of cleanly habit it is a source of continued distress.

The chief seat of production is the cervix uteri, and next to this the ducts and glands of Bartholin. The latter are frequently overlooked as a cause of chronic discharge, and in making a local examination the orifices of the ducts should be inspected and the glands palpated between the finger and thumb. It is in these situations that the gonococcus, snugly entrenched in his dug-out, lies in wait ready to smite the invader.

In association with discharge from the cervical canal there is found a varying degree of adenomatous growth,

\* Delivered before the West London Medico-Chirurgical Society, December, 1918.



the so called cervical erosion, surrounding the os externum. Remedial agents must therefore be applied to the cervical canal and to the surface of the erosion.

*Carbolic, cautery, curette, cut*—these four words summarize the treatment necessary.

*Carbolic acid*, just liquefied from the crystalline state, is an efficient local application, having the additional advantage of being painless. The cervical canal should be dried with antiseptic wool, and then the carbolic applied, care being taken that the application is not made above the level of the internal os uteri. The application should be made twice weekly, and if in six weeks' time the discharge is not cured no further local application should be made.

*Cautery*.—The electric cautery is of great service in the treatment of erosions, and can with care be applied to the interior of the cervical canal, but it causes pain.

*Curette*.—The curette is indicated when there is a hypertrophic erosion, and is best employed under a general anaesthetic.

*Cut*.—Marked erosions should be excised. Lacerations in the cervix should be repaired, and in women nearing the menopause where there is thickening and enlargement of the cervical tissues the cervix should be removed by supravaginal amputation. These operations I believe to be of importance in preventing the development of cancer.

#### *Bartholin's Glands and Ducts.*

A chronic gleet discharge issuing from the Bartholinian ducts is best treated by slitting the ducts, and if there be enlargement of the glands and cystic formation with intermittent accumulation of mucus, the cyst should be removed with the gland.

Applications may be made to the cervical and vaginal walls by means of tampons or soluble pessaries, and for this purpose ichthyol, 5 to 10 per cent. in glycerin, is a valuable remedy. In the treatment of uterine and vaginal discharge local applications are much to be preferred to treatment by douching. Soluble pessaries should be inserted every second night at bedtime, a diaper being worn to catch the dissolving fluid. This treatment should be continued for three weeks, and once a week a douche of tepid water containing two drachms to the pint of common salt should be used as a cleansing agent.

Time will not permit discussion of the treatment of gonorrhoea, but here, again, the direct application of local germicidal agents by the practitioner should entirely replace treatment by douching, etc., undertaken by the patient.

For vaginitis the direct application of remedial agents should entirely replace their employment by means of a douche.

#### UTERINE AND VAGINAL HAEMORRHAGE.

Bleeding from uterus or vagina is a symptom, and before giving advice or prescribing any remedy a careful examination should be made to ascertain the source of the bleeding and its probable cause. The possibility of the presence of malignant disease should never be forgotten, and should be carefully considered before any opinion is expressed.

Let me give three rules to serve as a guide:

1. Irregular bleeding during menstrual life demands careful local examination to determine the cause.
2. Profuse or irregular bleeding at the menopause should give rise to the suspicion that cancer is present.
3. Bleeding after the menopause should be regarded as being due to cancer.

By attention to these rules many early examples of cancer would be detected, and if treated by operation in the early stages many lives would be saved.

Having determined that the bleeding is not due to malignant disease or to a uterine or pelvic new growth, it may be found to be due to a fibrotic condition of the uterine wall—uterine fibrosis—or to adenomatous growth in the endometrium, the so-called fungous endometritis, or to a polypus or other causes.

If, then, it is assumed that the cause of the bleeding does not necessitate an immediate surgical operation and that medical treatment for a time at least is indicated, let us see what medical treatment can be employed.

Potassium bromide is one of the most useful drugs in the treatment of uterine haemorrhage, as it has a marked sedative effect on the genital organs. I am in the habit of prescribing it in the intervals between the periods, and the ergotin senecioidei of Parke, Davis and Co. during the period. The latter drug is given two days before the expected period and is continued during the period and for two days after its cessation. As an alternative to the ergotin senecioidei a mixture of ergot and dilute sulphuric acid may be used:

R Ext. ergotae liq....	℥ss. xxx
Acid. sulphurici .....	℥ss. x
Magnesi sulphatis .....	℥ss. xx
Aq. cinnamomi ...	℥ss. i
	T.i.d.

As already mentioned, thyroid extract will be found a useful adjunct in the treatment of uterine haemorrhage.

When the bleeding is coming from the vagina the cause should be treated by local remedies or surgical operation. For bleeding spots seen on the vaginal wall after the menopause pure carbolic or tincture of iodine should be used. Injuries to the hymen or vaginal walls must be treated on ordinary surgical lines.

#### DISPLACEMENTS—UTERINE AND VAGINAL.

The best treatment of uterine and vaginal displacements is prevention. This statement, although of the nature of a paradox, is none the less true. Extreme examples of prolapse stand forth as an opprobrium to our calling. They should become as rare as colossal inguinal herniae are to-day. Such herniae were common enough thirty years ago, but so much has been done by preventive and curative treatment that large herniae are now among the curiosities of surgery.

The careful conduct of labour and the puerperal state is one of the chief means of preventing displacements. The accurate repair of injuries to the perineum and vaginal walls, including the apposition of the separated levatores ani muscles, should be an essential part of obstetrical technique.

As a further means of prevention it should be made a rule of practice that every woman should be examined six weeks after her confinement in order to determine the state of the uterus and vaginal walls, and any defects should be corrected by appropriate treatment.

I can almost hear my audience say: This cannot be done, the women would object! To this I would reply that unless it is done no real advance will be made in prevention and we will only continue to muddle along in the same old way. I should like to ask a number of conscientious and experienced general practitioners this question: What proportion of your patients make a complete recovery from their confinements? I know of no reliable statistics on this subject, and I fancy if investigations were made the results would be somewhat startling. It is a commonplace to say that the results depend in large measure on the skill and care with which a woman has been treated during labour and the puerperium. But apart from all this there are causes at work which cannot be prevented even with the greatest skill and care. Too often, indeed, the medical attendant is most unjustly blamed.

Even if the possibility of infection could be entirely eliminated there are causes at work which leave their imprint in varying degree. There are still unfortunately many instances in which mild infections have produced local disease and a proportionate amount of general debility, but to these I will not make further reference. My object is to direct attention to the great group of sufferers whose condition is primarily caused by deficient restoration of organs and tissues to the pre-gestational state. This deficient restoration may now be considered as it affects (a) the abdominal walls and abdominal contents; (b) the uterus; (c) the vaginal walls and pelvic floor.

#### *Abdominal Walls and Abdominal Contents.*

Who can accurately foretell how a woman will stand the strain of pregnancy and labour? Labour is a great muscular effort, and yet how often this is forgotten by those who encourage the pregnant woman to lead the life of an invalid. Everything which is not inimical to the pregnancy should be done to promote and preserve muscular tone.



The abdominal walls are stretched in varying degrees in different individuals. In some there is little change, in others the musculature becomes a thing of shreds and patches, whilst between these extremes the amount of stretching encountered exhibits every variation.

The abdominal contents become loosened and there is a tendency to descent when the erect position is assumed. This condition becomes aggravated if as a result of pregnancy a woman has lost flesh. Thus nature teaches us that the woman's nutrition should be well maintained both during and after pregnancy. The retentive power of the abdomen is augmented by improving the muscular tone of its walls and by increasing the amount of fatty tissue. The thin woman whose abdominal walls have been overstretched and who has lost flesh as a result of her pregnancy will certainly suffer from a general descent of the abdominal viscera. The obvious indications for treatment are to restore the tone of the abdominal muscles and to provide adequate nourishment.

To restore the power of the abdominal muscles massage, faradism, and exercises are the best remedies. Massage of the abdominal muscles, if done by an expert, is most valuable. Indeed, I believe that the great majority of women would be benefited by abdominal massage begun ten or twelve days after labour, and continued for three or four weeks. Obstetric nurses should have instruction in massage, and so be available for this purpose. The faradic current, together with exercises to strengthen the muscles, are also of value.

I need not dwell further on the necessity for providing adequate nourishment for the pregnant and parturient woman.

#### *Subinvolution of the Uterus.*

Deficient restoration of the post-partum uterus is termed subinvolution. In other words, the uterus remains enlarged and heavy.

It is stated that the uterus returns to its pre-gestational size six weeks after labour. The truth is that it never returns to its pre-gestational size; there is always some change to be noted. Many years ago I made a series of observations on the rate of involution of the puerperal uterus in order to determine when it was desirable for a woman to assume the erect position after her confinement. I found that the rate of involution varied enormously, and that the size of the uterus and not the number of days post partum should be the guide in practice. If, as I have recommended, women were examined six weeks after confinement, it would produce valuable information regarding uterine involution.

I am convinced that in many women the uterus takes a much longer time than is supposed to return to anything approaching its pre-gestational size, and that this is one of the great causes of displacement in parous women. Such women complain of backache, bearing down, headaches, and a general feeling of malaise, and if a pelvic examination is made the cause will be detected. The uterus may sink downwards or fall backwards, and it is here that a pessary finds its most useful application. A pessary worn for four to six months will cure this condition, thus permitting the uterus to diminish in size.

Nux vomica or strychnine in small doses are the best medicines to prescribe, whilst rest during menstruation should be advised.

#### *Deficient Restoration of the Vaginal Walls and Pelvic Floor.*

Much has been written concerning subinvolution of the uterus, but little is written or taught about subinvolution of the vagina. Yet it is productive of much discomfort and misery to women so afflicted. It is much more frequently met with in practice and is another of the great predisposing causes of displacement. What really happens is that the vagina is overstretched as a result of the birth of a large child, a prolonged labour, or a precipitate labour with sudden expansion of the vaginal walls.

Clinically, three stages may be recognized: (1) The gaping vagina; (2) the bulging vagina; (3) the protruding vagina.

1. *The Gaping Vagina.*—When a woman with a gaping vagina lies on her side for examination it is possible to see the cervix uteri without the aid of a speculum; the vagina has become a patent canal. In this stage much can be

done by treatment to produce a return to a more or less normal condition. For this purpose ovules of glycerin and alum gr. x should be inserted into the vagina; the bowels should be carefully regulated and attention paid to the regular evacuation of the bladder. The bladder should be emptied not less than four times daily, and after expelling the urine another attempt at expulsion should be made five or ten minutes later, in order to make sure that the bladder is really empty. In this way it is possible to eliminate the influence of the two elastic dilators, the bladder in front and the rectum behind, whose united action produces the second stage, the bulging vagina.

2. *The Bulging Vagina.*—The same treatment should be tried, and if it fails an operation for the restoration of the normal relations of the vaginal walls should be advised.

3. *The Protruding Vagina.*—When the vaginal walls protrude an operation is imperative.

#### *Pelvic Floor.*

Injuries to the pelvic floor, badly repaired or badly united in consequence of septic infection, exact a heavy toll from the parturient woman. But in addition to these, overstretching of the tissues involved plays an important part in producing subsequent disability. The levatores ani muscles become widely separated and the rectum covered by the posterior vaginal wall bulges forwards in the cleft so produced. For such a condition the only remedy is an operation planned to produce a correct anatomical restoration. There is a pernicious doctrine in existence to the effect that a woman should have had all her children before any attempt is made to repair the vaginal walls or pelvic floor; and even then she is encouraged to suffer until the menopause, which is depicted as akin to the millennium, when all things shall cease from troubling.

Women so afflicted are numbered not by hundreds but by thousands; they crowd the out-patient departments, the dispensaries, and may end a life of suffering and discomfort in the workhouse infirmary. Yet it is all preventable; and, as so aptly remarked by the late King Edward VII, "if preventable, why not prevented?"

All injury or deficient restoration, the result of childbirth, which is not amenable to medical treatment, should be promptly relieved by surgical methods.

A woman may suffer from all of the effects already described, or only one, or more than one, and for such the necessary methods of treatment can be combined.

## A Clinical Lecture

ON

## GONORRHOEA IN WOMEN.

GIVEN AT THE MANCHESTER ROYAL INFIRMARY,  
NOVEMBER, 1918.

BY

W. E. FOTHERGILL, M.A., B.Sc., M.D.

GONORRHOEA in women is an acute infective fever with local lesions which occur in two groups, affecting the external and the internal reproductive organs respectively. The reason for these two groups lies in the fact that the vagina intervenes between the external and the internal organs and acts as a check to infections ascending the genital tract. The gonococcus lives well on cylindrical epithelium. Thus it invades the glands opening into the vulva, the urethra and the glands opening into it, the glands of Bartholin, and their ducts. But the tough, thick lining of the vagina has no glands to speak of opening on its surface, which, further, is bathed in an acid secretion. So it checks the upward spread of the infecting organism and in many cases the lesions remain limited to the external organs. If the cervix is once infected, the gonococcus spreads easily over the mucosa lining the cervical canal, the uterine cavity, and the Fallopian tubes; and thus is formed the internal group of gonorrhoeal lesions.

#### I. ACUTE EXTERNAL GONORRHOEA (VULVITIS).

When the glands in the skin of the vulva are infected, the classical signs of inflammatory reaction quickly appear—namely, pain, heat, redness, and swelling. The name



scalds and there is a free muco-purulent discharge in which gonococci are easily demonstrated. If the patient keeps the inflamed parts clean and thus avoids the complication of septic infection, the condition runs its course, and after some days the symptoms begin to abate. The mucus ceases to scald, the redness and swelling disappear, and the patient can once more sit and walk without discomfort. The discharge subsides to its normal quantity, and gradually gonococci cease to be found. The whole incident is soon forgotten, and, as a rule, no permanent effect remains. Women have so much to put up with in one way and another that they do not take much notice of attacks of acute external gonorrhoea at ordinary times. During pregnancy, however, and soon after labour, when the parts are in a state of physiological hyperaemia, gonorrhoeal vulvitis assumes an aggravated form, which often keeps the patient in bed, and sometimes comes under medical observation. In children also the condition is more severe than in adults. When you have entered upon the actual work of medical practice, if you do happen to see a case of acute external gonorrhoea, do not order vaginal douching, for this is an effective way of conveying infection up to the cervix. Keep the patient in bed with loose bowels, vegetarian diet, and no alcoholic drink. Let her sit for a few minutes two or three times a day in a bowl of warm water in which a little potassium permanganate has been dissolved, but do not do too much in the way of local treatment or you will prolong the duration of the complaint by irritating the tissues concerned.

## II. PERSISTENT SEPTIC VULVITIS.

In women of uncleanly habits and in those who are submitted to irritating local treatment, septic infection is often superimposed upon acute gonorrhoeal vulvitis. The mixed infective state so produced tends to pass through a subacute phase and then to be indefinitely prolonged. Instead of recovery there is lasting soreness and discharge and the vagina ultimately becomes involved. The glands in the groins may suppurate. The glands of Bartholin may be the seat of abscesses which burst, leaving sinuses which fail to heal. The urethral orifice may put permanently and the glands within the urethra may form retention cysts which may suppurate in their turn. These cases of persistent vulvitis and vulvo-vaginitis come under medical observation every day. Their striking feature is this: You may examine the discharge unto seventy times seven, so to speak, without finding any gonococci. Thus it is not possible to say that any particular case has ever been gonorrhoeal. Many a septic vulvitis dates from septic infection following the rupture of the hymen or laceration of the perineum during labour. But the point is that though most of these cases have begun as acute gonorrhoea, they are not cases of chronic gonorrhoea.

It is obvious that a patient with septic vulvitis may from time to time be infected with fresh strains of gonococci, and when this happens gonococci are found, for a time, in her discharge. Thus it is that a series of attacks of acute gonorrhoea may be mistaken for and called chronic gonorrhoea. The treatment of septic vulvitis is not satisfactory unless the patient is in bed in a hospital or nursing home.

## III. ACUTE INTERNAL GONORRHOEA.

When the cervix and uterine cavity are infected there is pain in the lower abdomen accompanied by some fever. The pelvic organs are swelled and tender, and pus, in which gonococci are easily found, flows freely from the os externum into the vagina. The swelling of the endometrium may so close the openings of the Fallopian tubes into the uterus that the infection does not enter the tubes, but remains limited to the uterine cavity. Again, the tubes themselves may be involved, but their openings into the pelvic cavity may be closed by the inflammatory reaction, so that the infection does not reach the pelvic peritoneum. Thus the narrow orifices at the inner and outer ends of the tubes may either of them act as bars to the progress of the ascending infection. If gonococci reach the peritoneum, inflammatory reaction quickly mats the viscera together and shuts off the pelvic basin from the rest of the abdominal cavity. It is therefore very bad treatment to open the abdomen during an attack of acute internal gonorrhoea. But if perchance this is done the organs are seen reddened and swelled, and gonococci are readily

demonstrated in the content of the tubes and in the fluid from the pouch of Douglas. Recovery from acute gonorrhoea of the internal organs is the rule, but a permanent result is generally left behind—namely, sterility; for the tubes remain sealed at one point or another although they may return to their ordinary size, so that bimanual examination does not reveal any pelvic abnormality. The general treatment is rest in bed with loose bowels, vegetarian diet, plenty to drink but no alcohol. No local treatment is necessary, and, on the whole, the less local interference the better.

## IV. LASTING RESULTS OF ACUTE GONORRHOEA.

If a Fallopian tube remains closed at both ends and distended by its content it becomes a "pus tube," or pyosalpinx. Such distended tubes, together with the damaged ovaries adherent to them, form permanent tubo-ovarian masses which can be felt, beside the uterus or behind it, on bimanual examination. Such masses often feel larger than they are because of the coils of bowel which are matted together with them. A retroverted uterus with tubo-ovarian masses on one or both sides forms a characteristic combination. The presence of these permanent results of acute inflammation is compatible with perfect freedom from symptoms. Indeed, many women whose pelves contain swellings of this kind earn their living in active callings. But in many cases the subjects complain of more or less pelvic discomfort and pain with menorrhagia, dysmenorrhoea, and general ill health. When this state of things has pertained for some time the victim may seek surgical relief, which can only be guaranteed, as a rule, by the removal of both the tubes and ovaries together with the body of the uterus. The striking fact is that the content of these pus bags is sterile. The patients are not suffering from chronic gonorrhoea but from the results of a previous acute infective process the exact nature of which it is not possible to determine. As a rule, pus bags in people who have had no confinements or abortions are gonorrhoeal in origin. The nature of infections following labour and abortion is less clear.

## V. ACUTE RECURRENT ATTACKS OF PELVIC INFECTION.

A woman who has old infective lesions in her pelvis is always subject to acute recurrent attacks of pelvic inflammation, which may have fatal results. During such attacks patients are constantly admitted to hospitals as "acute abdomens," and are often submitted to immediate operation. The pus found in the pelvis on these occasions is proved to contain virulent organisms of various kinds, but no gonococci. Thus it appears that these familiar attacks of acute recurrent pelvic inflammation are not due to the lighting up of "latent gonorrhoea," as has often been assumed, but are caused by the fresh infection by other organisms of tissues damaged by previous inflammatory processes, sometimes long forgotten. The fresh infection may come by the blood stream from some distant focus, such as a septic tonsil or throat. Or it may come from an adherent appendix vermiformis or some other portion of the intestinal canal, such as a diverticulum of the intestinal mucosa into one of appendices epiploicae. The fresh infection seldom ascends by way of the genital canal; indeed, in these cases, that route is usually closed by interruptions in the continuity of the tubes.

## CONCLUSION.

We have thus arranged the cases in which the gonococcus plays an etiological part in five groups:

### External—

- I. Acute vulvitis (gonococci present).
- II. Persistent vulvo-vaginitis (no gonococci).

### Internal—

- III. Acute metritis, salpingitis, etc. (gonococci present).
- IV. Lasting results (sterile).
- V. Acute recurrent attacks (no gonococci).

Experience shows that Groups II, IV, and V, in which gonococci are not found, include the great majority of these cases seen by medical men, and that the cases forming Groups I and III but seldom come under medical observation. We try to cure persistent septic vulvitis with no gonococci; we remove sterile pus tubes, and we deal with pelvic abscesses containing various virulent organisms other than gonococci.

Thus we treat remote and indirect results of gonorrhoea; but of gonorrhoea itself we see little, because women



actually suffering the acute phases of the disease but rarely can kill us. There are other infective persons who never consult us at all. For the question arises: By whom is gonorrhoea spread abroad? There may be persons in whom gonococci can live for a long time without causing any symptoms, just as there are "carriers" of the organism of enteric fever—they have not "typhoid" themselves, but they can give it to others. Carriers are not said to have "chronic enteric fever," and possibly it would be wise to drop the term "chronic gonorrhoea."

It is probable that most of the persons who transmit gonorrhoea are frequently reinfected with fresh strains of gonococci, and really are the subjects of repeated mild attacks of acute gonorrhoea. Man and wife, for example, may continue to reinfest one another time after time, so that it is only after separation that either of them ceases to be infective. After you have entered upon the practice of medicine you will avoid many complications if you always think at least three times before stating that a person is free from venereal disease. It can be acquired again so quickly. There is not much gained by seeing an habitual drunkard through one drinking bout, and it is rather futile to attack venereal disease by founding clinics where all comers can be treated at the public expense. You cannot cure drunkenness unless you can keep people from drinking.

## PULMONARY SPIROCHAETOSIS.

A PRELIMINARY NOTE ON SPIROCHAETES IN THE SPUTUM OF SOLDIERS ADMITTED TO SPECIAL MALARIA WARDS.

BY

J. A. THOMSON, CAPTAIN R.A.M.C.

HAVING been for some time in charge of the laboratory at a malaria centre, my attention was drawn to the frequency with which samples of sputa were sent to the laboratory accompanied by requests for examination for tubercle. The number of such cases of tubercle was small.

Later, being put in charge of both wards and laboratory of a special hospital for malaria, I came into more direct contact with the patients and was able to see and study for myself the conditions which had caused medical officers to suspect tuberculous infection.

Briefly expressed, these conditions were:

- The chronic debilitated state of many patients.
- Complaints of coughs of long duration made by many of them, but not associated with definite physical signs in the lungs.
- That, although sent into hospital as cases of malaria, blood examination for malaria was very frequently negative, and, although kept in hospital under antimalarial and tonic treatment, many patients did not make satisfactory progress towards recovery, but remained sufferers of some other chronic condition, such as tubercle, neurasthenia, or D.A.H.

Having found spirochaetes in considerable numbers in the sputum of one patient, I systematically examined the sputum of all patients complaining of coughs, by simple stains and by the special stain for tubercle. Unfortunately I had not proceeded with this investigation for more than about three weeks when I was transferred to another sphere of duty; yet in that short time I was able to collect sufficient material to show that pulmonary (or bronchial) spirochaetosis in a chronic form was apparently prevalent amongst the group of patients I had been dealing with.

I reported my findings to Colonel Sir Ronald Ross, Consultant in Malaria, who has advised me to publish a note upon them. This is rather premature; the findings may or may not be of much pathological importance, but the subject seems to be one of interest and deserving of further investigation.

The first case in which I found spirochaetes was one that might very reasonably have been suspected of tubercle. He gave a history of chronic cough, never very severe, but dating from his period of service in Salonica. He was sallow, had lost some weight, but was neither markedly wasted or anaemic. He did not feel fit, was easily tired, and got short of breath after moderate physical effort. He had been invalided home on account of malaria, and since his arrival in this country he had been in several hospitals, with short intervals at his dépôt.

For periods of three to four days, and at about three weeks' intervals, he described himself as feeling "queer"—a feeling, as far as I could understand, of malaise and feverishness, which he distinguished from his former malarial attacks. When admitted to my wards, although sent in as a case of malaria, his blood was negative, and although kept under observation for over a month, frequent blood examinations always gave negative results. He had a morning cough, not very troublesome, but accompanied by expectoration. Physical signs in the chest were indefinite—a rale here and there but nothing to implicate any particular part of lung. The sputum was clear and jelly-like, but he said that during his "queer" periods his sputum was blood stained, and this statement was twice confirmed whilst he was in hospital by the sputum assuming a pink jelly-like character. His temperature in hospital zigzagged above and below the normal line from 97.5° and 98° F. to 99° and 99.5° F.; there were no acute rises or rigors. Repeated examinations of sputum for tubercle were always negative, but spirochaetes were always found in considerable numbers and more abundantly when the sputum was blood-stained.

There was no pyorrhoea, but to eliminate the possibility of mouth spirochaetes instructions were given to wash the mouth and gargle the throat with weak permanganate before samples were collected, and to collect only what he definitely felt to come from the lungs.

Taking my cue from this case I proceeded to examine systematically the sputa of all cases in which cough was present. All were given the same instructions about cleansing their mouths and throats before collecting samples. Films of each case were stained for spirochaetes and for tubercle. From October 3rd, 1918, to October 21st, 1918, 79 cases were examined; 39 cases showed spirochaetes and in 2 tubercle bacilli were present.

The character of the sputa of cases in which spirochaetes were present varied. The most common type was clear, jelly-like, and non-aerated. A few cases were described as purulent, more as mucopurulent. In three cases (all without tubercle bacilli) the sputum was blood-stained; they included:

(a) The case already described as having intermittent expectoration of pink jelly-like mucus.

(b) One in which there were three frank haemoptyses whilst in hospital; never very much blood at a time—about one to two teaspoonfuls and not a quantity of jelly-like mucus.

(c) The case of mucopurulent expectoration streaked with blood on many occasions. This case, however, had definite physical signs of tubercle, and I was never quite satisfied that the sputum were not mixed with mouth secretions. He was peculiar in that at intervals of ten to fourteen days he had definite sharp rises, with temperature up to 102° and 103°, the febrile periods were more prolonged than those usually seen in cases of ague, lasting as a rule into the following day and terminating in profuse perspirations. I examined his blood frequently during these, during the febrile periods, and during the intervals between his attacks. Malaria parasites were never found, and according to his own statement, although invalided home as a case of malaria, repeated blood examinations in Salonica never showed the presence of malaria parasites.

In addition to complaints of cough many of the patients exhibited a combination of symptoms which is often seen in the wards of a special malaria hospital.

- Poor general physique, weakness, and listlessness.
- Tachycardia either after or without physical effort.
- Shortness of breath after slight exertions.
- Systolic cardiac bruits both at apex and at base, which if not heard when the patient is at rest in bed, develop readily after slight effort.
- Low vasomotor tone, made very obvious by lividity and coldness of hands when the patient has been standing, and by the soft inelastic feeling of his body tissues.
- Nervous debility—tremors of hands and tongue, low spirited and disinclined for mental or physical effort.
- In many the temperature zigzags slightly above and below the normal line.

Although low and weak in health these patients do not show the cardinal signs of malarial cachexia so often seen amongst natives of malarial countries. There is no appreciable enlargement of the spleen, and no severe degree of anaemia. As a rule the blood is negative on admission, and remains so during their stay in hospital, but in this connexion it must be remembered that practically all patients admitted to special malaria hospitals are readmissions from other hospitals, and have already been treated with quinine.



These cases do not tend to show the marked improvement in health which frank malaria cases do when put upon antimalarial and tonic treatment: they remain suspects of some other disease.

All my cases in which spirochaetes were found were men invalided home from Salonica on account of malaria. All had pretty much the same history of chronic invalidism, months spent in hospital with occasional short visits to dépôts where they apparently never did any useful work and where they were regular attendants on sick parade. The total amount of quinine which had been taken by many could be reckoned in pounds rather than ounces. It was not always easy to determine if these men actually got fever at their dépôts; whatever their febrile attacks were it is certain that in many cases they were not characteristic of the regular malarial rigors; in many cases the men were able to say definitely that the attack was not like their old malarial attacks.

I am inclined to believe that many men suffering from the train of symptoms I have described above do get attacks of fever when exposed to the physical and physiological strains of camp life and that these attacks are in many cases not malarial in origin.

How far the above train of symptoms is due to organic degeneration of tissues produced during the acute stage of malaria abroad and never recovered from, is difficult to say. Other factors, too, go to confuse judgement, such as the general physical and mental stress and strain of war service, and the possibility of other infections such as trench fever. All I wish now to do is to point out that chronic pulmonary (or bronchial) spirochaetosis is present in many of these cases. It may be a cause of the debility, or the debility may merely afford favourable conditions of environment for spirochaetes. Further investigation and research would be necessary to estimate the true significance of the presence of spirochaetes in these cases—research along therapeutic lines with drugs known to be antagonistic to this group of organisms.

So far as I could ascertain from the physical signs, which were always of an indefinite character, there appear to be no serious pulmonary lesions.

The spirochaete has tapering extremities and a gently undulating outline without spirals. It affects various attitudes, sometimes extended, often bent on itself; when numerous they often appear entangled with each other. The spirochaete stains easily with ordinary stains; fairly strong carbol-fuchsin (one part carbol-fuchsin to two or three parts water) for a minute or two gives good results, so also does a strong watery solution of gentian violet. Silver nitrate stained by tannic acid as for *Treponema pallidum* is good, but the films must be very thin to get satisfactory results, and for that reason, when spirochaetes are scanty, a much longer search is required.

## NOTE ON THE EPIDEMIOLOGY OF AMOEBIC DYSENTERY.

By H. M. WOODCOCK, D.Sc.,

PROFESSOR OF ZOOLOGY TO THE FORCES IN EGYPT.

(From the Military Laboratory, Jaffa, P.E.F.)

WENYON and O'CONNOR, while in Egypt, demonstrated that amoebic cysts (including those of *E. histolytica*) can pass successfully through the alimentary canal of house flies, to be voided in the faeces, wherever these may be deposited; and they also found the cysts in the intestine of caught "wild" flies. As a result of their experiments, these workers concluded somewhat hastily, perhaps, that house-flies are a very potent factor in the spread of amoebic dysentery. Since then there has been a general disposition to regard the fly as the chief agent by which this infection is spread.

During the past two years I have had the opportunity of studying the incidence of amoebic dysentery in various parts of Egypt, and before I had been long at work I formed the opinion that far too much stress had been laid upon the part actually played by flies in the transmission of this disease. Some factor other than flies is essential—a factor, moreover, which does not appear to be

of nearly so much importance in the spread of bacillary dysentery.

In the southern canal area, where I was stationed for over a year, flies were abundant, especially during autumn and spring. Amongst British troops bacillary dysentery was very common, whereas the amoebic type was rare. I gave details of the various infections in the *Journal of the Royal Army Medical Corps* for September, 1917, so it must suffice here to state that about 75 per cent. of the total stools examined were those of bacillary dysenteries. Barely 2 per cent., on the other hand, were amoebic. Among Indian troops, it is interesting to note, amoebic dysentery prevailed to a considerably greater extent, 12½ per cent. of the dysenteries showing active *E. histolytica*, while this parasite was found, in one phase or another, in 15 per cent. of the total stools. Nevertheless, there was, I consider, little or no increase in the number of infected men—that is, no appreciable spread of the infection in this area—because the percentage of cases of amoebic dysentery was distinctly less than the percentage of Indians (about 20 per cent.) who were found to be normally carrying the cysts of *E. histolytica*; and the great majority of these men had come direct from India to Egypt. That is to say, amoebic dysentery among the Indians occurred, at any rate mainly, in men who were already carriers. The hardships and stress of active service in the field had tended, in a number of these men, to lower the vitality and impair the resistance of the bowel, and as a consequence an attack of amoebic dysentery resulted.

Now, if flies are the principal factor in the transmission of amoebic infections, how is it that, while flies were abundant and bacillary dysentery very common amongst the British troops, amoebic dysentery, and incidentally all intestinal protozoan infections, were nevertheless rare? It cannot be maintained that the sanitation (using the term comprehensively, to include fly prevention) was so perfect that the cysts had no opportunities for dissemination, because there is the fact that bacillary dysentery—which is, most probably, in the main fly-borne—was prevalent. It is evident that, whether the fly is or is not an important vehicle of transmission in the case of amoebic dysentery, some essential factor was lacking. This factor is water—moisture and humidity—which in my opinion is more important than any number of flies; and latterly there has been too great a tendency to overlook this essential factor in the transmission.

It has long been known that amoebic cysts cannot withstand drying. On the other hand, it was shown by Penfold, Woodcock, and Drew that the cysts of *E. histolytica* can retain their vitality—proved by their ability to excyst—in water for at least a fortnight, and probably for a longer period. And the significance of these two opposing biological points in their bearing on the successful propagation of the species has not hitherto been sufficiently recognized. A fly very rarely (unless accidentally) alights on a liquid surface; its minute droplet of faeces is practically always deposited on a dry surface. Hence in hot countries—such as those in which amoebic dysentery is common—the droplet dries up in an instant or two. The chances of the survival of the cysts and successful infection of a new host by this method of contamination are therefore extremely slight. Now, under what climatic conditions is amoebic dysentery found to be most prevalent? Under conditions such as those obtaining in India and Mesopotamia, for instance, especially in areas which possess during certain seasons of the year a very damp climate with a high degree of humidity. In such lands there is an excellent chance for the survival of the cysts deposited in human faeces, and for their successful dissemination by the agency of moisture in various ways.

In this connexion Egypt occupies a particularly interesting position. Over a large area (including the southern canal zone) this is a very hot and dry land, with scarcely any rain and a low degree of humidity. An exception is provided by the coastal fringe bordering the Mediterranean, where the humidity is much greater, owing chiefly to the moisture-laden northerly winds. Hence, on the above view, one might expect to find a higher percentage of amoebic infections in this northern district than in that in which I was at first working; and I soon had indication that this was the case. At Suez I found that the percentage of carriers amongst the native population was only 4 to 5, considerably less than that noted by Wenyon and

<sup>1</sup> In a Memorandum published in Egypt in 1916, and reprinted in the *Journal of the Royal Army Medical Corps*, May, 1917.



O'Connor working at Alexandria (about 12 per cent.). But, on the other hand, it may be mentioned that amongst I.L.C. men and Turkish prisoners of war, coming from Mesopotamia, and examined while in the quarantine camps near Suez, I found nearly 12 per cent. to be infected with *E. histolytica*. Conversely, out of over fifty prisoners from the Hedjaz (Arabia) I did not find a single carrier.

In the summer of 1917 I was transferred to Kantara, and dealt there entirely with cases of dysentery, etc., occurring amongst troops east of the canal, in the northern coastal district alluded to. And I soon found, as expected, that there was a distinctly higher incidence of amoebic infections amongst the British troops than I had met with in the southern canal area. For the corresponding season (April-October), the percentage of amoebic dysenteries—that is, with active *histolytica*—was 7 per cent. of the total dysenteries, as against 2½ per cent.; and the percentage of *histolytica* findings (all forms) in the total stools examined (over 2,000) was 5.2 per cent., compared with slightly under 2 per cent. On the other hand, the percentage of definite bacillary dysenteries to the total stools was much less than at Suez—namely, 37 per cent., compared with 75 per cent., the fly campaign being probably more rigorous and effective.

Thinking it would prove instructive to compare the variations in the amoebic findings with the variations in the relative humidity, I requested the Physical Department of the Public Health Bureau, Cairo, to let me have, if possible, tables showing the relative humidity at Port Said (the nearest station available in the northern district) for the corresponding season in the two years 1916 and 1917 respectively. This information was very courteously

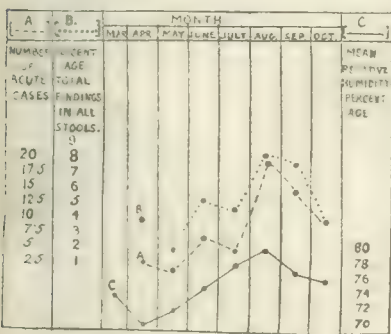


Chart showing comparison between amoebic infections, total findings of *histolytica*, and relative humidity, season 1917

afforded me, and I find that while the average mean relative humidity of Suez for the months March to October inclusive, 1916, was only 48.5 per cent., that of Port Said for the same period, 1917, was 75 per cent. I have constructed the accompanying chart, comparing the mean relative humidity at Port Said with the incidence of amoebic

infections, in monthly periods, during the season 1917, and an interesting general correlation between the curves is shown. Curve A, indicated by a broken line, gives the actual number of amoebic dysenteries (with active *histolytica*); Curve B (a dotted line) shows the percentage of the total findings of *histolytica* (active forms or cysts) to the number of stools examined; while Curve C (continuous line) indicates the relative humidity. (The amoebic curves begin in April, as that was the first complete month the laboratory was open.)

Two or three points brought out by these curves may be noted: (1) Following upon the low relative humidity for April—a dry month, probably on account of Khamsin winds—there is a distinct drop in the amoebic infections for May, the fall being more pronounced in the curve representing the total percentage of findings. (2) On the other hand, the month with the highest relative humidity (August) is also that in which both the amoebic curves reach their highest level, and the rise has been greatest in the acute cases. The reason for this slight divergence is probably that the degree of infection in the first instance is less in the early months, and so a longer time is required for it to gain a hold and become readily apparent. (3) There is a slight drop in the amoebic curves for July which has no counterpart in the relative humidity curve.

Now, an important fact is that while, after August, the amoebic curves steadily fell along with the relative

humidity curve, the bacillary dysenteries rose to their maximum for the season in October, both as regards actual number (264, compared with a monthly average of 123) and in the percentage of total stools—this being over 56 per cent., as against an average of 37 per cent. And it was especially noticed that flies were most numerous during September and the beginning of October.

It is clear, I think, that for amoebic dysentery (and equally for other protozoan infections) to be prevalent in a particular area, the first necessity is plenty of moisture and a high degree of humidity. There can be little doubt that water is the principal vehicle of transmission, infection resulting by such means as drinking contaminated water, eating uncooked moist food (fruit, "greens") which has been fouled. In districts where amoebic dysentery is known to be common, the elimination of "carriers" amongst men who are cooks, or in any way concerned with the preparation or distribution of food and drink, should be aimed at in order to reduce the liability to infection of troops. There is little indication that flies themselves play actually any important part in the spread of amoebic or other intestinal protozoan infections, but considerable evidence that they are a main factor in the spread of the bacillary type of dysentery.

It would be very useful to have data corresponding to those which I have given above from workers in the military laboratories in Mesopotamia. Owing to the intense relative humidity of this country during certain seasons one would expect to find a still higher percentage of amoebic infections amongst the British troops there than has been met with in any part of Egypt.

REFERENCE.  
1 BRITISH MEDICAL JOURNAL, 1916, 1, p. 714.

## THE TRIANGLE SPLINT IN THE TREATMENT OF COMPOUND FRACTURES OF THE HUMERUS.\*

By PHILIP TURNER, M.S.LOND., F.R.C.S.ENG.,  
MAJOR R.A.M.C.,  
ASSISTANT SURGEON, COY'S HOSPITAL.

THE standard method of treating compound fractures of the humerus by the Thomas's arm splint has undoubtedly many advantages. The fractured arm is fixed in a position of abduction, and, when extension is applied and supports for the limb are adjusted, the fractured ends of the bone can generally be got into good position. Dressings are easily carried out with the least amount of pain and without disturbing the position of the fragments. It has, however, certain disadvantages. The chief of these is that a prolonged stay in bed is necessary, often for many weeks, and the patient is in a more or less helpless condition, even though the wound may be doing well, and the general condition may be perfectly satisfactory. Another drawback is the prolonged fixation of the elbow in the extended position, leading to considerable stiffness in that joint as well as in the fingers and the wrist. Also, unless efforts be made to correct it, there is apt to be an internal rotation of the lower fragment, as shown by the tendency of the hand to assume a position of full pronation. There is also the difficulty of transport with the arm abducted, though this has been largely overcome by the use of the "swivel" modification suggested by Major M. Sinclair, R.A.M.C. The triangle splint described below, which has been used in this hospital for about a year, helps to overcome these disadvantages.

Each splint is made to measurements taken from the man for whom it is intended. This point is of considerable importance, as subsequent comfort depends largely upon the splint accurately fitting the arm and against the chest. An x-ray examination should first be made and the plates inspected to ascertain the site of the fracture and the position of the fragments, for in this way one is able to estimate the extent of abduction necessary.

The measurements are taken from the uninjured arm, the patient lying flat in bed with the arm abducted to the required extent, the elbow being flexed to a right angle and the forearm

\* For the amoebic findings of the months April-July inclusive, I have the kind permission of Captain Stuart, officer in charge of the laboratory, to use the laboratory records, as I myself did not take up this work there until August. The findings until then were made by Captain O'Connor and Captain Stuart.

A paper and demonstration before the Treport Medical and Surgical Society.



held vertically. Any shortening due to loss of bone must be allowed for. The distance between the apex of the axilla and a point 1 in. above the highest part of the thoracic crest is then measured and forms the inner side of the triangle. The outer side is the distance between the apex of the axilla and the tip of the olecranon process, while the base of the triangle is the distance between the olecranon and the point already fixed up in just above the thoracic crest. The amount of abduction called for will determine the length of the base of the triangle. Any degree of abduction of the shoulder joint between 50 and 80 degrees can be obtained. The triangle is now made from three pieces of  $\frac{3}{4}$  in. splint boarding, cut to the measurements taken, and firmly fixed together. A support for the forearm is made from

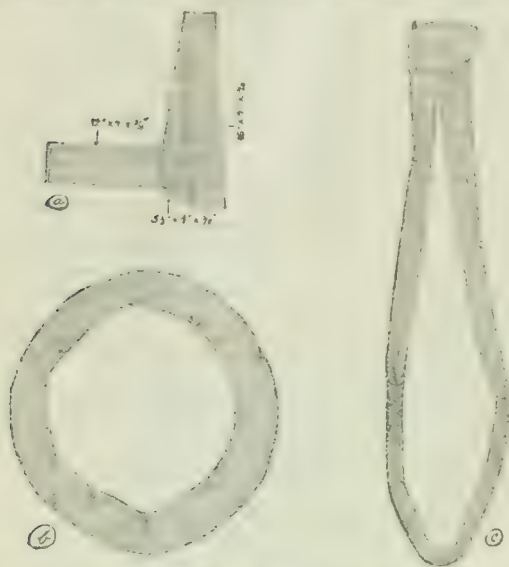


FIG. 1.—Showing the triangle splint (a), the shoulder ring (b), and the perineal band (c).

the same splint boarding of sufficient length to reach from the olecranon to the heads of the metacarpals. This is secured to the lower end of the outer side of the triangle, so that it projects in a forward direction. The sides of the splint which rest against the chest, arm, and forearm are well padded, including the upper angle, and the whole is covered with iaconet. The splint ready for application is shown in Fig. 1.

The principle aimed at is to fix the injured limb in a position of abduction, with the humerus in a natural position intermediate between internal and external rotation, or with possibly a slight degree of the latter. To ensure this position the forearm must project directly forwards, and not be rotated inwards across the chest. The fixation of the splint is thus of great importance; simply to fix the splint to the chest by strapping and a bandage, and to secure the upper angle by a bandage or sling over the opposite shoulder will not be sufficient. If too loosely secured the apex of the splint will drop away from the axilla, and, as the patient moves about, the upper angle will probably, owing to the weight of the forearm, tilt forwards, and the lower angle backwards. The whole splint will move about on the side of the chest instead of taking a firm support from it, so that the fracture will not be immobilized, and there will be much pain and discomfort, calling for constant alteration and readjustment. The most important points about fixation are to firmly secure the upper and lower angles of the splint, especially the former.

To fix the upper angle a soft ring is made which fits comfortably over the opposite shoulder (Fig. 1, b). The ring is easily made by sewing a piece of four-inch dannel bandage about twenty inches long round a piece of thick rubber tubing one inch in diameter and the same length. The two ends are then sewn together so as to form a ring, which will be about one inch thick and six inches in diameter. If the tube cannot be obtained a satisfactory ring can be made by sewing the bandage round a thick layer of wool, but an india-rubber basis is preferable. The ring must not be too narrow or the pressure will chafe the skin, or too thick, when it will interfere with movements of the sound arm. The ring should fit in front into the concavity of the outer half of the clavicle, and below it should rest against the chest wall just below the axillary folds. For a small man the internal diameter of the ring will be about five inches, while for a bigger man an inch or two more will be required. The ring having been placed in position on the sound shoulder, the upper angle of the splint is fixed by passing a length of strong bandage beneath the axillary angle of the triangle. One end is then threaded through the ring in front

and the other behind, and the ends are then brought back and secured, tied, the knot being in all cases beneath the upper angle of the splint. The principle of this method is that the weight of the splint, and so of the injured limb, is supported from the circumference of the opposite shoulder. The upper end having been fixed, the lower angle is secured by a perineal band. This, again, is easily made from a yard of dannel bandage, the middle third or so being sewn round a rubber tube or layer of padding (Fig. 1, c). The central part may with advantage be covered with iaconet. The perineal band is tied above the lower angle of the splint sufficiently tight to steady the splint, but not so tightly as to draw it down from the axilla.

This splint was first employed for fractures of the surgical neck of humerus. In these fractures the small upper fragment, which cannot be controlled, is generally abducted and externally rotated. The triangle splint in such cases ensures abduction of the lower fragment to the required extent and also prevents internal rotation. If there is comminution and fissures which extend into the head of the humerus, the arm should be abducted as much as possible on account of the probability of ankylosis. In some of these fractures there is little or no displacement, and it has been advised that certain of these may be treated without any splint, the arm being simply bandaged to the side. Though possibly some of these cases may be satisfactorily treated in this way, yet, in view of the tendency to abduction of the upper fragment and the possibility of limitation of movement in the shoulder-joint, the triangle splint offers a convenient method of fixation and treatment. In some cases where the displacement is slight, and where the wound is small and the infection is not serious, the triangle splint may be applied at once, but in those where the displacement is serious, or where there is much comminution, or where there is severe septic infection, it will be best to put up the arm on a Thomas's splint in the abducted position for about three weeks until the wound is healthy and there is some attempt at union. As a late measure the Thomas's splint may then be removed and the triangle splint substituted.

In gunshot fractures of the upper and middle thirds of the shaft the severity of the fracture and the displacement will vary very greatly. Generally speaking, the upper fragment will still be abducted, though in some fractures of the upper third of the shaft the upper fragment may be abducted by the action of the pectoralis major, the lower fragment being abducted by the deltoid. In all these cases an x-ray examination will indicate the amount of abduction which is desirable. The principles which guide the treatment in these cases are similar to those mentioned for the treatment of fractures of the surgical neck:—namely, if the wound is not seriously infected and the displacement is slight, the triangle splint may be applied at once. If the wound is very septic, or if there is severe comminution and displacement, a Thomas's splint should be used until there is sufficient improvement to allow a triangle to be substituted for the Thomas's splint. Cases of fracture of the humerus where there has been great loss of bone, or where the wounds are large and septic, or where secondary haemorrhage is likely, are not suitable for treatment on the triangle splint, and this splint should not be used for fractures of the lower part of the shaft, or for fractures involving the elbow-joint.

To sum up: the triangle splint may be used at general hospitals for the permanent treatment of fractures of the surgical neck, upper and middle thirds of the shaft of the humerus where displacement is not serious and wounds are clean or mildly infected. It may also be used with advantage in a later stage of the treatment of many of the more serious cases after these have been treated on a Thomas's splint until the wounds and the fracture have sufficiently improved.



FIG. 2.—The triangle splint applied to the right arm, showing the position of the forearm while the patient is lying down.



In addition to these fractures of the humerus, the triangle splint has been used (1) for fractures of the scapula extending to the glenoid cavity and opening the shoulder joint; (2) for wounds of the shoulder-joint, with perforation or growing of the head of the humerus; (3) for severe wounds of the shoulder joint which have called for excision of the head of the humerus.

The splint is applied in the following way: In some of the simpler cases no anaesthetics are required, but often either the presence of a missile, or the desirability of providing drainage,

or the removal of loose fragments, renders an anaesthetic necessary. When a change is being made from a Thomas's splint to a triangle, an anaesthetic is advisable chiefly on account of the pain caused by flexing the elbow, which has been in the extended position for some weeks. After the arm has been abducted the splint is placed in position, the ring is slipped over the sound arm, and the upper angle is fixed in the manner already described. The lower angle of the splint is now secured by the perineal band. The arm is then firmly held just above the condyles of the humerus so as not to disturb the fracture, and the elbow is gradually flexed to its own natural angle.

Passive movements of pronation, supination, flexion, and extension of the wrist and fingers may also be carried out. The patient's fingers are held flexed over the end of the splint, extension is applied from the elbow, and the arm and forearm are fixed to the splint by bands of strapping above the elbow, below the elbow, and above the wrist. It is well to place an extra pad of wool between the internal condyle and the splint, and a broad flannel bandage may be run round the patient's chest and the inner side of the triangle. The dressing is now applied, and additional support is given to the fracture by a piece of Gooch's splinting cut away obliquely in front so as to clear the arm on its anterior, external, and posterior aspects. There is often some pain in the elbow for a day or two, but the patient soon becomes accustomed to the new position of his arm. If the ring is not too large or too thick it will cause no discomfort, but if the suspending bandage seems tight it may be loosened, or pads of wool be placed beneath it where there is undue pressure. In about two days the ring should be able to slip out of bed, and a day or two after this he will be able to walk about. He should

be encouraged to grasp the end of the splint with his fingers, as this steadies the splint and helps to overcome stiffness. The position of the arm with the patient lying in bed, sitting, and standing is shown in Figs. 2, 3, 4. Dressings are easily done without disturbing the fracture by removing the Gooch's splinting (Fig. 6), the patient sitting up either in bed or in a chair.

Some men have much more confidence than others and learn to get about much more quickly, and it is always a good thing for men who are to be put up on the triangle splint to

see others already fitted with it getting about and even doing light ward duty. A large proportion of cases of fracture of the humerus from this hospital have in this way been evacuated as sitting cases, while those on triangle splints who have been evacuated as cot cases are not "helpless" unless they have other injuries, but could walk in case of any emergency. Transport is thus simplified. The splint requires very little readjustment, provided that due care has been taken to construct it to measure so that it fits well, but, if called for, it is easily carried out.

X-ray examinations have shown that the fractures are kept in good position—indeed, there is often an improvement upon the position when the limb was in a Thomas's splint.

A useful modification of this splint, the "straight" triangle, is shown in Figs. 5 and 6. This is similar to the splint already described, but the elbow is not flexed, so that the outer side of the triangle extends from the axilla to the heads of the metacarpals. The method of fixation is seen from the figures to be similar to that already described. This splint has been used for wounds of the elbow-joint, for excisions of the elbow-joint where other wounds have interfered with the extension bands for the Thomas's splint, and for a few fractures of the upper part of the shaft of the humerus, where it was thought that

the weight of the arm would provide some extension when the splint was in a vertical position. The patient can sit up in bed or on a chair, and can also walk about, but not so freely as when the forearm is flexed. The dressing is done with the patient sitting up (Fig. 6), when the weight of the limb will prevent any movement of the fracture. Fig. 5 shows a case of fracture of the upper third of the shaft of the humerus when the patient was able to walk about, two days after the splint was applied. In all cases in which it has been used this splint has proved remarkably comfortable.

The advantages of the triangle splint are: (1) It is simple and easy of construction. Nothing beyond ordinary splint boarding is required, and it can be made in a few minutes by any hospital carpenter. The accessories—the ring and perineal band—can easily be made by the sisters. (2) The elbow is flexed to a right angle, and while the elbow and shoulder are fixed, free movements of the fingers and wrist are possible, and also slight movements of pronation and supination. (3) The patient can get out of bed; he can sit down, walk about, and get out into the fresh air and sun, with benefit to the wound and his general condition. (4) Transport is easy. Most men will travel as sitting cases, and those evacuated as "cot" cases will not be "helpless" unless there is also some other injury.

One disadvantage to this splint is that there must be no wound on the inner aspect of the arm, the axilla, or the side of the chest, which are in contact with some part of it. If the possibility of putting the arm up on a triangle splint later on be borne in mind when making incisions for drainage, or for the removal of bone or metal fragments, the number of cases in which it cannot be employed will



FIG. 3.—The triangle splint applied, the patient sitting down.

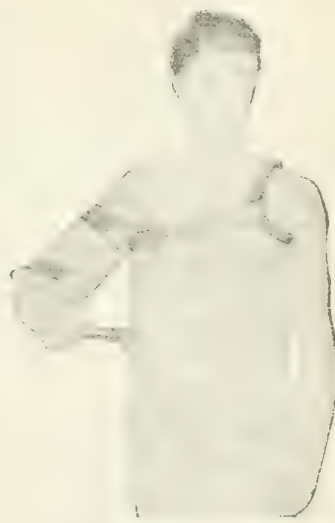


FIG. 4.—Showing the triangle splint in its method of application, the patient standing up.



FIG. 5.—Showing the straight triangle splint and its method of application. The Gooch's splinting and dressings have been removed.



FIG. 6.—The straight triangle splint applied, the patient standing up.



be diminished. Attention, too, may be directed to getting wounds in these situations into a healthy condition and closing them. Interruptions might be made to allow for dressings, but hitherto this has not been tried, as such changes would probably be at the expense of comfort and simplicity. Major M. Sinclair, R.A.M.C., has suggested that in the straight triangle splint the outer side might be made of two straight metal bars like those of the Thomas's arm splint and that the arm might be fixed to it in a similar manner—a plan which seems well worth trying. Another disadvantage is that there is no active extension. It would be possible to arrange for an apparatus for extension beyond the outer side of the triangle, but there is no doubt that in some cases of fracture of the humerus extension can be overdone, and when it is necessary it is best applied with the Thomas's splint. The axilla, too, is not a satisfactory place for counter extension. It may again be pointed out that severe and very septic cases, and those where secondary hæmorrhage is likely, are best treated on a Thomas's splint, at any rate until the local condition has greatly improved.

I have to thank Captain M. H. Watney, R.A.M.C., for many x-ray plates and for the photographs from which the illustrations are taken.

## THE POSITION OF THE OPERATION FOR THE EXCISION OF A CARTILAGE IN MILITARY SURGERY.

By T. E. HAMMOND, F.R.C.S.,

SURGEON TO THE NEWPORT MILITARY HOSPITAL; LATE SURGEON TO THE ALDER HEY MILITARY HOSPITAL.

THE average stay in hospital following an operation of the excision of a cartilage is in the case of civilians three weeks; in four weeks the patient is again back at work. It has become increasingly evident that the prognosis in the case of soldiers is not nearly so good. At the request of General Sir Robert Jones the statistics of cartilage operations performed at Alder Hey Military Orthopaedic Hospital were investigated.

### A. Conditions Present.

The total number of cases admitted with the diagnosis of displaced cartilage to the end of 1917 was 283. The total number of cases operated upon for the excision of a cartilage or a synovial fringe was 112. In many of the remaining 171 cases nothing abnormal could be found, while in others only slight wasting of the quadriceps was observed. In 20 cases definite osteo-arthritis was present, in 7 tuberculous disease, in 4 villous synovitis, and in one sarcoma of the lower end of the femur.

### B. Comparison of Cases Admitted during the Corresponding Four Months of 1915, 1916, 1917.

	Admissions.	Operations.
1915	28	17
1916	50	16
1917	52	13

### C. Results of Operations.

Of the 112 cases operated upon 8 were discharged as fit for general service immediately; 99 were discharged to a command dépôt as fit for general service within four months; 5 were discharged as fit for home service only.

### D. Average Stay in Hospital.

The average stay in hospital before operation was 22 days, and varied from 3 to 50 days. The average stay in hospital after operation was 55 days, and varied from 21 to 135 days.

### E. Final Category of Patients Discharged after Operation.

In order that the final category of officers and men discharged as fit for general service in four months should be known, a request was sent to Records for their posting after discharge with the present category. Replies were received in 36 cases.

	Number	Percentage.
Class A (General Service)	19	53
Class B (Garrison Duty)	8	22
Class C (Home Service)	5	15
Class P (Reserve)	2	5
Unfit for further military service	2	5

Five of the Class A men had been killed in action.

### F. Final Category of Patients not Operated on.

For comparison a similar proceeding was carried out in cases in which nothing abnormal was found with the knee, and the soldier was discharged to a command dépôt as fit for general service in four months. Replies were received in 27 cases.

	Number.	Percentage.
Class A	9	33
Class B	4	15
Class C	5	19
Class P	6	22
Unfit for further military service	3	11

### Symptoms of a Displaced Cartilage.

These are briefly as follows:

**Stage of Dislocation.**—Sudden locking of the joint with marked pain, followed by rapid effusion and tenderness over the cartilage. With proper treatment the effusion disappears and full movement is regained. In some cases complete recovery may follow, but there is a marked tendency for the dislocation to recur. Each recurrence is followed by less pain and a less marked tendency for effusion to arise.

**Intervening Stage.**—The patient may complain of weakness and instability of the knee, especially marked when walking on rough ground. There is usually tenderness over the edge of the cartilage and wasting of the quadriceps. At the time of dislocation physical signs are well marked. The intervening stage is characterized by the complete absence of such signs in many cases, and is the stage in which the soldier usually reaches the orthopaedic hospital.

### The Effects of a Displaced Cartilage on a Soldier.

When a cartilage has once been displaced, a soldier runs the greatest risk of a recurrence in the face of the enemy, since the dislocation may recur during a charge, raid or patrol. Such an accident may be disastrous to him and to his comrades. Apart from this danger constant recurrence as a result of marching over the uneven ground at the front is only to be expected. This may lead to chronic synovitis and even arthritis. Therefore no soldier who has once suffered from a displaced cartilage should be returned to the firing line until this has been removed. There is not the same objection to returning such men to the A.S.C. or the Mechanical Transport.

### Internal Derangement of the Knee a Facade.

#### Complication of Malingering.

With the prolongation of the war there is a tendency for the soldier in all armies to become war weary and for malingering to develop, especially among conscripts. Simulated internal derangements of the knee are by no means uncommon, and such cases, especially in the intervening stages, are often exceedingly difficult to diagnose. The statistics given under B indicate that there is a tendency for malingering in this respect to increase.

It must not be inferred that malingering in the British army is common. To Alder Hey practically all doubtful cases from the Western Command were sent. These numbered 283 in three years, and in only 51 cases was nothing abnormal found, a small number for such a period.

### Pre-operative Treatment.

In certain cases diagnosis was evident, as, for instance, when locking was still present. In the intervening stages no signs apart from tenderness over the cartilage and wasting of the quadriceps were present, and the diagnosis was often difficult. Wasting of the quadriceps occurs in all cases of internal derangement; it may also occur in a normal knee which is kept stiff and not fully used. Consequently, while the absence of wasting indicates that there is nothing abnormal in the joint, its presence, while supporting, does not prove that some derangement exists.

In all doubtful cases the soldier was put through a full gymnastic course each day, following which an examination for limited movement, effusion, etc., was made. Under no consideration was an operation performed until something more than the soldier's statement was present to



warrant the diagnosis. It was the necessity for finding definite physical signs which accounts for the prolonged average stay in hospital before operation (D).

#### *Operative Treatment.*

The operative technique and post-operative treatment introduced by General Sir Robert Jones was invariably carried out.

#### *Post-operative Treatment.*

Complete recovery following the operation was in many cases delayed. When the soldier was anxious to rejoin his unit the average stay in hospital was one month. In other cases the soldier was anxious to prolong his stay in hospital and complained of weakness and instability of the knee, though full movement was present. In such cases wasting of the quadriceps was the only physical sign. A soldier with such symptoms and the added wasting of the quadriceps might obtain sympathy when inspected by another medical officer. Consequently no soldier was discharged to a command dépôt until the quadriceps had regained its full volume and strength under massage, gymnastic exercises, and electrical treatment. Without the co-operation of the patient this was often delayed, and accounts for the prolonged post-operative stay in hospital (D).

When, in spite of all treatment, wasting persisted, the patient was discharged to sedentary work; this accounts for the five cases discharged as fit for home service only (C).

#### *Further History of the Cases.*

The patient on joining the command dépôt is often anxious to avoid long route marches, and now complains of pain in the scar, weakness and instability of the knee, and walks with a limp. Wasting of the quadriceps again occurs. With an unsympathetic medical officer the soldier realizes the game is up, and is soon passed out Class A. Should the medical officer show any sympathy the symptoms persist, and the soldier is eventually passed out in a low category. This is especially likely to happen in the case of medical officers who believe that the extension of a cartilage prevents a soldier from again becoming fit for active service. Such judgement is not in accordance with facts, and simply encourages malingering.

That too much attention is paid to subjective symptoms and too little to physical signs is especially shown in the case of men discharged in whom nothing abnormal was present in the knee; only 33 per cent. of such cases were passed fit for active service (E). In both E and F all the soldiers, after a short stay at the command dépôt, should have been discharged as fit for general service.

#### *The Position of the Operation in Military Service.*

From a purely military aspect an operation of choice is only justifiable if it raises the soldier's category, or relieves him of a condition the persistence of which would be harmful. It is dangerous for a soldier, liable to recurrent dislocation, to be placed in the firing line (Class A). The highest category in which he should be put is B (garrison duty), and then only if recurrence is infrequent, otherwise arthritis may arise.

Internal derangement of the knee in the intervening stage is easily simulated. In a doubtful case the conscientious medical officer will often give the patient the benefit of the doubt, since he realizes the risk of sending the genuine case back into the firing line, and knows that subjective symptoms without definite physical signs are not uncommon. Were all such cases to be returned to the firing line a grave injustice would be done to the genuine case. On the other hand were all the cases to be placed in Class B malingering would certainly increase.

Careful investigation of all doubtful cases is essential, and owing to the increased facilities for diagnosis most of these cases find their way to the home hospitals. It is the difficulty of proving that anything wrong is present in the knee that accounts for the prolonged pre-operative stay in hospital.

Full movement of the knee after an operation is usually regained in three weeks, and graduated exercises should then be started. There would be no necessity for the cases to stay in hospital were it possible for them to be sent to a special command dépôt to be under the supervision of a medical officer who understands his work, and the method of developing the quadriceps by graduated and resistance exercises. The post-operative stay in hospital

would thus be considerably reduced, and a much larger percentage of the patients would rejoin their units in a much shorter period of time.

That only 53 per cent. of the men discharged are finally passed as fit for general service is due to lack of judgement and perhaps energy on the part of the medical officers at the command or regimental dépôts. During my term of office as registrar at Alder Hey on no occasion did any communication about a knee operation arrive. That the category of 47 per cent. should have been lowered without any reference to the nature of the operation indicates that far too much attention is paid to subjective symptoms. With proper supervision 95 per cent. of the cases operated upon should have been placed in Class A.

## A CLEAN MILK SUPPLY.

BY

SHERIDAN DELÉPINE, M.B., C.M., M.Sc.,

DIRECTOR OF THE PUBLIC HEALTH LABORATORY,  
UNIVERSITY OF MANCHESTER.

THE Sanitary Committee of the Manchester City Council has had under consideration for some years the improvement of the milk supply. The report which it recently published on the methods of testing cow's milk in relation to standards of cleanliness was prepared by me at their request to supply them with information as to:

1. The best method of determining the degree of contamination of milk for administrative purposes.
2. The actual state of the Manchester milk supply.

I may incidentally refer to the fact that the provision of a clean milk supply has been under consideration in Manchester since 1896, and that the question of controlling the distribution on lines resembling those recommended lately by the Minister of Food had received attention.

The methods of testing cow's milk are dealt with in the first section of the report, and in the second part the present state of the milk supply is shown to be very unsatisfactory. It was, for instance, found that the milk supplied to several hospitals and milk dépôts was highly contaminated, as can be seen by the following summary:

The number of bacteria growing on a quart at 37° C. was—  
Over 1,000,000 per cent. in 8 per cent. of the samples,  
300,000 to 1,000,000 per cent. in 45 per cent. of the samples.

As regards the souring time at 50° C. it was found to be—  
Less than ten hours in 26 per cent. of the samples,  
Ten to fifteen hours in 59 per cent. of the samples,  
Fifteen to twenty hours in 15 per cent. of the samples.

It was also found that the proportion of tuberculous samples was three times as great as before the beginning of the war.

As in my opinion this deplorable state was only in small part due to errors in the methods of distribution I felt it my duty to give additional information regarding the ways in which the milk becomes contaminated, and the methods of collection and distribution which should be adopted to protect milk against pollution.

Detailed evidence is given in the report showing that the most serious sources of pollution are to be found at the farm, where dirt from the cow, the shippon, and the milkers, is allowed access to the milk at the time of milking, and where dairy vessels of various kinds may, even when apparently clean, harbour numerous bacteria. It is also demonstrated that the strainer on which the farmer depends for the removal of gross dirt is an important source of contamination, and that even the cooler is not above reproach.

Of the experiments mentioned in the report the following is instructive:

Three cows were milked into sterilized covered vessels, and then milk was mixed in a sterilized churn. Part of this milk was then strained through a common strainer in use at the time, and received in an ordinary, apparently clean, but not sterilized churn. The unstrained milk remaining in the sterilized churn, and the strained milk transferred to the ordinary churn was carried to town by road, and examined two and a half hours after milking.

The unstrained milk was found to contain 1,500 bacteria per c.c.m.

The strained milk was found to contain 45,200 bacteria per c.c.m.



The milk in the two churns was then kept for 23 hours at 26° C., when it was found that:

The unstrained milk contained 800 bacteria per c.c.m.

The strained milk contained 1,236,000,000 bacteria per c.c.m.

The unstrained milk was sweet at the end of 90 hours.

The strained milk was sour in 14 hours.

It will be noticed that both samples of milk had remained in the churns in which they were placed at the farm. It is clear from this, and from many other experiments and observations recorded in the report, that milk collected in sterilized vessels and unstrained, is very much less contaminated, and has a much longer life of usefulness than milk collected and treated in the usual way. The postponement of souring has obvious economical advantages. Milk which remains sweet for two or three days can be used to meet the fluctuating demand for fresh milk, and the surplus may still be utilized in various ways.

I have come to the conclusion that to obtain a clean milk supply certain conditions have to be observed which may be enumerated as follows:

Clean shippers, cows, and farm hands.

Sterilized covered milk pails.

No handling of the milk at the farm beyond transfer from sterilized pail to sterilized churn.

Rapid transit from farm to town in clean cool vans.

Distribution of milk to consumer in sterilized vessels with as little handling as possible.

To meet these requirements the small farmer will have to abandon some of his cherished practices and learn what sterilization means. A full account of simple and economical methods of sterilization is given in the report. Further, the railway companies will have to provide clean and cool means of transport. Finally, the distribution of milk to the consumer will have to be undertaken by distributing centres under strict control.

When the small farmer has been shown what he has to do, and how he can do it economically, it will be reasonable to insist upon his doing it. The introduction of grading, and, if necessary, of penalties, will then be advantageous.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### CAMPHOR IN ACUTE INFLUENZAL BRONCHITIS AND BRONCHOPNEUMONIA.

DURING the recent outbreak of influenza at Felixstowe I treated 250 cases with camphor, with a mortality of one—a man who died after three days' illness from bronchopneumonia.

The incidence of bronchopneumonia in the 250 cases was 26, or 10 per cent.; in another series of 200 cases during the same outbreak, and untreated with camphor, the incidence was 8 per cent., but the number of deaths was 4, a mortality of 2 per cent. The outbreak was very severe, and the cases treated ranged in severity from very acute to mild cases. The temperatures varied from 105.5° to 100° F.

The treatment adopted was the administration of pills containing four grains of camphor made up with soap, in mild cases three times daily and in the very acute cases every three hours. The treatment was continued until the temperature dropped and the signs of bronchitis or bronchopneumonia cleared up. A typical case may be of interest.

A boy, aged 10, was suddenly taken ill on September 6th with acute pains in the back and head. When seen the temperature was 105.6° F., pulse 120. There was slight cyanosis, and marked and widespread signs of bronchitis with patches of bronchopneumonia were found over both lungs. On September 7th the boy became unconscious. The camphor pills were begun on September 8th, after the unconsciousness had lasted thirty-six hours. Pulse 130, temperature 104.8° F. Within twenty-four hours the boy recovered consciousness. The signs in the lungs slowly cleared up, and the chest became normal on September 12th.

There was no doubt in the minds of those who watched the boy that his recovery was entirely due to the camphor. The only other treatment was a diaphoretic mixture, which was stopped on September 9th.

The effect of camphor in large doses is very marked, and though the number of cases treated is too small to allow me to describe it as a specific, there can be

no doubt, from the difference in the mortality in the two series of cases treated during the same outbreak with and without camphor, that the curative action of camphor is remarkable. Certainly its effect in clearing up the lungs and lowering the temperature far surpasses that of any other drug that has been tried.

Felixstowe. P. L. GRISSETT, M.D. Lond., F.R.C.S. Eng.

#### THE SIGNIFICANCE OF FATS IN THE DIET.

The following figures from the tropics, 1° 17' north of the equator, may be of interest. They were obtained from observations during the past two years on the diet nutrition and excretion of the Asiatic races in Singapore.

Subject.	Protein		Fat.	Carbo- hydrate.	Total Calories.	Fat Calories per Cent. of Total Calories.
	Gram.	Gram.		Gram.		
Chinese medical student	60	43		227	1,577	25.4
Tamil medical student	58	32		277	1,672	17.8
Malay medical student	57	31		229	1,502	19.2
Brahman medical student	85	68		371	2,402	25.4
Tamil gardeners	76	19		468	2,407	7.3
Chinese estate coolies	66	17		611	3,015	5.2
Native prisoners (Class I)	84	50		432	2,560	18.0
Native prisoners (Class II)	84	18		541	2,770	6.1
Native prisoners (penal diet)	62	13		522	2,515	4.8

The diets of the medical students and Tamil gardeners are those of choice; the other diets are fixed.

Naked eye observation of the food of the Singapore native labourer is sufficient to show that the fat per cent. is very low.

J. ARGYLL CAMPBELL, M.D., D.Sc. Edin.

Medical School, Singapore.

#### THE TREATMENT OF BILIARZIOSIS BY INTRA-VEINUS INJECTIONS OF TARTAR EMETIC.

OUR knowledge of the situations occupied by the parasites in patients suffering from bilharziosis has hitherto acted somewhat as a deterrent in attempting a radical cure of the disease by the introduction of poisonous substances into the general circulation. In consequence treatment has been largely confined to measures tending to mitigate the severity of the symptoms. It is interesting, therefore, to see in the JOURNAL of December 14th an article by Dr. J. B. Christopherson on the efficacy of intravenous injections of tartar emetic in this disease.

In 1916, in Cairo, at the Australian Dermatological Hospital, a case was successfully treated on these lines; the notes suggest a specific action of the drug.

M. I., a native washerman, working at the hospital, complained of increasing frequency of micturition, pain above the pubes, swelling during passage of the urine, and hæmaturia. He first noticed hæmorrhage at the end of micturition two years previously, but experiencing no trouble beyond this, he had not sought relief for some time, but finally urinary discomfort induced him to be treated at the outpatient department of a civil hospital, where he attended some months without appreciable relief. His urine contained numerous flocculi, which on examination under the microscope were found to consist of red blood corpuscles, pus and epithelial cells, and characteristic spined ova entangled in mucus.

In view of the disability caused by his symptoms, we decided to try the intravenous administration of tartar emetic; 10 injections of 0.1 gr. in 100 c.c.m. of sterile normal saline were made into one of the veins of the antecubital space at intervals of a week. They were given towards evening, and the patient instructed to rest on returning home. The solution was introduced slowly, care being taken that none escaped into connective tissue surrounding the vein. No fits of coughing or faintness, such as often occur during the transfusion of this drug, were noted in this case. Fever and malaise followed all injections after a few hours except the first two, but apart from two mornings following the administration of the remedy, the patient went about his ordinary duties. Treatment was begun on March 7th, and the urine was examined microscopically at weekly intervals. A fortnight later marked relief of symptoms was experienced, and the number of blood cells and ova in the urine was appreciably decreased. After four injections no blood was passed, and after six the ova had disappeared from the urine. At the end of ten injections the urine was clear



except for a few pus cells, and no symptoms of the disease was experienced by the patient. The patient was under observation for some months subsequent to this, and during this time symptoms and signs were completely absent.

It is unjustifiable to draw conclusions from a single case, especially as it is well known that remission of symptoms may occur; the permanency of the cure in this particular instance is not proved, but the rapidity of relief, and the fact that distressing symptoms had been present continuously for two years previously, are nevertheless very striking; in the light of other evidence being brought forward, the facts tend to support the view of the favourable action of tetracycline in bilharziasis.

C. J. WILLY, Major A.V.M.C.

Sarsbury.

## Reports of Societies.

### ENTERIC FEVER IN FLANDERS IN 1914-15

At a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine, and on December 13th, Lieut. Colonel E. W. GOODALL delivered his presidential address on enteric fever in Flanders in 1914-15. He thought that there could hardly be any doubt that there were, by the end of November, 1914, in the Flanders area, a considerable number of cases of enteric fever in the Belgian, French and German armies, and probably amongst Belgian civilians, and a comparatively small number in the British army. The exciting cause of the epidemic was the flooded state of the country, with the consequent polluting of the soil, the wells, the canals and the trenches by the excreta of infected soldiers, though not solely German, and of Belgian refugees. The outbreak began to assume epidemic proportions soon after the army settled down to trench warfare in November, 1914, and by the end of the year the epidemic was assuming a very serious aspect.

An account was then given of the Friends' Ambulance Unit, which had its head quarters and hospital in a large building just outside Ypres, and for about three months carried out nearly all the medical work amongst the inhabitants who had remained in the district, and this without any outside assistance.

The British army enlisted the services of this unit to help in their campaign against the epidemic, which spread rapidly towards the end of December, 1914. The number of cases was probably considerable, but information was limited. There must have been about 4,000 cases under treatment daily during January and February, 1915. The British army furnished comparatively few cases, only 827 up to May 22nd, 1915.

The disease differed in several points from the types the speaker had seen in England during the previous twenty-five years:

1. The fever ran a very irregular course, the oscillations being frequent and extreme, so that the curve at the height of the disease resembled in many cases that of pyaemia or phthisis. Temperatures of 104° to 105° F. were by no means uncommon.

2. A considerable number of cases exhibited pronounced nervous symptoms, coma or semi-coma, or restlessness and delirium. These symptoms did not pass off as the general condition improved and the temperature fell. The comatose cases did worse than the others; in such cases death occurred without recovery of consciousness, though the temperature fell. He attributed the mental state to the harassing conditions under which the patients had been living before they became ill.

3. Clinical evidence showed that the intestinal lesions were by no means extensive or severe. Death was due either to cardiac failure, probably caused by myocarditis, or to hypostatic pneumonia. Cases which he saw later amongst French soldiers were less severe and conformed to no type he had been used to seeing in England. This he accounted for by the fact that the patients were well fed, many had been inoculated, and a large proportion were cases of paratyphoid. As soon as laboratory methods of diagnosis were employed it was found that a considerable number of cases were paratyphoid. In 43 cases at the Queen Alexandra Hospital, Dunkirk, in which the blood cultures were positive, 16 were typhoid, 22 were paratyphoid A, 3 were paratyphoid B, and 2 were paratyphoid, but whether A or

B was not ascertained. If to these cases were added those in which the results of the blood serum tests were taken as clinching the diagnosis, then there were 43 cases of typhoid, 32 of paratyphoid A, 12 of paratyphoid B, and 2 of paratyphoid ? A or B, so that 51.6 per cent. were paratyphoid. This proportion was very different from that found amongst the Belgian civilia is admitted to Hôpital Elisabeth at Poperinghe. Out of 553 cases in which the clinical diagnosis was supplemented by positive blood cultures or serum test, 245 were typhoid, 62 were paratyphoid B, and only one was paratyphoid A—that is, 50.4 per cent. were paratyphoid. Several reasons were given which might account for this difference, one of which was the fact that of these cases in the Queen Alexandra Hospital 29.4 per cent. had not been inoculated, whilst of 454 cases admitted to Hôpital Elisabeth 92 per cent. had not been inoculated. The presence in any particular area of more or fewer cases of the three varieties must also be taken into account. It was generally believed that paratyphoid A was introduced by carriers among the troops, as it was very rare in Europe before the war, and the figures given indicated that the Belgian soldiers were not exposed to the infection of paratyphoid A, but that the French soldiers were.

Of the 435 cases admitted during the febrile period to the Poperinghe hospital, 93, or 21.3 per cent., died, whilst of 102 cases admitted to the hospital at Dunkirk, 10, or 9.8 per cent., died. The Poperinghe cases were of all ages, and both sexes, but with a majority of females; the Dunkirk cases were all males, mostly from 20 to 40 years of age. The fatality rates for the two hospitals were also different. For the Hôpital Elisabeth they were as follows: Typhoid 9.7 per cent., paratyphoid 19.2 per cent. For the Queen Alexandra Hospital: Typhoid 20.9 per cent., paratyphoid 2.1 per cent.

The measures employed against this epidemic were (1) those for providing for the sick and (2) those for protecting the healthy.

1. The medical departments of the several armies dealt with the soldiers, and the Friends' Ambulance Unit chiefly with the civilians. Hospital accommodation was provided for those who had to be so treated.

2. As regards the measures adopted for preventing the spread of the epidemic by protecting the healthy, the authorities acted quickly and energetically. They were such as are usually taken in epidemics of this nature, namely, (a) the removal and isolation of the sick in hospitals; (b) the cleansing and disinfection of premises; (c) the provision for a safe water supply. Inoculation of the civil inhabitants of the infected areas with antityphoid vaccine was made obligatory by the Belgian authorities, those who refused inoculation being expelled from the zone occupied by the allied armies and treated as refugees, and enteric fever was made notifiable, omission to notify being punishable by fine or imprisonment.

Statistics were then given of the numbers among the Belgian civilian population who were inoculated by the Friends' Ambulance Unit. Up to the end of May, 1916, 26,700 inoculations were carried out, a large majority of the cases receiving two inoculations.

By the middle of March the epidemic was on the wane as far as the French army was concerned, and by the beginning of the summer it was at an end, not only in the armies, but amongst the civilians. Colonel Goodall attached more importance to the effect produced by the usual sanitary measures than to the inoculations, because the inoculations at that time were against *B. typhosus*, and not against *B. paratyphosus* A and B. Now that the enemy had been driven from this part of the country, the civilian inhabitants would be returning in large numbers, and every effort should be made to prevent a fresh outbreak.

### INFLUENZA IN IRELAND.

At a meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland, held on November 15th, the President, Dr. G. PEACOCKE, delivered his inaugural address on influenza, and Captain SPARES read a paper on the same subject. Dr. J. H. POLLOCK stated that at the Richmond Hospital they had worked upon sputum, nasal discharge, empyema fluid, lung tissue, and heart's blood obtained *post mortem*. Their conclusions might be summarized thus: (1) From none of the above materials could they



recover influenza bacilli. (2) In all cases either pneumococci or streptococci, or both, were recoverable. (3) In two cases organisms were grown from heart's blood—in one pneumococci, in another streptococci. (4) As regards the type of pneumonia present, one fatal case showed *post-mortem* typical croupous pneumonia upon the right side, with characteristic bronchopneumonia upon the left; another showed a similar combination, together with acute tubercle at upper poles. The main type of pneumonia found was bronchopneumonia, frequently coalescent. (5) One case showed bilateral empyema, but no pneumonia.

Professor E. J. McWENY said that of the specimens of sputum which he had examined only a small minority contained the Pfeiffer bacillus. In his experience the prevailing organisms were pneumococci, strepto-pneumococci, and *Micrococcus catarrhalis*; in a few cases staphylococci were predominant. He had not been able to arrive at any conclusion as to the micro-organism responsible for the primary influenza, but considered the pneumonia to be due to secondary infection with the above-mentioned organisms. Vaccines made from pure influenza strains, and also from the complicating organisms with and without Pfeiffer's bacillus had gone forth from his laboratory in considerable quantities, but so far he had not been able to come to any well-grounded conclusions as to their protective or curative value.

Dr. MOORHEAD, from the clinical point of view, called attention (1) to the occurrence of severe meningeal symptoms, particularly in children; he had done a spinal puncture on all such cases, and found the fluid under great tension, but in each case the fluid proved sterile; considerable improvement followed the puncture in almost every instance; (2) the frequency and severity of post-influenzal delirium and mania; and (3) the frequency of the development of a post-influenzal empyema.

Dr. CHORTON agreed with Captain Spence that the epidemic was due to the influenza bacillus. The facts that it appeared simultaneously with the epidemic all over the world, that the epidemic appeared to be largely controlled by inoculation with pure influenza vaccine, and that the illness was often cut short by it, were very significant. He thought that the failure to isolate the microbe was generally due to unsuitable culture media, and described a medium—fresh human blood-agar—on which the microbe grew profuse colonies, grey in appearance, often attaining a diameter of two millimetres or more in forty-eight hours. The agar must be made strictly according to Eyre's directions. He did not agree that the true influenza bacillus ever became Gram positive. He thought the microbes producing the complications—namely, staphylococci, strepto-pneumococci, and Gram-negative cocci—might be a primary infection along with the influenza bacillus, but that more frequently the patient's own catarrh microbes became pathogenic when his resistance was lowered by the influenza bacillus.

Dr. DAY remarked that he found pneumonic vaccine, injected early, before pneumonic symptoms were pronounced, of decided value, and also a streptococcus vaccine prepared by Dr. Pollock of much benefit, especially in cases where the expectoration was thin, copious, and purulent.

Dr. O'KEELY said he had had very encouraging reports on the value of a vaccine made with pneumococci and *Micrococcus catarrhalis*, not merely in treatment but also in prophylaxis, although no influenza bacilli were in it. The fact that such a vaccine, as well as a pure influenza vaccine, seemed to protect against the disease, suggested possibly (as Nicolle stated) that a filter passer was at fault, which might perhaps be present in the various vaccines used. He had so far not isolated Pfeiffer's bacillus in any case. Two blood cultures, one sterile the other yielding pneumococci in pure cultivation, had been tested for an ultra-microscopic virus, with a negative result.

Dr. NESBITT said that in judging the results of protective inoculation it was necessary to remember the curious variations in susceptibility. All his uncomplicated cases had recovered, and the twenty deaths to date in the Richmond Hospital were due to pulmonary complications, the mortality for cases with definite lung signs in this series being about 45 per cent. He also had been much impressed with the liability to overlook empyema. The evidence that the outbreak was due to Pfeiffer's bacillus seemed very incomplete, and it was remarkable how frequently expert bacteriologists had failed to recover it from the cases.

Dr. F. KENNEDY CAHILL questioned as to how far "suggestion" acted in cases of preventive inoculation. In other epidemics the profoundness of the prostration was out of all proportion to the gravity of the disease; in this the severity of the disease was out of all proportion to the subsequent prostration, which was slight.

Dr. BOXWELL said that from the beginning he had regarded the more severe types as cases of profound septic intoxication. The typhus-like stupor, the haemorrhagic tendency of the complications, the severe albuminuria and haematuria, and the post-febrile delirium, all pointed in that direction, and called for a serum, were such available, and not a vaccine. The evolution of the illness was too rapid to allow of satisfactory vaccine treatment, which took time. In the majority of cases patients were either obviously getting over it, or were far too ill to call for a second dose. As regards the prophylactic use of the vaccine, he thought we were on surer ground. He had no doubt that the influenza bacillus was the exciting cause of the epidemic, as he had seen an organism, resembling *Bacillus influenzae*, extremely difficult to grow, in nearly all the sputa examined. But was the middle of a raging epidemic the time to advocate wholesale vaccination, even supposing we had any real evidence that it would be effective? It was impossible to say who were already infected and who were free. In those already infected, vaccination was quite likely to precipitate an attack which they might otherwise have repelled. And there was no reliable evidence to show that the attack so precipitated was in any way mitigated by the preceding vaccination. The time for vaccination was in the intervals of recurring epidemics, due care being taken to avoid possible sources of infection after the inoculation. Doses of reasonable size could then be used, at any rate without fear of doing harm. But as it was impossible to foretell when the disease was going to flare up again in epidemic form, and the immunity conferred was in most cases short-lived, the value of prophylaxis in influenza was largely discounted.

## Reviews.

### AN EAST END PIONEER AND HIS WIFE.

UNIVERSITY and college "settlements" in the poorer parts of East and South London, whereby the young men and women of the districts are brought into touch with others who have had higher educational opportunities, are now well recognized. The history of their first inception, and of the steps that led to the foundation of Toyubee Hall and other kindred establishments in London and some other large towns, is not so well known. In like manner the Children's Country Holiday Fund has become a familiar institution, but the labours of those who brought it into being are apt to be forgotten in the enjoyment of its present success. These, and many other organized schemes for the betterment of the lives of the poor, have taken practical shape since the year 1873, when the Rev. S. A. Barnett and his newly married wife decided to exchange their comparatively easy-going work at St. Mary's, Bryanston Square, for the difficult and often disheartening labour in the overcrowded and squalid surroundings of St. Jude's, Whitechapel.

The story of their work in the East-end and of their unceasing care for the well-being of the poor, has recently been related by Mrs. BARNETT in two handsome volumes,<sup>1</sup> which together constitute a history of the rise and progress to success of some of the most important social movements of our time, the full results of which have yet to be experienced.

Introduced by a short letter from the Archbishop of York, himself one of the first of the enthusiastic young men who recognized the importance of the Barnetts' work in the East-end, their life is fitly described as an example of whole-hearted service for God and man. By no means free from the minor foibles and failings of ordinary life, Canon Barnett, as he afterwards became, was essentially lovable, and those who loved him were devoted to him.

In their early struggles with ignorance, immorality, dirt, and dishonesty, among the underfed and overcrowded men,

<sup>1</sup> Canon Barnett: *His Life, Work, and Friends*. By his Wife, H. O. Barnett, C.B.E. Two vols. London, John Murray, 1918. (Demy 8vo, pp. 392 and 411; 39 illustrations. 28s. net.)



women, and children in Whitechapel, the husband and wife worked together with a common purpose and their very failures appear to have stimulated them to greater united effort. They threw themselves especially into the social side of their work and succeeded in attracting not only the goodwill of those for whom they laboured, but at the same time the interest and co-operation of young and enthusiastic helpers, many of them fresh from university life, together with many older friends interested in educational progress. From this association sprang the idea of local residence among the poor, and this led to the foundation of Toynbee Hall, of which Canon Barnett was for many years the warden.

To what a remarkable degree their efforts met with success, in spite of drawbacks and disappointments, will be gathered from Mrs. Barnett's book. It reveals personal characteristics with a detail which is almost Pepsysian at times, but, in spite of its length, few readers would wish to have such a record shortened. The numerous letters, many of them to and from persons still living, add greatly to the fuller appreciation of the writer's outlook on life and its possibilities.

Very early in his East-end career, Canon Barnett became impressed with the evils of indiscriminate alms-giving. The better organization of charity by the establishment of the well-known society was largely due to his initiative. In 1878 he first started the plan of sending children into the country for a few weeks in the summer, and in 1884, when the Children's Country Holiday Fund was well established, he became its chairman and so continued for many years. Greatly influenced at the outset of his ministry by the friendship and example of Miss Octavia Hill, who had already shown that the better housing of the poor could be carried out on a commercial basis, he never ceased throughout his many years of active work to advocate improvement in housing conditions as an essential to the permanent improvement of the labouring classes. The introduction of cheap means of transport led him to support the planning of garden suburbs instead of industrial dwellings. The remarkable success of the Hampstead Garden Suburb is a direct outcome of his views, but the practical working out of that scheme has been effected by Mrs. Barnett herself. Her persistent energy and enthusiasm successfully enlisted the necessary financial and professional aid to overcome the many initial difficulties.

Their hard and exhausting work in the East-end was relieved at intervals by holidays spent in foreign travel, and the mental refreshment thus gained led to the desire that others, less able to afford luxuries, should be given opportunities to visit other countries. A Travellers' Club was started at Toynbee Hall, and short tours were organized at moderate cost for the benefit of some of their working class friends and students, extending even as far as to Italy.

Throughout their forty years of married life, Canon and Mrs. Barnett enjoyed the society and friendship of leaders in many walks of life—religious, educational, scientific, social, and political. At their vicarage in Whitechapel they entertained a circle of friends almost as large as in their later home under the shadow of Westminster Abbey, and thus a vast number of projects for the amelioration of the lives of the poor were passed in review by some of the most earnest minds of the time.

Refusing offers of higher preferment, Mr. Barnett accepted the canonry of Westminster Abbey in his later years, and became Sub-Dean shortly before his death in 1913. The record of his life thus set forth by his partner and co-worker is full of interest for every one who can appreciate the devotion of a lifetime to the well-being of the poor. The practical results of such devotion will be felt by many generations yet to come.

### SURGERY AT A CASUALTY CLEARING STATION.

THE object of the authors of this book<sup>2</sup> has been to place on record a brief but comprehensive description of the surgical methods evolved and employed in the casualty clearing stations in France. Major-General CUTHBERT WALLACE has had exceptional opportunities for observing

and directing this evolution since he has for over three years been a consulting surgeon in the army area, and Captain FRASER, as surgical specialist to one of the most forward of the casualty clearing stations, has equally had special opportunities in the practical application of the methods. The result of their combined work is a practical handbook, which states in small compass the methods which are, except for small details, the generally accepted principles on which surgery in the zone of the armies has been based. Though too late in appearing to be a book of instruction to young surgeons, it will be of value as a reference book and a statement of what has been done. As such it will be of special interest to those surgeons working in England who may not have had opportunities of seeing the work in the field, and may have had difficulty in appreciating the problems which arose there.

After a brief introductory chapter on the evolution of the casualty clearing station, a work in which General Wallace has been particularly concerned, the important questions of shock and of antiseptics are considered. The reader will find a brief account of the theories of the causation of shock, though these change so rapidly that some of the statements are already out of date. On the vexed question of the value of antiseptics much interesting information is given, and the gradual swing of opinion to the realization that radical surgery carried out on aseptic principles is of more importance than any antiseptic is traced. Chapters on the accepted principles of wound treatment generally, and on wounds of the various regions follow. The authors' conclusions are stated briefly and dogmatically, and leave no doubt as to the course which they consider the best to follow. The articles on abdominal wounds, gas gangrene, and transfusion will be of particular interest to readers in this country; they deal with problems which are almost exclusively of front line importance, and much has been accomplished in their study.

The illustrations, made largely from sketches on the spot, add to the value of the book, which will be welcomed by all interested in war surgery.

### NOTES ON BOOKS.

THE Biological Society of Barcelona was founded by Dr. Enric Prat de la Riba, an enthusiastic Catalonian patriot who died in 1917. He also initiated the Institute of Sciences of which it is an offshoot. The president is Dr. August Pi Suñer, and in the list of honorary members we note the distinguished name of Professor Santiago Ramón y Cajal of Madrid. The proceedings of the Society for 1917, the fifth year of its existence, are largely concerned with histological technique. There is an interesting paper on haemorrhagic metropathy (virginal metrorrhagia), illustrated with coloured plates, by Lluís Guilerà. P. Nubiola writes on the evolution of the Graafian follicle, and Manuel Dalmau contributes a note on the mechanism of the functional relation between the thyroid and the suprarenal capsules. C. Lopez treats of the action of sodium chloride on the *Barro's infusaries*. The members of the Barcelona Biological Society may justly be congratulated on the scientific activity of which this substantial volume is a record.

We are glad to find that the high opinion we expressed of Colonel LEBLANC'S *Sanitation in War* when it first appeared has been confirmed by practical experience. The book was reprinted very shortly after its first appearance in 1915, and a second edition was edited for in 1917. The third edition now published has been slightly enlarged, but the volume is still of very convenient size and will add little to the bulk or weight of kit. It is well illustrated, and the drawings of the improvised apparatus described will make it easily possible to reproduce them in the field. Until the army is wholly demobilized the call for such a book must continue to be considerable; and afterwards it will, we believe, remain a most valuable textbook for medical officers in military employment at home or abroad. Few handier and more practical books could indeed be desired by the civilian practitioner in remote parts of the Empire.

<sup>2</sup> *Treballs de la Societat de Biologia*. Institut d'Estudis Catalans, Barcelona.

<sup>1</sup> *Surgery at a Casualty Clearing Station*. By Cuthbert Wallace, M.C., F.R.C.S., and John Fraser, M.C., F.R.C.S.E. London: A. and C. Black, Ltd. 1918. (Cr. 8vo, pp. 11 + 320; 65 figures. 10s. 6d. net.)

<sup>2</sup> *Sanitation in War*. By Lieut.-Colonel P. S. Leblanc, C.B., F.R.C.S., with an introduction by Surgeon-General Sir Alfred Keogh, G.C.B., M.D. Third edition. London: J. and A. Churchill, 1919. (Cape 8vo, pp. viii + 368; 68 illustrations. 7s. 6d.)



## MOTOR NOTES FOR MEDICAL MEN.

BY H. MASSAC BUIST.

## THE FIRST AFTER WAR CARS.

ONE after another the manufacturers of cars are announcing plans for their post-bellum vehicles. In most cases it is impossible to get a statement as to price. In very few cases is it possible to get any information in regard to delivery. Sundry vehicles are obviously composed of parts made either before or during the war, which it has not been possible to assemble until now. Thus one hears of quite a number of firms that have chassis on the road already. Some of the chassis announced are in size beyond the range required by the majority of medical men, as instance the Crossley 25-30 h.p. machine, which is a four cylinder, live axle, car with a bore of 102 mm. and a piston travel of 140 mm. with four speeds forward, the final drive being by helical bevel gears. The pistons are of aluminium. Electric engine starter and dynamo are standard equipment, while the under-slung rear springs are now conventional practice. In other words, this is the model which has of late been delivered to the Royal Air Force but sundry modifications will be embodied in the chassis as supplied to the public.

## THE ONE MODEL AUSTIN PROGRAMME.

The Austin Company comes forward with an entirely fresh nominal 20 h.p. four cylinder model with a bore of 95 mm. and a piston travel of 127 mm., all the valves being on one side of the monobloc cylinder casting, the head of which is detachable. The chassis of this car weighs 18½ cwt., and the vehicle can be loaded until its total weight is 2½ tons. There are evidences, alike in the design and the production, that sundry new style methods have been exploited—instance the pressed wings and, more notably, the moulding of the body work, whereby the ram-hood falls back quite out of sight. This is the one-model programme on which the firm is engaged. When it is had in mind that the vehicle will be marketed at £400 or less it will be realized that, in comparison with the majority of English manufacturers, the Austin Company will be offering remarkable value for money, notwithstanding the period of motor manufacturing in which the cost of labour as well as of material will be very different from what they were before the war. Unit construction has been adopted for the engine, clutch, and gearbox, the whole being attached by three-point suspension to the straight-sided taper frame.

## NOVELTIES BY ARROL-JOHNSTON.

Another entirely new after-war car is the Arrol-Johnston "Victory" model. This is to be a nominal 12 h.p. car with a chassis weight of 1,200 lb., the complete vehicle being marketed at a sum which, while it cannot be definitely announced, may be stated as being surprisingly low and possible only by the exploitation of a one model programme and quantity production. It is a four-cylinder machine with overhead valves. The cylinder bore is 75 mm. and the piston travel 150 mm.; therefore what used to be styled the long stroke school of design has been employed. Inasmuch as the public is not yet used to overhead valves, knowing about them only that, before the war, if an engine so equipped had valve heating it was liable to cause very serious trouble through the valves bending or breaking, it is well to point out in this connexion that all such "teething troubles" in that system of construction have been overcome as far as the industry in general is concerned. The bother with many overhead valves of high efficiency engines is rather in the matter of adjustment. Therefore it should be noted that adjustable tappets are fitted to the overhead Arrol-Johnston valves. The most approved European as well as American practice is embodied in the chassis, as instance the fact that the rear suspension is by cantilever springs, which, however, are anchored to the chassis in the reverse from the ordinary way, so that the rear end of the spring is higher than the forward end. The change-speed lever is on the driver's left hand, and mechanical electric engine starter and car lighting is incorporated in the chassis design. Of course, the experience the firm has had with aircraft engines during the war should prove invaluable to it in the matter of embarking

on an overhead valve type of motor for cars. Perhaps an even more notable feature in the Arrol-Johnston after-war programme is to be found in the fact that there is not a grease cup in the whole chassis, for the owner-driver's point of view has been considered. Every joint where oil is furnished is rendered dust-proof without the use of clumsy fittings. The scheme is that, once supplied, the lubricant suffices for several thousand miles' service. Again, all three brakes are interchangeable, and are adjustable externally without making any alteration in the length of the operating rods. Including those for journal and thrust service, only two sizes of ball bearings are employed throughout the car. Further, one size of bolt and nut is employed throughout the chassis. This is a ½ in. Whitworth thread. The ground clearance of the car is ten inches.

## THE ENFIELD-ALLDAY CONCENTRIC VALVE SYSTEM.

Originality of design is likewise revealed in the Enfield-Allday post war models. The larger of these is a nominal 15 h.p. four seater car with six cylinder line ahead engine, while the smaller is a light car on entirely original lines, having a five cylinder, air cooled, radial engine. Both models embody a new system of concentric valves. Dealing first with the larger model of the two the six water-cooled vertical cylinders are set separately on the top of the aluminium crank case. The valve system is operated from above. The valve gear consists of two concentric cylindrical sleeves. The outer one serves the purpose of an exhaust valve; the inner sleeve constitutes the inlet valve. The bottom of each sleeve butts on to a taper seating, locking the poppet valve. The exhaust valve seating is in the cylinder. The inner inlet valve-seat beds on a seating inside the exhaust valve, in which ports are uncovered by the raising of the inlet sleeve. This arrangement causes the ingoing gases to pass through the series of ports in the exhaust valve. These valves are worked by pull rods actuated by a master cam and short interposed rocker arms, which fit into the leaves on the upper ends of the sleeves. External springs are used to return the valves to their seats after they have been raised by the pull rods. Owing to the proportionately very large area of the passages provided for the gases, the amount of lift necessary for these details of the engine to act is relatively little. The exhaust valve is balanced against the cylinder internal pressure, which relieves the operating mechanism of heavy stresses. Four nuts only have to be undone to enable the valves to be taken out, whereupon the piston head is so exposed that carbon and so forth can be removed. The cylinder heads themselves are not detachable. The valves and operating gear are enclosed in an airtight compartment, hence they cannot exude oil. Aluminium-bronze slipper type pistons, having four deep thin rings apiece, are used. The engine sump is dry, the main oil supply being contained in an external tank separate from the base chamber proper. A compound oil pump is used, one portion of which forces oil from the hollow crank shaft under high pressure to all the bearings, while the other draws the used oil back from the crank case to the external tank. This is a feature of aircraft engine practice adapted to a type of engine for car work. The points of it are that the oil is constantly in circulation; that it is taken into the engine as near the working temperature as possible; that it is withdrawn before it has had time to increase appreciably beyond that temperature, therefore a clean engine is obtained, because oil is not burnt, but courses over and over again. Hence this type of engine is economical of oil. This type of 15 h.p. six cylinder engine reveals each cylinder in the guise of a plain tube reduced in diameter around the valve and combustion chamber. Uniformity of thickness, therefore of cooling to the prevention of distortion, is achieved by machining each cylinder alike inside and out. Each cylinder has a separate steel jacket enclosing a narrow space, through which water is circulated by a special form of pump. The bore is 90 mm. and the piston travel 110 mm., giving an engine of 2½ litres capacity, which is reported to develop 21 h.p. at 1,250 crank-shaft revolutions a minute, and as much as 52 h.p. at 3,000 revolutions. In this engine the crank-shaft is built up of two sections, each embodying three crank-pins, the whole being supported on seven bearings. For the rest, the side members of the frame are



uncommonly deep. The steering wheel can be tilted to allow easy entrance to the driver's seat, while access to the rear seats is by a gangway between the two front ones. There are several other unusual features in the body type, including the fact that the run-board is arranged to fit back into a compartment where it is out of sight, and is protected from dust and dirt. Electric engine starting gear and car lighting plant are features of the chassis.

#### A RADIAL AIR-COOLED GAS ENGINE.

The smaller Eufield-Allday model is even more original. It has also been designed by Mr. A. W. Rees, the engineer who was designer successively to Shell's Supermarine Crosser. An example of the smaller model has gone through satisfactory and exhaustive tests in the hands of noted experimental makers. It represents an entire break away from anything hitherto known in car construction. The bore and stroke measurements of the stationary radial engine are 65 mm. by 80 mm., giving a capacity of 1.247 c.cm., or approximately half the volume of the 15 h.p. model. The nominal horse power of the light car at 1,250 revolutions a minute is 10.25, while the approximate maximum at 2,500 revolutions a minute is 20.5 h.p. In this tubular chassis, which, with engine, weighs 8½ cwt., the gearbox forms the central feature. It is practically centralized between the four wheels. At the rearward end of it is the bevel gear and the live axle; at the forward end is suspended the five-cylinder radial stationary air-cooled engine, which is set in such a fashion that there is a straight line between it and the back axle. Moreover, on the chassis two springs only are used; yet these are employed longitudinally and centrally, being something of the cantilever style. In this case the five cylinders of the engine are arranged radially on a stationary crank case enclosing a single throw built-up crank-shaft. A master connecting rod running on a plain bearing on the crank, and supported on its big end by four articulating connecting rods for the remaining cylinders is carried on the crank shaft. The big end has no bolts, being fashioned in one piece and threaded on to the crank-pins when the built-up crank-shaft is assembled. The cylinders are stationary and the crank case revolves, there being a light fly wheel at the back of it which also forms a highly efficient fan drawing air through the cylinder jackets. The valve scheme here is the same as that previously described. The engine being arranged in a hinged cowl with a perforated screen in place of the conventional radiator, by opening the cowl the engine is exposed so that the carburettor, magneto, and other details are absolutely accessible. An unusual feature for the car owner, moreover, is the provision of means of releasing the engine as a unit from its anchorage so that it may be turned by hand to bring any disordered cylinder uppermost. On behalf of the design it is claimed that the system of cylinder and valve construction employed gives absolute uniformity of cooling; an extremely large valve opening area in proportion to cylinder capacity with the consequent very small lift; the possibility of designing the valve operating gear to be made very light, because the explosion terminal pressure does not resist the opening of the exhaust valve; an extraordinary accessibility, as illustrated by the fact that the undoing of four nuts enables both valves to be removed with the cylinder head. The power is transmitted from a single propeller clutch connected by a hollow shaft to the three-speed gearbox before mentioned, the control lever of which is in the centre of the chassis, therefore access to the coachwork is from either side. From the gearbox the drive is taken by an enclosed propeller shaft to the helical bevel gearing of the back axle. The frame is of tubular construction. The body is supported on the frame by outriggers with projections from either side of it. A flexible connexion with the body to prevent undue side sway is provided at the front end of the propeller shaft casing. Triangular rods, back and front, are furnished to keep the axles at right angles with the centre line of the car. This form of construction means reducing to the minimum the vertical oscillation of the frame and body. It is claimed that the car will hold the road better than by the orthodox principle for vehicles of this size, and that appreciable reduction of wear is secured by the mode of construction employed. The streamlined body with anchored seats and bulbous back is of the three-quarter clover leaf pattern with a passage

between the front seats to the back ones. By hinging the body it can be lifted at the front to a height of several feet, thereby rendering accessible the gearbox and other details beneath it.

#### TWO FAMILIAR BRITISH TYPES.

The 9.5 nominal horse power Standard light car has enjoyed an uninterrupted success since its introduction in 1911. Hence the manufacturers intend to market it in an improved form as a fully equipped two seater car. Thus the post war model has 20 mm. longer piston travel than the former types. A patent new style dashboard, with a tray that carries all the instruments, fitted flush and curving a double adjustable screen, is another new feature. The two-seater body has been re-designed with a double dickey seat, whereby in a minute it can be turned into an entirely enclosed weatherproof car, with black hood and patent side curtains that allow of easy entrance and exit. All fittings are to be included in the round sum, it being understood that the car will be sold fully equipped for £275. With experience with the chassis as used for general passenger vehicles with six seats apiece gives ample assurance that the post-war model can easily carry the extra weight involved by the improvements and maintain the electric engine starting and lighting set incorporated in the design. Orders are to be dealt with in strict rotation. It is expected that deliveries will commence with the new year.

Swift of Coventry will concentrate on the production of the 10 h.p. and 15 h.p. models, the demand for which was growing at the outbreak of the war. It is hoped that these types will begin to be issued to the public soon after the new year. The leading feature of the firm's 1919 activities, when the whole proposition of turning over the factory shall be completed, however, is to be a new nominal 12 h.p. model. This will not be ready much before mid-summer. It will have a four-cylinder engine of 69 mm. bore by 130 mm. stroke, four-speed gearbox, electrical engine starting and car lighting system, and will be put on at a relatively low price.

#### NOVELTIES FROM ABROAD.

It is more difficult to review Continental and American cars in that nothing is yet known concerning the conditions as to importation. Suffice it, therefore, to say that the three largest Continental makers of cars of sizes calculated to be of interest to the medical profession in general—Peugeot and De Dion-Bouton in France and the Fiat enterprise in Italy—have announced light cars. Thus the new 8 h.p. four-cylinder Peugeot light car with quarter elliptic rear springing, footbrake behind the back axle, electric engine starting and lighting gear standardized, and four-speed gearbox has been supplied to the French army; hence it is a well tested proposition. The four-cylinder engine has 68 mm. bore measurement and a piston travel of 100 mm., giving 1.452 c.cm. capacity, the R.A.C. rating working out at 11 h.p.

Henceforth De Dion-Bouton cars for sale in the British empire are to be assembled in this country. This firm specialized on eight cylinder car engines before the war, and will devote much attention to that sort hereafter. They have given excellently satisfactory service as staff cars, as well as being the type of chassis used for the greater proportion of the French army automobile searchlight service and for the motorized "75" artillery. Inasmuch as the firm has been the biggest producer of Hispano-Suiza eight-cylinder aircraft engines in France, their experience is now available for making its post-war eight-cylinder car engines, and very different performances may be expected from the relatively sluggish and heavy pre-war achievement. The two chassis contemplated for the British market are a nominal 12 h.p. four-cylinder one with a vertical engine having a bore of 70 mm. and a piston travel of 120 mm., and an eight-cylinder engine with a bore of 60 mm. and a piston travel of 100 mm., also rated at 12 nominal h.p. The smaller chassis will take either of these engines. Again, the larger chassis will take either a 15-18 h.p., four cylinder engine, with a bore of 85 mm. and a piston travel of 130 mm., or an eight-cylinder engine of 70 mm. bore by 120 mm. stroke. All models are to be fitted with electrical engine starters and car lighting gear, while each car is to have a Victrix magneto, which the firm has been making for war service for three years past. Incidentally the type has served for all its car and aviation engines. It is



expected that the biggest demand in this country will be for the nominal 12 h.p. eight cylinder engine, by reason of its range of power. Deliveries to the public are planned to begin in comparatively a short time.

The Fiat firm at Turin has a staff of 40,000 workpeople and a factory which is claimed to be the biggest in this trade in Europe. One of the notable features of its after-war programme will be a light car at a moderate price—round about £200—and of the same quality workmanship as will be embodied in the larger models. The engine will be of the relatively high speed four-cylinder type developing 14 h.p. A unique feature for a Continental manufacturer is the final transmission by worm drive. When the model appears it will also be found that original features are embodied in the suspension details. Of course, electrical engine starting and car lighting equipment is, besides, incorporated in the scheme. Incidentally, the indication of the price for an article the raw materials to make which have to be taken to Italy and the machine sent overseas to the market, should be a lesson to Labour in this country concerning the impracticability of asking war-time pay and a bonus to work on car production, whilst taking longer, not less time than before the war, to make the vehicle.

## AN INTER-ALLIED FELLOWSHIP OF MEDICINE.

SIR W. ARBUTHNOT LANE presided over a meeting at the house of the Royal Society of Medicine on December 4th to consider further the desirability of forming an association for co-operation in medicine among the English-speaking countries, but not limited to them. Among those present were Major J. H. Means (U.S.A.), Lieut.-Colonel Castellani (Italy), and Professor Weinberg (Paris). The acting honorary secretaries appointed at a previous meeting were Sir StClair Thomson and Mr. J. Y. W. MacAlister. The latter submitted the following report:

### *Preliminary Report.*

The present movement was originated at a largely attended meeting held by invitation at Lord Eustace Percy's house, at which he urged that the opportunity presented by the coming together of medical men from America and all parts of the British Dominions should be utilized to organize some form of permanent organization which would result in a closer union between the English-speaking peoples through the medium of the medical profession. The proposal was warmly endorsed by those present, and Sir StClair Thomson and myself were asked to act as honorary secretaries and to endeavour to formulate a definite scheme and take the necessary steps for carrying it into effect.

I am afraid we have been able to do very little beyond sowing seed. A circular setting out our aims was prepared by Sir StClair Thomson, and circulated, in the first place, to the chiefs of the medical forces of this country, of the Dominions, and of America, and from these very cordial expressions of approval and promises of support were obtained. The circular, backed by the opinions of those to whom we had first appealed, was then issued to a wider public, and many very gratifying and encouraging letters have been received. But practical progress depended as usual on the all important question of finance, and in that direction we have no success to report. We had asked for and been promised an interview with the Prime Minister and Mr. Bonar Law in the hope of persuading the Government to make a grant, but (one dare not say "unfortunately") the armistice intervened, and since then it would have been futile, if not impertinent, to trouble the Prime Minister with our affairs, and so, as far as finance is concerned, we have no progress to report. We have received letters which encourage us to believe that if a definite and approved scheme is prepared we may be able to get financial help from private persons.

A letter signed by some of those who took part in the first meeting was addressed to the Council of the Royal Society of Medicine, asking for its support, and they at once very generously agreed to let our organization have a room for an office, and to arrange from time to time to hold meetings in this house, so that "No. 1, Wimpole Street" may now be regarded as our official head quarters.

Medical officers of the Dominions, of America, and of all the Allies have been cordially invited to consider themselves at home in this house, to use the library and

Fellows' rooms, and as far as possible to use us as a central bureau of information, and I am glad to say that many have responded, and appear to appreciate what we have tried to do.

The Council Club of the Royal Society of Medicine has taken the opportunity of offering a little social hospitality to our visitors from overseas, with the result that every day, between 4 and 6, tea, coffee, and cigarettes are provided for all our visitors. It is a small thing, but it is hoped that it will have the effect of making them feel at home; and that at any rate, if engaged in work in the library, they can enjoy the mild refreshment offered without leaving the building.

As one of the first friends of the movement, the Director-General (General Goodwin) sent a circular letter to all his commands inviting them to act upon the suggestions made at the first meeting, with the most gratifying result, and I understand that at all the commands throughout the country medical officers from overseas are cordially invited to attend the clinics, lectures, and demonstrations, and, indeed, to see whatever is to be seen at the various commands, and in some of them more or less elaborate arrangements have been made for systematic courses, notably at Liverpool, where a syllabus has been prepared and issued, and General Goodwin informs me that all over the country the commands are now visited by the medical officers of the Dominions, of America, and of our Allies.

As regards London, I have communicated with all the principal hospitals, and practically in every case they have responded cordially, and have invited our overseas visitors to come to the hospitals during hours stated, and to attend lectures or operations. In this connexion you may have noticed in the entrance hall a special notice board calling attention to what is going on at the hospitals, from most of which I receive every day announcements of operations, which are promptly placed upon the board.

Altogether we think we are justified in persevering and that we should without delay seize the opportunity of establishing a permanent central organization that will provide a means of intercommunication between members of the medical profession of all the allied nations, and, if this meeting approves, it is suggested that a committee be appointed to advise and help in the work and that a treasurer and honorary secretaries be also now appointed to act under the direction of the committee.

Sir Arbuthnot Lane has kindly undertaken to accept the office of treasurer, and, if the meeting approves, it is suggested that the present acting secretaries continue—at any rate, for a time—and that Mr. Douglas Harmer be joined with them, for the work is of such a nature that it would probably be better done by three than by two.

Some expense has, of course, been incurred, for which at the present moment the acting secretaries are personally responsible, but if real and decently rapid progress is to be made, there should be funds to provide for at least one or two clerks, and suggestions from the meeting on this point are invited. The most practical suggestions will probably take the form of cheques!

Sir StClair Thomson, in seconding the adoption of the report, urged that in addition to the bureau of information it was desirable to establish personal and individual co-operation, and that volunteers should offer to take personally conducted parties to visit hospitals, museums, and other medical institutions. He was certain that such personal co-operation would be very effective in creating a permanent Entente.

### *Decision.*

After some discussion, in which the CHAIRMAN, Sir WALTER FLETCHER, Sir StClair Thomson, Colonel Stock, Colonel Heald, Major Means, Colonel Castellani, Colonel Weinberg, Dr. Sorapure, Mr. MacAlister, and others took part, it was unanimously resolved to constitute the proposed organization with the object of drawing together the members of the medical profession in the inter-allied countries with a view to promoting intercourse and co-operation for the promotion of medical science and public health.

A general committee was nominated, and Sir Arbuthnot Lane was appointed honorary treasurer, and Sir StClair Thomson, Mr. Douglas Harmer, and Mr. J. Y. W. MacAlister honorary secretaries (*pro tem*).

THE Right Hon. Robert Farquharson, M.D., P.C., ex-M.P. for West Aberdeenshire, left personal estate in England and Scotland of £15,930 and real estate in Scotland over £100,000.



## ANTE-NATAL TREATMENT OF SYPHILIS.

### DEMONSTRATION OF RESULTS AT THE LONDON HOSPITAL.

A DEMONSTRATION of the results of pre-natal treatment of syphilis was given at the London Hospital on December 18th, when a number of medical men and women and others interested in health and social work attended at the invitation of the chairman of the hospital, Viscount Knutsford, and Dr. J. H. Sequeira, the director of the venereal clinic and of the skin department. More than forty infants were present with their mothers at a Christmas gathering, and the visitors were able to see for themselves the healthy appearance of the children. All the children were born of mothers who had been treated for syphilis in the department during pregnancy, and in each instance the child was free from clinical evidence of congenital disease.

LORD KNUTSFORD, in presiding over a brief preliminary discussion in the adjoining room, explained that many women in the area served by the hospital had been found to have successive miscarriages owing to syphilis. As a result of Dr. Sequeira's work, not only were the miscarriages and stillbirths prevented, but the children were born free from disease. Such a work would not have been possible at the London Hospital without the generous help of the Grocers' Company of the City of London, who made it one of their special objects to help philanthropic work which had a scientific basis. This company gave £10,000 to build wards for accommodating syphilitic cases. The cases were collected through various organizations. It was thought when the department was started that it would be difficult to get the expectant mother to come and declare herself syphilitic, but in practice this difficulty did not seem to arise. Some of the mothers came to the obstetric or maternity department with a history of miscarriages; other suspected cases were sent on by maternity almoners who worked the district within the radius of a mile of the hospital; the City of London Lying-in Hospital also sent a number of cases. The department was now connecting up with various maternity centres, and it was desired to complete this last piece of organization and to suggest the same plan to hospitals in other districts.

Dr. SEQUEIRA referred to the new spirit with which this whole question was now approached. A clause in the charter of the London Hospital which at one time held good denied admission to pregnant women and also to persons suffering from venereal diseases. There were some institutions where the spirit of that old by-law still survived, and his desire was to prove that this bit of progressivism was not only without danger to the receiving institution, but that it had great advantage for the community. Since March 1st, 1916, when, thanks to the generosity and enlightenment of the Grocers' Company, the wards were opened, fifty-six pregnant women suffering from syphilis had been treated in the private rooms of those wards, and these women in due time had borne children, forty-five of whom, absolutely free from infection, were present that afternoon. Seven patients could not be traced owing to removals. In four other cases replies had been received from the mothers that the children had died, in one case from influenza, in another from marasmus probably due to bad feeding, and in two other cases from causes which he had not been able to ascertain, but even if these children died from congenital syphilis, the result remained remarkably good. Some of the women came to the venereal department and were found to be pregnant, others were sent from the obstetric department and from outside organizations, were first examined by the Wassermann test, and, if this was positive, came to his department for treatment. After treatment they went to the lying-in ward or came under the out-patient charity, and were attended by the midwives and senior students under the supervision of the obstetric physicians of the hospital. He was often asked whether it was not a serious thing to send these women into the lying-in ward, but having received injections, they were not sources of infection to operator or nurse, provided due care were taken. It was also asked whether the injection might not cause a pregnant woman to miscarry, but this occurrence was so rare as not to invalidate his general statement that every patient found to be suffering from syphilis should be treated and treated promptly. He gave particulars of some cases in detail. One woman (who was present

that afternoon with her infant) had a child born dead in 1907, a second born dead in 1909, a third born alive in 1913, but the subject of congenital syphilis, and in her fourth pregnancy, after being treated in the department, had a baby born at full term and with a negative Wassermann reaction. Another woman with a syphilitic history came to the department in 1916, and had had two children since the treatment, both of whom were alive and well. Another with three miscarriages before treatment now had a healthy child. Yet another, who had had five miscarriages, was treated in February, 1917, when she was two months in pregnancy; her child was born in September, and was now, at 14 months, a perfectly healthy child, with a negative Wassermann reaction. In conclusion, Dr. Sequeira pointed out the necessity for co-operation between the maternity centres, the infant welfare centre, the laboratory where the Wassermann test was done, and the venereal clinic. Lately the officers in charge of maternity and child welfare centres had been sending cases, and it was this side of the work which needed enlargement and official encouragement. A medical officer of the venereal clinic in a town of 40,000 inhabitants was visiting the department recently, and the speaker asked him if he worked in association with the maternity centre. His reply was that he did not know whether his town had one. Evidently there was want of co-ordination somewhere. Dr. Sequeira concluded by acknowledging his indebtedness to his obstetric and other colleagues, his clinical assistants, and the nursing staff.

SIR THOMAS BARLOW congratulated Dr. Sequeira on his results, and the team work which had made them possible. The conduct of his clinic was an object lesson to them all. In tackling sociological problems like venereal diseases and inebriety, there ought to be a friendly conspiracy between all people of knowledge and good-will.

Dr. MARY SCHARLIEB endorsed Sir Thomas Barlow's remarks, especially from the point of view of women doctors, nurses, and all women concerned for the future of the race. It was very important that the mothers should be made to feel themselves sisters and fellow citizens, and that an atmosphere of sympathy and not of reproof should be created.

SIR ARTHUR NEWSHOLME said that he would quote the London Hospital as an example of co-operation between the different departments, to justify the setting up of these clinics in a general hospital. He and his department at the Local Government Board attached great importance to the securing of co-operation between child welfare and venereal disease centres, and also between such centres and the general practitioner. Efforts had already been made in that direction with some measure of success, which would have been greater but for the large diversion of practitioners to army service. Midwives and general practitioners had been advised to send their patients, especially those who had had repeated miscarriages, to the venereal clinic; the importance of this co-operation was fully realized officially, and he believed that within the next year or two it would be much further developed.

THE *Journal Officiel* has promulgated a decree organizing the control of the making and distribution of radium and in general of all radioactive bodies and luminescent products derived from that substance. A bureau of radioactive bodies in connexion with the Ministry of Armaments is charged with the fabrication, importation, and exportation of these agents, but the control for medical purposes will be exercised by the Under-Secretary of State for the Health Service of the French Army.

THE ninth annual report of the Council of the Indian Institute of Science, Bangalore, shows that the buildings are now nearly complete, and it is expected that the library block will be taken over during the current session. The income paid to the council by the board of management of the properties in Bombay was £8,794, and exceeded the sum guaranteed by £461. The Government of India has increased its contribution by half that amount, and the Government of the Nizam of Hyderabad has promised £666 a year for three years. The institute has co-operated with the Indian Munitions Board in the utilization of local resources for war purposes. The experimental work in connexion with the production of acetone, formerly carried on in the institute, has been transferred to the Government acetone factory at Nasik. Sir Alfred Bourne, whose term of office as director of the institute expired in 1917, is continuing in office for the present.



# British Medical Journal.

SATURDAY, DECEMBER 28th, 1918.

## MEDICAL DEMOBILIZATION.

MORE than a year ago we expressed the opinion that in the process of medical demobilization after the close of hostilities those medical officers who gave up most, those who had served longest, and those whose conditions of service were hardest had the first claim to be returned to civilian practice. We had reason to believe that this view was shared alike by the members of the professional committees who were already studying the matter and by the profession at large. As a general principle it appealed to the British sense of fair play, and it has never been openly challenged.

During the autumn months the Central Medical War Committee, whose energies had perforce been turned into other channels, took up this subject again, and a revised scheme for priority of release was handed to the Ministry of National Service before the end of November. This scheme, of which we gave an outline on December 14th, embodies the principle stated above, and it has now been approved in detail by the Ministry of National Service, through which Government department the demobilization of civilian doctors serving as medical officers in the navy, the army, and the air force will be arranged. Our contention that, other things being equal, long service created a claim to early release, had, indeed, we believe, been accepted not only by that Ministry but by the War Office and by the Interdepartmental Committee on Medical Services.

It so happened that the cessation of hostilities coincided with a period when the existing shortage of doctors in civilian life was aggravated by the strain upon the medical profession due to the epidemic of influenza. It became necessary, therefore, to apply to the War Office for the demobilization of a limited number of medical officers, irrespective of length of service or personal hardship, in order to relieve the pressure in areas where there seemed to be a risk of breakdown of medical attendance on the civil population. The machinery of the professional committees, both central and local, was used to ascertain the districts so seriously depleted of medical men as to be in danger, and to select from among the medical men of such districts serving with the army those most likely to avert a breakdown. The object of these withdrawals has been to relieve the urgent pressure on the civil medical profession. It is an emergency measure governed by the needs of certain localities during a period of exceptional strain. As we remarked a fortnight ago, such priority of release would give some men an advantage to which they had no claim on personal grounds; but there was a clear understanding that the number of doctors so released in order to cope with the epidemic of influenza would be comparatively small, and that demobilization in general would proceed along the lines laid down.

For the time being, medical officers with the forces would seem to be in much the same position as other officers and men. General demobilization has not yet begun, but certain men are being released on urgent public grounds without regard to length of service or personal circumstances. This, in so far as concerns medical men, is borne out by an announce-

ment made last week by the Ministry of National Service, which we print in the SUPPLEMENT. It is therein stated that until general demobilization of the forces begins the withdrawal of medical officers must remain strictly limited, "and, in view of the serious shortage of doctors in many parts of the country, the officers to be released first must be those whose return to civil practice will maintain and strengthen the medical service of those areas." But when general demobilization begins medical officers will be withdrawn from the forces "on a scheme of priority based upon both public and personal grounds"—that is to say, according to the plan drawn up by the Central Medical War Committee. We have indicated many times that the general order of release would not be applied rigidly to all officers alike, but that every doctor on service would be given an opportunity to state his case for early or special treatment. In order that every case may be fully considered, steps are being taken by the Ministry of National Service, in conjunction with the Admiralty, the War Office, and the Air Ministry, to obtain the necessary information from every serving medical officer. We expect to be able to reproduce in an early issue the form of inquiry which is being circulated.

We hope the Ministry of National Service and the professional committees will be on their guard against any attempt on the part of other Government departments to delay bringing into operation the scheme of priority according to which the personal claims of the men on service would receive full consideration. On the one side there are the military authorities with their reluctance to let go the doctors whom they have; on the other side there are the Insurance Commissioners with their official solicitude for the medical care of the insured population as apart from the remainder of the community. Between these two forces pulling different ways there seems to us to be some danger that the interests of the individual officer who quitted private practice in the first days of the war may be neglected. We should regard that as a breach of faith. We have always recognized the claims of the civil population, but we would point out that every doctor returned to civilian practice on personal grounds—whether his practice be wholly insurance, partly insurance, or wholly private—will help to satisfy the medical needs of the civil population as a whole. And this seems to us to be implicit in the announcement made by the Ministry of National Service.

## MEDICINE AND INDUSTRY.

THE war and all that it has meant for the individual and the nation has compelled a fresh study of many problems the very existence of which was unknown to the public, though they had attracted the attention here and there of a specialist. The war made their solution urgent. One striking illustration is afforded by industrial problems raised by the enormous increases in industries engaged upon the supply of troops in the field and the consequent setting up of many large munition works more or less directly under Government control. This led directly to the inquiries as to the prevention of industrial diseases, and the scientific investigations and experiments into the causes and nature of industrial fatigue recorded in the various reports of the Health of Munition Workers Committee. It also caused attention to be turned to what is called the scientific management of factories, a department of the subject as to which we in this country have learnt much from the United States.



A great deal, however, remains to be done, and many suggestions in this direction are contained in a stimulating address on "medical industrial relations of the war" by Professor D. L. Edsall of Boston, who makes a strong appeal to the medical profession to take a greater interest in industrial matters. He says that until quite recently society at large, as well as the employers and the working people themselves, had, even in America, done very little to secure industrial health, but that during the last few years they have moved much faster than medical men, who have so far taken too small a part in the movement. The war, by increasing the number of specially dangerous forms of occupation and the number of persons engaged in them, has hastened the movement for the preservation of the health of workpeople; Professor Edsall welcomes the consequent appearance of a new type of medical man—the industrial doctor—but is anxious that his position should be defined. In some industrial organizations the doctor has not taken his proper place, but has allowed himself to be subordinated to "welfare departments"; his work should be coordinated with them, but he should not be subordinate to them.

The need for independent and skilled medical practitioners for this work is illustrated by Dr. Alice Hamilton's collection of 2,507 cases of poisoning among munition workers, 1,400 due to fumes of nitrogen oxide and nearly 700 to trinitrotoluol. Professor Edsall, however, goes on to point out that industrial poisoning may pass undetected unless special care is taken to look out for it. He states that in March, 1916, a clinic for the study of occupational diseases was started at the Massachusetts General Hospital; among the 5,100 patients treated during the first year there were 148 of plumbism, whereas during the previous five years the cases treated in the hospital and out-patient rooms numbered only 146. Again, trained observation of the workers in factories brings to light new forms of disease; as an example, he mentions chronic manganese poisoning as a cause of a type of nervous disorder characterized in the early stage by a peculiar gait aptly termed "rooster gait," later by other alterations in the mode of progression, and occasionally by distinct mental changes; other examples he quotes are neurosis and synovitis of the right arm and hand in carmenes, and a disorder of workers in soft stone associated with the use of the pneumatic hammer, the last a singularly good illustration of the importance of observing slight details of the work. Other examples will occur to those familiar with the English literature on industrial diseases.

The problem of how to deal most efficiently with those damaged or partially incapacitated by industrial work, how to select the work those thus handicapped can do, and how far those medically crippled require vocational readjustment, must be decided to a large extent by members of the medical profession. The work started in this country by the Health of Munition Workers Committee and now to be continued by the Industrial Fatigue Research Board, the constitution of which is noted elsewhere in this issue, has been undertaken in America by the Committee on Industrial Fatigue. The problem, in Professor Edsall's view, is like that of successfully training an athletic team so as to avoid the extremes of flabbiness from too little effort and staleness from too much. The belief that the longer the hours the greater the output, was long accepted on a *prima*

ground, but when put to the test of observation and experiment it was found to be erroneous. The whole truth about the matter has not yet been ascertained, but enough has been found out to convince many industrial managers that the problem of industrial fatigue is medico-physiological.

Wages and the hours of work are the two great causes of the conflict between labour and capital, which, next to the terms of peace, is perhaps the most important thing in the world. It would be a vast benefit to humanity if these disputes could be settled by methods which appear reasonable to both parties; it seems possible that medicine might play this beneficent part. A wide conception of the relations of medicine to industry is necessary. Professor Edsall's conclusion is that doctors should be trained for industrial appointments, and that during their student days they should be made familiar with these problems through the general atmosphere of their medical schools.

#### THE HOME-COMING.

The welcome given to Field Marshal Haig and his principal officers on their way through London to Buckingham Palace on December 19th had that touch of comradeship which belittled the occasion for among the crowds which cheered all along the road were many, in and out of khaki, who had served with them in France and knew the person, the character, and the achievements of each officer in the five carriages. With Sir Douglas Haig were not only the general officers commanding the five British armies in France, but also the chiefs or branches at General Headquarters, including Lieut. General Sir H. A. Lawrence, Chief of the General Staff; Lieut. General C. H. Burtchell, Director General, Medical Services, France; and Major-General J. M. Edmund, Commanding the Royal Air Force. There were no speeches at the King's luncheon, but at Dover Field Marshal Haig said that the reception there was a foretaste of the welcome at the homecoming, which he hoped would be soon, of "the wonderful men whose unquelled courage and endurance through more than four years of struggle have brought us at length by victory to peace." In this welcome, as in the welcome last week, medicine will have its honoured place.

#### UNIVERSITY MEMBERS.

We congratulate Sir William Whitla on being the first medical man to be elected to the new Parliament. He stood as a Unionist, and was returned for the Queen's University, Belfast, on December 20th, by 1,437 votes against 113 for the Sinn Féin candidate. Sir Robert Woods was the second medical man to be elected; when the poll at the University of Dublin was declared on December 21st he was found to stand second to Mr. A. W. Samuels (Unionist), who had 1,273 votes. Sir Robert Woods, who stood as Independent, polled 793, but by the operation of the transferable vote this total was raised to 1,094; he defeated Mr. Jellett, the other Unionist candidate, by 162 votes, and Captain Gwynn (Nationalist) by 535. Sir William Whitla is well known to members of the British Medical Association, for he was President of the Association at the annual meeting in Belfast in 1903. Sir Robert Woods had a very distinguished career in the University of Dublin, where he graduated M.B., B.Ch. in 1889, and afterwards received the honorary degree of M.C. He is now professor of laryngology and otology in Trinity College, Dublin. He was president of the Royal College of Surgeons in Ireland 1910-12. The University of Oxford has elected by very large majorities the two members, Lord Hugh Cecil and Mr. R. E. Prothero, President of the Board of Agriculture, who had represented it before. At Cambridge, also, the two



representatives in the last Parliament, Mr. Rawlinson and Sir Joseph Larmor, have been re-elected. The Independent candidate, Mr. Dampier Whetham, Fellow of Trinity College, and well known as a writer on social subjects, made so good a showing that the graduates of the university in medicine and biology may be encouraged to challenge the seat on some future occasion. The first member for the University of Wales, enfranchised by the Act of this year, is the Right Hon. Herbert Lewis, Parliamentary Secretary to the Board of Education since 1915, and before that Parliamentary Secretary to the Local Government Board. He has long taken a great interest in the development of university education in Wales, and his election by a very large majority is evidence of the high appreciation in which his services are held by the graduates of the university.

#### BELGIAN DOCTORS IN ENGLAND.

DR. CLÉMENT PHILIPPE, who arrived in London from Belgium on October 16th, 1914, was able at once, with the assistance of Drs. J. H. and H. A. Philpot, and Miss Davenport, to establish a dispensary in Aldwych for the thousands of Belgian refugees. It was for some time attended by Drs. Philpot and Dr. Des Voeux, and several Belgian doctors, but later on, with the assistance of the War Refugees Committee, it was transferred to Sheffield Street, where it was conducted under the direction of the Metropolitan Asylums Board. Dr. Clément Philippe took the lead also in establishing the "Société Belge de Médecine et de Pharmacie en Angleterre," and was able to announce to its first meeting that Belgian doctors, who had then recently reached England in considerable numbers, had been granted permission to practise in this country. Among the honorary presidents of this society were Sir Frederick Taylor (then president of the Royal Society of Medicine) and Dr. Charles Jacobs (president of the Belgian Doctors' and Pharmacists' Relief Fund). In an article published in *Le Belge Indépendant* special thanks are expressed to Sir Frederick Taylor and to the Royal Society of Medicine in London, who placed the society's house in Wimpole Street and a room in which the meetings could be held at the disposal of the Belgian society. The Belgian doctors, to the number of 353, soon found employment in the army, in the English hospitals, and in France, where the right to practise was granted at the request of the president of the Belgian society. The refugee pharmacists, to the number of about one hundred, found it more difficult to obtain occupation, and a number of members of the families of Belgian doctors reached this country in distressed circumstances. Dr. Jacobs accordingly put himself into communication with members of the profession in London and with the editors of the *Lancet* and the *British Medical Journal*. The result was the foundation of the Belgian Doctors' and Pharmacists' Relief Fund, which, by the generosity of members of the profession throughout the British Empire, was able at once to give assistance in this country, and also in Belgium, where, indeed, by far the greater part of the £25,000 received by the Fund has been expended, on the advice of the committee formed in Belgium, under the presidency of Dr. Peckère. The Belgian doctors are now able to return to their own country, and their society, on the suggestion of its president, Dr. Clément Philippe, has been able to make arrangements for the medical treatment of their compatriots remaining in London. The Metropolitan Asylums Board has consented, at the instance of Mgr. Carton de Wiart and Dr. Jacobs, to admit to its hospitals indigent Belgian sick from the dispensary in Sheffield Street, and to provide for their treatment by Belgian doctors. The tuberculous and mental cases among them will be admitted to the English asylums and sanatoriums, and subscriptions amounting to £1,000 have enabled the society to allocate beds in the French Hospital as a Belgian maternity department. The thanks of the society have been given

to Sir Frederick Taylor, to the officers of the Belgian Doctors' and Pharmacists' Relief Fund—Sir Rickman Godlee (chairman), Dr. Des Voeux (treasurer), and Dr. Squire Sprigge (honorary secretary)—and also to the *Lancet* and the *British Medical Journal*.

#### THE STUDY OF INDUSTRIAL FATIGUE.

THE Industrial Fatigue Research Board has now been completed. The work was begun by the Health of Munition Workers Committee of the Ministry of Munitions, upon which Dr. Leonard Hill and Sir Walter Fletcher served from the time of its appointment in 1915. That committee was dissolved at the beginning of 1918, and issued its final report last May. But the excellence of its work led to the expression of a wish that arrangements should be made for maintaining on a permanent footing an organization for the systematic investigation of the natural laws of industrial fatigue. Their study, though primarily physiological, offers a field of inquiry in which a knowledge both of medicine and the industrial sciences are necessary for full success. The department of Scientific and Industrial Research and the Medical Research Committee accordingly determined to establish a permanent organization, and to contribute the necessary financial aid in due proportion. The proposal was warmly approved by the Home Office, which expressed a desire for the immediate establishment of a research organization of the kind indicated. An Industrial Fatigue Research Board was therefore established a short time ago and has now been completed. It will continue the organizing functions of the two bodies and the investigations already in progress. The Board is instructed "to consider and investigate the relations of hours of labour and of other conditions of employment, including methods of work, to the production of fatigue, having regard both to industrial efficiency and to the preservation of health among the workers." The duty of the Board will be to initiate, organize, and promote by research, grants, or otherwise, investigations in different industries, with a view to finding the most favourable hours of labour, spells of work, rest pauses, and other conditions applicable to the various processes according to the nature of the work and its demands on the worker. For these investigations the Board looks forward to receiving the help of employers and workmen in the industries which are studied, and in appropriate cases representatives of both will be invited to serve as temporary members of the Board. The chairman of the board is Dr. C. S. Sherrington, F.R.S., Professor of Physiology in the University of Oxford, and the members are Dr. E. L. Collis (Director of Welfare and Health, Ministry of Munitions), Sir Walter Fletcher, M.D., F.R.S. (Secretary, Medical Research Committee), Mr. W. L. Hicheus (Chairman of Messrs. Cammell, Laird and Co., Ltd.), Mr. Edward Hopkinson, D.Sc. (Director of Messrs. Mather and Platt, Manchester), Mr. Kenneth Lee (Director of Messrs. Tootal, Broadhurst Lee Co., Ltd.), Dr. T. M. Legge, C.B.E. (H.M. Medical Inspector of Factories), Colonel C. S. Myers, M.D., F.R.S. (Director of the Psychological Laboratory, Cambridge), Mr. R. R. Bannatyne (Assessor representing the Home Office). The secretary is Mr. D. R. Wilson, H.M. Inspector of Factories to whom at 15, Great George Street, Westminster, S.W.1, suggestions as to any problems needing investigation should be addressed.

#### MEDICAL DEMOBILIZATION IN FRANCE.

IN France, as in this country, the manner of the demobilization of the medical profession is giving rise to a good deal of discussion. It is contended on the one side that as the fighting has ceased and no more soldiers are being wounded the civilian public may justly claim the return of its medical advisers. The army, on the other side, objects that it has still three hundred thousand wounded on its



hands, to say nothing of the other army medical work to be done, and must retain a large staff. The principle governing demobilization in France is age, and this, in a country which had conscription before the war, comes practically to the same thing as length of war service. Men of the classes 1891, 1892, and 1893, or earlier are to be sent to their homes between December 25th and January 18th, 1919; those of the classes 1894 to 1897 between January 21st and February 14th. The strict application of the age rule is, however, modified by regulations which give certain advantages to fathers of families, and to men who have lost two or more brothers in the war. Thus a father is placed in a class a year earlier for each child he has, and an extra year is given to a widower. It was at first announced that medical officers of the class of 1894 and earlier years would be immediately set free to return to their civil practices. The satisfaction this statement caused to the civil population and to the medical officers themselves was quickly dashed by the discovery that the plan would only be carried out as and when military exigencies permit. It seems to be feared that the medical authorities of the French army, as perhaps of others, in order to be on the safe side, will retain in military service more medical officers than the army really needs, and that in consequence the medical will suffer a disadvantage from which other callings are free. However this may be, the profession, both in France and Great Britain, may take to itself the comfort that it has never before received such flattering testimony of the esteem with which it is regarded by the civil population, and of the great value attached to its services by the military.

#### CONTROL OF VENEREAL DISEASE IN AUSTRIA.

In a paper on the care of adolescents suffering from venereal disease Professor E. Finger<sup>1</sup> of Vienna described the measures, curative and educative, adopted in the four hospitals under his supervision. In addition to the beds in his own clinic, he is responsible for a new hospital for men with 520 beds, a new hospital for women with 560 beds, and a new department of the Kaiser Franz-Josef Hospital for controlled prostitutes with 250 beds. The total number of beds allocated to venereal disease under his control is 1,530. Suspect women, arrested by the police, are dealt with under the provisions of the vagabond law of 1885. If they fail to prove that they are honestly employed, they are subjected to medical examination, and, if found to be infectious, are interned in hospital. This procedure Professor Finger considers unfair. The "part-time" prostitute can establish her immunity to medical examination by a reference to her regular employment, even when caught in the act of prostitution. On the other hand, the woman who can claim no regular employment is subject to compulsory examination. Professor Finger does not, however, suggest any remedy for this state of affairs. In the new hospital for women with 560 beds every effort has been made not to discharge the patients as long as they are infectious. This principle has been adopted even in the case of gonorrhoea, which is notoriously difficult to cure in women. Only after careful weekly examinations, frequently repeated, have proved negative, is the patient discharged. Special importance is attached to the examinations just before and after menstruation. Thanks to the painstaking local treatment carried out by the women doctors attached to the hospital, this standard has proved attainable, and the permanency of the cure has frequently been verified when the patients have been readmitted months later for other complaints. In recent syphilis an energetic course of mercury-salvarsan treatment is continued till the Wassermann reaction becomes negative. In several cases two such courses are given with a suitable interval before the patient is discharged from the hospital. About one-fifth of the patients are young girls for whom lack of occupation and contact with the seasoned

prostitute are particularly undesirable; such acquaintances are apt to lead the novice after discharge into the toils of the procuress and brothel proprietor. The problem is not only to find employment for the employable but also to isolate the incipient from the hardened prostitute. On the ground floor of the hospital workrooms have been provided, open only to patients willing to work. Here sewing, washing, ironing, etc., are taught, and facilities are provided for the patients to wash and mend their own clothes. Professor Finger attaches much importance to after-care, without which weeks or even months of education in an institution may be wasted.

#### HAEMORRHAGIC SPIROCHAETAL BRONCHITIS.

RECORDS of the occurrence of broncho-spirochaetosis have increased so rapidly since Castellani recognized the infection in Ceylon in 1905 that the suspicion arises that the disease is probably commoner than has generally been supposed. In the six years following Castellani's original observation cases were recognized in the West Indies, the Philippine Islands, and in India. More recently, numerous cases have been reported in various parts of Africa. In 1915 Lurie observed a number of cases in Serbia, and, as was noted in the JOURNAL last June, Violle reported to the Académie de Médecine, Paris, a series of cases occurring during the first three months of this year in a naval hospital near Toulon. Two types are recognized—acute and chronic—and some would make a subacute variety. Castellani pointed out that the acute type had been generally mistaken for influenza or malaria, and the chronic, presenting blood in the expectoration, for phthisis. We now have a paper by Captain J. A. Thomson, published at p. 709, which supports both these observations. The cases were invalided from Salonica, and were admitted into a special malaria hospital in this country, where they came under the suspicion of tuberculous infection. It seems probable that they were originally diagnosed in the acute stage as malaria, and that the diagnosis was not in all cases correct. At any rate, the examination for the malaria parasite in the hospital in this country was very frequently negative.

#### THE BIOLOGY OF A LIFE TABLE.

At a meeting of the Royal Statistical Society on December 17th Dr. John Brownlee, Statistician to the Medical Research Committee, read an extremely interesting paper entitled "Notes on the biology of a life table." Dr. Brownlee's chief aim was to elucidate the inter-relations of mortality as experienced at different times and by different populations and expressed in the various life tables. By an ingenious mathematical process, based on the general biological assumption that somatic death is a phenomenon explicable in terms of physico-chemical laws, Dr. Brownlee was able to deduce values in good general agreement with those of the life tables and to show that the constants of the different tables were linked up by simple relations. He pointed out that Farr's hypothesis that the death-rate of a district varied with the density of population was confirmed by a study of the data for three decennia, and that the form of the equations suggested that "the efforts of sanitation have improved health all round, but have not fundamentally altered the relationships which hold between overcrowding and health." Dr. Brownlee's paper is eminently suggestive, and his results reinforce the contention so frequently urged in our columns that the phenomena of mortality and morbidity must be looked at steadily as wholes; and that attempts at simplification, attention being concentrated upon particular causes of death, ought not to be made the only line of research.

A NEW hospital has been opened at La Paz, where the medical faculty of Bolivia is situated in the picturesque valley of Miraflores. The foundations were laid in 1913, and the building is intended to be the general hospital of the town.

<sup>1</sup> *Wien med. Woch.* No. 10, 1913.



# THE WAR.

## CASUALTIES IN THE MEDICAL SERVICES.

### ROYAL NAVY.

#### *Died on Service.*

**SURGEON LIEUTENANT COMMANDER M. H. LANGFORD,**  
D.S.O., R.N.

Surgeon Lieutenant Commander Martyn Henry Langford, D.S.O., R.N., died of influenza on December 15th at Dar-es-Salaam, East Africa, aged 34. He was the only son of Mr. H. J. Langford of Trenant, Plymouth, was educated at Plymouth College and at the Middlesex Hospital, and took the diplomas of M.R.C.S. and L.R.C.P. Lond. in 1909. He entered the navy as surgeon on November 5th, 1909, and became staff surgeon on November 5th, 1917. He joined the battle cruiser *Inflectible* in December, 1912, and was serving in her when she took part in the action off the Falkland Islands in which Von Spee's fleet was destroyed, in December, 1914. He was still serving in the *Inflectible* when she sank, after striking a mine, in the Dardanelles on March 18th, 1915. For his services on that occasion he received the D.S.O. He subsequently served for two years at the Royal Naval Hospital, Chatham, and at the end of 1917 left to join H.M.S. *Challenger*, on which he was serving till his fatal illness.

### ARMY.

#### *Died on Service.*

**MAJOR R. S. ARMOUR, R.A.M.C.**

Major R. S. Armour, R.A.M.C., was reported as having died on service, in the casualty list published on December 16th. He took a temporary commission as lieutenant in the R.A.M.C. on June 4th, 1915, was promoted to captain after a year's service, and recently to major.

**MAJOR A. V. FORD, R.A.M.C.(T.F.).**

Major Arthur Vernon Ford, R.A.M.C.(T.F.), died after a long illness at Seaview, Isle of Wight on December 13th. He was educated at St. Thomas's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P.L. over forty years ago, in 1876. He was consulting surgeon to the Portsmouth Eye and Ear Infirmary, and held a commission as major, dated July 21st, 1908, in the 5th Southern (Portsmouth) General Hospital.

**CAPTAIN L. DAS, I.M.S.**

Captain Lashman Das, I.M.S., died of influenza at Karachi on October 27th. He took a temporary commission as lieutenant in the I.M.S. on July 27th, 1917, and was promoted to captain on completion of a year's service.

**CAPTAIN J. M. GAGE, R.A.M.C.**

Captain John Munro Gage, R.A.M.C., was reported as having died on service, in the casualty list published on December 16th. He was educated in Dublin, and took the diplomas of L.R.C.P. and S.I. in 1910. After acting as house-surgeon of Mercer's Hospital, Dublin, and of Noble's Hospital, Douglas, he went in for lunacy, and was senior assistant medical officer of the Royal Edswood Institution, Redhill, Surrey, when he took a temporary commission as lieutenant in the R.A.M.C. on January 1st, 1916, and was promoted to captain after a year's service.

**CAPTAIN F. M. HEWSON, R.A.M.C.**

Captain Falkiner Melton Hewson, R.A.M.C., died of influenza at Mhow, Rajputana, on October 22nd, aged 35. He was educated in the Medical School of the R.C.S.I., Dublin, took the diplomas of L.R.C.P. and S.I. in 1907, and entered the R.A.M.C. as lieutenant on February 4th, 1908, becoming captain on February 4th, 1911.

**ASSISTANT SURGEON H. A. FOX, D.C.M.**

Assistant Surgeon Henry Alexander Fox, D.C.M., Indian Medical Department, died of pneumonia at the Station Hospital, Ferozpur, Punjab, on October 19th, aged 34. He was born on November 18th, 1883, the son of Captain and Senior Assistant Surgeon G. F. Fox, I.M.D. (retired), and joined the I.M.D. on February 25th, 1904. He served on the north west frontier of India in the Mohmand

campaign of 1908, receiving the frontier medal with a clasp, and had gained the Distinguished Conduct Medal in the present war.

#### *Wounded.*

**Captain R. H. Jones, R.A.M.C. (temporary).**

#### *Repatriated.*

**Captain R. R. Duncan, R.A.M.C. (temporary).**

**Lieutenant E. H. P. Martland, R.A.M.C. (temporary).**

#### DEATHS AMONG SONS OF MEDICAL MEN.

Beach, Lionel F. H., D.S.O., Captain 24th Queen's Royal West Surrey Regiment, only child of Dr. Fletcher Beach of Cotoniser, Surrey, whose death, aged 23, at Consolida, from pneumonia after influenza, on November 28th, was announced in the British Medical Journal, of December 14th, was educated at Hatleybury and at Worcester College, Oxford, where he was rowed for his college. He took a commission in October, 1914, went to Gallipoli in July, 1915, and was invalided for dysentery, but after his recovery rejoined in Palestine, where he was severely wounded at Gaza in March, 1917. He rejoined in September, 1917, was again severely wounded, was mentioned in dispatches, and received the D.S.O. He returned to England in March, 1918, and had only been discharged from hospital on November 8th.

Campbell, Frederick William, Second Lieutenant I.A.R.O., attached to the 105th Labour Corps, son of the late Dr. G. H. Campbell of the Larna Commission, died of pneumonia at Tank, N.W. Provinces, on October 11th. He was formerly employed as an accountant at Rangoon, had served as a gunner from the commencement of the war, and had recently been nominated by the Burma Government for special training for staff duties. His two brothers, who are members of the medical profession, have served in the army.

Heid, Raymond Evelyn, M.C. and bar, Captain King's Liverpool Regiment, died at the Military Hospital, Tooting, on November 24th of wounds received on August 14th. He was the youngest son of the late Dr. Robert Turner Heid of Balsham, and was educated at Lowestoft College. He joined the army as a trooper in the beginning of the war, got a commission in the Dragon Guards in November, 1914, and subsequently exchanged into the Liverpool's. He was wounded at Vimy Ridge in June, 1916, and received the Military Cross; was again wounded in August, 1916, at Delville Wood, in the battle of the Somme; returned to France in May, 1918, was wounded for the third time at Evillers, and received a bar to his Cross.

[We shall be indebted to relatives of those who were killed in action or died in the war to information which will enable us to make these notes as complete and accurate as possible.]

#### HONOURS.

SPECIAL Supplements to the *London Gazette*, dated December 11th, contain a list of awards to various members of the medical services rendered in connexion with the war in India and within the Union of South Africa in connexion with the campaigns in German South-West Africa and German East Africa. The lists include the names of the following medical officers, who receive the awards indicated:

**C.I.E.**—Lieut. General Thomas Joseph O'Donnell, C.B., D.S.O., R.A.M.C., Director of Medical Services, India.

**C.I.E.**—Colonels Herbert James Barratt, R.A.M.C. (ret.), and Samuel Cowell Philson, R.A.M.C. (ret.), Assistant Directors of Medical Services of the Mesopotamian Division and the Egyptian Brigade respectively.

**C.I.E.**—Colonels William Molesworth, C.I.E., V.H.S., I.M.S., and Alfred William Street, V.M.S., F.F.S.

**O.B.E.**—Lieut. Colonel (honorary Colonel) Henry Tempie Mursell, S.A.M.C.; Lieut.-Colonels Gervase Meyer de Kock, S.A.M.C., and John Robertson McGregor, S.A.M.C.; Major (retiring Lieut. Colonel) Paul Johannes Van Ooster, S.A.M.C.; Major Aber Elphig Walter, I.M.S.

The Royal Red Cross has been conferred upon two matrons and two sisters of the S.A.M.C. for valuable services rendered within the Union of South Africa in connexion with the campaigns in German South-West Africa and German East Africa.

THE membership of the American Red Cross on June 1st, 1917, was 486,194. On July 31st, 1918, it was 20,648,193. Within eighteen months the public contributed £65,000, besides large quantities of materials and supplies of all kinds.

A COMMITTEE has been formed at Buenos Aires to provide relief for French medical practitioners or their families who have specially suffered from the war. Within two or three days of its formation subscriptions amounting to more than £2,000 were received from all grades of the medical profession.



## Scotland.

### ASSOCIATE PROFESSORS IN EDINBURGH.

AN Ordinance proposing to institute the offices of Reader and Senior Lecturer, together with the report of the Business Committee thereon, was considered by a meeting of the General Council of the University held on December 12th, under the presidency of the Vice-Chancellor, Sir Alfred Ewing.

The Ordinance set out that it was expedient that provision should be made for increasing the teaching power of the university, and that the University Court should have power to appoint Readers, after consultation with the appropriate faculty and with the Senate, either for a term of years or permanently; it confirmed the creation of senior lectureships already made. The Readers were to be persons whose university work should be their main occupation. It was further provided that a Reader should be eligible for admission to the faculty. Power was also given to the University Court to create senior lectureships and appoint lecturers thereto, and provided that such lecturers should be eligible for admission to the faculty.

The report of the Business Committee welcomed the Ordinance, whose purpose was to increase the teaching power of the university. Every one, it said, was agreed that the number of professorships was too small for the present-day demands on the university—demands which would in all probability greatly increase in the immediate future. The Business Committee, while thus agreeing with the main purpose of the Ordinance, disapproved of the introduction of the term Reader, which, it alleged, was practically unknown outside the Inns of Court and the universities of Oxford and Cambridge. The aim of the Ordinance was an expansion of teaching power of the higher grade, and the Committee was strongly of opinion that the title Associate Professor was that which alone would adequately describe the proposed new class of university teachers. The Committee also advised that provision should be made for the admission of associate professors to the Senatus, as well as to the faculty. The Committee disapproved of the power the Ordinance proposed to give to confer a degree on any officer of the university, and recommended that such power should be exercised only with respect to members of the teaching staff; and it deprecated the taking of power to confer, even on members of the teaching staff, a degree except in cases in which the recipient already held a corresponding degree obtained by him at another university.

The use of the title Reader was defended by Professor Sir Richard Lodge, and the Vice-Chancellor said that it had already been employed by the University of St. Andrews. Professor Lodge's motion, which retained the title of Reader, found no seconder, and the term Associate Professor was agreed to. The proposal of the Ordinance that the new teachers should be members of the faculty was agreed to and on the point concerning the giving of degrees it was decided by the casting vote of the Vice-Chancellor that the Ordinance should stand.

### AFTER-WAR WORK OF THE UNIVERSITIES.

At a medical graduation ceremony at Edinburgh on December 18th the Principal said that the university was already feeling the effects of peace, which had brought back to them many old students, so that at the present moment the number of first-year medical students was larger than even in the years before the war. It was a great satisfaction not only to see the class-rooms again filled, but all the various activities of the university resuming their healthy life, including the Students' Representative Council and the Union. The statistics of the share the university had played in the war were still incomplete, but the names of 5,000 members who had taken their part in it were already known, as well as those of between six and seven hundred members of the university who had given their lives, a number he feared that was by no means complete. Members of the university had to their credit at least two awards of the Victoria Cross, at least 96 awards of the D.S.O., and at least 328 Military Crosses, 17 with a bar; it was significant of the share the university had taken in cementing the alliance that there should be eighteen

awards of the Croix de Guerre. The professors testified that the returned students were standing up magnificently to their work, but they were only the forerunners of a vastly greater number. The return of so many young men seeking university training raised a great national problem. It was unreasonable to expect such men to pass the same tests of admission to the university as were properly expected in peace time. In common with other universities of Scotland, and he believed with all the universities of the empire, Edinburgh was taking steps to make it easy for students to enter the university with a view to graduation, and the necessary discretionary powers were being sought. It was in the interests of the nation as a whole, as well as of the individual students, not only that resettlement in civil life should be made easy, but that they should be given an opportunity to obtain as quickly as possible the necessary training to make them nationally efficient. The task of providing university training for the enormous number of students coming back expecting it would not be easy for any university. At a meeting of the Court on December 15th the Principal stated that he had attended the deputation of the British universities which presented a statement of immediate needs to the Chancellor of the Exchequer on November 23rd.

## England and Wales.

### KING EDWARD'S FUND FOR LONDON.

At a meeting of the governors and General Council of King Edward's Fund for London, for the purpose of awarding grants to hospitals, convalescent homes, and consumption sanatoriums for 1918, the report of the Distribution Committee was received. The sum available was £190,000, as against £181,000 in 1917, £162,500 in 1916, and £149,500 in 1913, the last year before the war. The sum distributed in the form of grants to maintenance was £160,250, an increase of £8,075 over the corresponding total in 1917, and of £16,825 over that of 1916. The capital grants amounted to £29,750, an increase of £925 as compared with 1917, and of £10,675 as compared with 1916.

Of this year's total, only £4,150 is in respect of schemes sanctioned during the war on the ground of exceptional urgency, while £10,100 is in reduction of capital liabilities incurred before the war. The remaining £15,500 has been earmarked for schemes of improvement, the execution of which had been deferred until after the war. During the course of the war a large number of hospitals have prepared schemes of improvement or extension to be carried out after the return of peace, and have submitted their proposals either in principle or in detail to the Fund. During the first three years of the war the Distribution Committee, with the approval of the General Council, discouraged the issue of all public appeals in aid of schemes which were not of such urgency as to require their being put in hand at once. Their reasons for this were:

- That it was undesirable that appeals for future objects should compete with appeals for purposes which were urgently necessary during the period of national stress;
- That it was undesirable to accumulate funds earmarked for future building when it was impossible to foresee the circumstances which would obtain after the war.

In 1917 some capital grants were made in aid of the most urgent of the deferred schemes, and in April, 1918, the Distribution Committee announced its readiness to consider proposals for the immediate issue of appeals for post-war schemes, on certain conditions, one of which was:

That wherever the carrying out of the scheme would involve increased maintenance expenditure it should be clearly stated in the appeal that contributions received in response thereto should be available either for building, or for endowment in the event of circumstances rendering it inadvisable to expend the whole of the contributions on building.

If all the schemes of the various hospitals were to be completed the number of beds to be maintained by the voluntary hospitals of London would be increased, as compared with those maintained in 1913, by not fewer than 1,750. The Committee does not at present express any opinion as to whether this number of additional beds is required, but in order to be in a position to consider the



whole question from the point of view of the total needs of the population, the geographical distribution of the proposed increases, and the financial problem of future maintenance, the Committee has decided to invite all the hospitals concerned to furnish it with the latest particulars of their building schemes, whether previously submitted in detail to the Fund or not.

In 1909 the Fund expressed a desire to see a representative movement started in Woolwich for the provision of an efficient general hospital of fair size. The proposed War Memorial Hospital in Woolwich is the outcome of such a movement, and the Fund has made a grant of £5,000 this year as a first contribution towards the erection of a new hospital, in accordance with a scheme to be submitted to the Fund in due course. In taking this step the Fund has departed from its practice of not assisting in the building of new hospitals or entertaining applications from hospitals which have not been in existence in a properly constituted form for three years.

Some time ago, in pursuance of its policy of promoting amalgamation of special hospitals, a sum of £10,500 was set aside to promote the amalgamation of throat hospitals. The Hospital for Diseases of the Throat, Golden Square, and the London Throat Hospital, have already been amalgamated, and now the Royal Ear Hospital, which has been closed during the war, will be reopened as a special department of University College Hospital; a grant of £1,000 has been made to facilitate this process.

Several grants have also been made in aid of schemes of extension, including £1,000 for a new out-patient department at Queen Charlotte's Lying-in Hospital, and £1,500 for a new nurses' home and out-patient department at St. Mary's Hospital for Women and Children, Plaistow. The grants to consumption sanatoriums for the year amounted to £7,825, and to convalescent homes £2,175.

The Treasurer, Lord Revelstoke, stated that the total receipts for the year were estimated to amount to £178,271. To this was to be added a contribution from the League of Mercy. Sir William Collins, in presenting the annual statement of the League, said that in the last complete pre-war year and in 1914 and 1915 the contribution from the League was £14,000; in 1916 and 1917 it was £15,000, and this year it was £16,000. The League, he said, had been in existence for twenty years, and during that period it had contributed £276,000 to the Fund, and to the extra-metropolitan hospitals in the area of its collection outside the area of the King's Fund £29,280, making a total of £305,280.

A letter was read from the King, in which he mentioned the fact that the Fund was established by his late Majesty in 1897, so that this was its coming of age year. The King referred to the loss sustained by the Convalescent Homes Committee by the death of its chairman, Dr. Freshfield, and expressed his regret that Sir William Church was about to retire from the Distribution Committee. He expressed his earnest hope that the Prince of Wales would be able shortly to take up the presidency of the Fund.

The Marquess of Cambridge, who was in the chair, after reading the King's letter, said that the needs of the hospitals in the immediate future were not likely to diminish; the beds at present occupied by wounded and partly paid for by the military authorities would be shortly restored to civilian use and would have to be wholly maintained out of normal sources of income. Questions of finance, both for building and maintenance, required careful consideration. Each hospital that contemplated an extension might make a perfectly satisfactory estimate of its own future resources; but the combined total for all the hospitals might be so great as to endanger the success of each separate scheme. There was also the question of geographical distribution, but to rearrange the present hospital accommodation would be a gigantic task. The extension of existing hospitals, however, could be so distributed as to reduce the worst inequalities.

The American Government has instituted a campaign against tuberculosis in cattle. It is estimated that about 15 per cent. of pure bred cattle in the States are affected.

The New York Polyclinic Hospital has been transferred to Columbia University to be used for the public service and for advanced teaching and research in medicine and surgery. The hospital, which was built in 1912, has 300 beds.

## Correspondence.

### MEDICAL ADVISERS OF INDIAN GOVERNMENTS.

SIR, As the Chairman of the Naval and Military Committee of the British Medical Association, I was responsible both for the inception and the organization of the recent deputation which waited on the Secretary of State for India. I therefore feel it incumbent on me to answer "A. G. C.'s" letter from Madras which appeared in your issue of December 14th.

The importance of "A. G. C.'s" communication lies far more in what it implies than in what it says. It accuses Surgeon-General Benson of a misstatement of facts, though it is quite obvious that he spoke in good faith and from his own personal experience, but in ignorance of the present routine in Madras.

The casual reader would be led to infer that the action of the members of the Madras Government in attending interviews to the Surgeon-General removes the grievance of which the British Medical Association complains. It is essential that no such inference should be allowed to spring up from any half-statement of the truth: I therefore desire to state the case fully, being open to correction if I am in error in any detail.

The contention of the Association, as you have clearly pointed out in your editorial comment on this letter, is that the Director-General and the Surgeons-General should in all communications with the Government to whom each is responsible, have the right of direct access to that Government. That a single Governor of a single province should, as an act of courtesy, receive the head of the medical department when the latter desires an interview, or that the member who holds the medical portfolio should do the same, in no way fulfils the demands of the officers of the I.M.S., or of the medical profession. The next Governor of the same province need not necessarily do the same, nor, as far as I am aware, is it the custom for the Governors of other provinces to follow Lord Pentland's lead in this matter.

There is a far more important point involved. "A. G. C." does not say—and I challenge him to say it if he can—that it is now the custom of the Madras or of any other Government in India for the files dealing with medical matters to go direct to Government from the Surgeon-General, as they would be bound to do, if that officer were a Secretary to Government. My information is that the evil and ancient custom whereby these technical files are sent to Government through the Secretariat still holds. This means that after the head of the medical department has given his views on any subject, however technical it may be, it is open to non-medical officials in the Secretariat to criticize or even to traverse those views before sending them on to Government. Such a state of affairs is keenly resented by the officers of the I.M.S., and is considered by the British Medical Association to be inconsistent with the dignity of the medical profession and subversive of the interests of the State. The concession on which "A. G. C." lays so much stress is of comparatively little value in view of the very much larger question at issue. This in no way implies that the British Medical Association will fail to appreciate to the full a kindly, courteous, and statesman-like act of Lord Pentland's. As an individual Governor he has perhaps gone as far as he could, but the very isolated nature of this concession serves merely to mark the contrast between what actually holds and what the medical profession considers should hold.

"A. G. C." writes in his letter as if he spoke authoritatively for the Madras Government, and I do not dispute his title to do so. In such circumstances, the inference which many of your readers will draw from his communication will be that that Government acts with liberality and in a progressive spirit in its dealings with its medical officers. I therefore desire to remind both him and them that the Madras Government has deliberately thrown open the doors of its hospitals to the rich as well as to the poor; that it has fixed a scale of fees for the former to pay both for treatment and for operations, and that it sweeps these fees, the product of the work of its medical officers, into its own exchequer. There is at least one Government in the East (that of Burma), and I believe there are others, which adopt a much fairer policy in dealing with their



medical officers. This action of the Madras Government is regarded with the deepest disfavour both by its medical officers and by the British Medical Association. When I read the honour of presenting the report of the Naval and Military Committee to the Representative Meeting this was one of the matters I brought before that body, and there could be no mistake as to the attitude that was taken up on the question. If I lay stress on it now it is because I feel that as "A. G. C." has championed the cause of the Madras Government in your columns and in doing so has reflected on the accuracy of a statement made by a member of the Association's deputation, it is but just and appropriate that your readers should understand in turn that the case he has presented, though doubtless the truth, has not been the whole truth. In saying this I am not suggesting for a moment that he has had any more intention of misleading his audience than Surgeon-General Benson had.

The present moment is big with fate for the relations between the Government of India and its Medical Service. The sands are running out and the patience of the medical profession is nearly exhausted. The happiest augury for the future lies in the attitude of the Secretary of State for India as revealed in his reception of the British Medical Association's deputation. That attitude would have prevented me from writing as I have done to day had the author of the letter you print been any one less authoritative than "A. G. C.," or had he phrased his communication with more generosity to Surgeon-General Benson.—I am, etc.,

R. H. ELLIOT, Lieut.-Colonel, I.M.S.(ret.),  
Chairman, Naval and Military Committee,  
British Medical Association.

London, W., Dec. 20th.

#### THE TOILET OF THE MOUTH IN INFLUENZA.

SIR,—During the present epidemic of influenza it has appeared to me that an undue proportion of pneumonias arising as a complication commence in persons with septic oral conditions or nasal obstructions leading to mouth breathing. It seems probable that the influenza bacillus alone is responsible for the primary tracheal and bronchial irritation, and that this enables the pneumococci and streptococci to obtain a lodgement.

My object in writing is to suggest that insufficient stress has been laid on the importance of attending to the toilet of the mouth and nose from the very outset of the disease. Whether this is done by means of mouth-washes, sprays, or by medicated vapours, is immaterial. The necessity of diminishing the numbers and reducing the virulence of these secondary septic organisms, which are almost certainly derived from the mouth, is obvious.—I am, etc.,

Sturtevant, Chesterfield, Dec. 5rd.

ARTHUR COURT.

#### MEDICAL DEMOBILIZATION.

SIR,—I see that the Government proposes to call up medical students as soon as they are qualified in order to relieve doctors who have long been on active service. Every one will sympathize with the object of this measure, but at the same time it will have to be carried out with great discretion if the work of the hospitals is not to be crippled for lack of house-physicians and house-surgeons. Already the supply of these is dangerously low, even with the help of women senior students and Oriental gentlemen. A real deficiency of these makes hospital work a cruel sham instead of a beneficent reality, and affects the chances of life or disability in vast numbers of the working classes.

To illustrate the blindness of the authorities to the value of hospital residents, I will quote the instance of my own house-physician at the Royal Infirmary, Hull, a very competent and experienced senior student doing invaluable medical work. Two months ago he was suddenly removed and converted into a trooper. He is now driving a motor lorry.

I hope this plea for the minimum requirements of defenceless hospitals in the apportioning of young doctors or senior students may catch the eye of those in authority, and that they may resort in some measure to other and less simple methods of releasing doctors from the army,

where the amount of work must now be very much reduced.—I am, etc.,

FRANK C. EVE,

Honorary Physician, Royal Infirmary, V.A.D.,  
and Children's Hospitals, Hull.

December 21st.

#### THE SCOTTISH UNIVERSITIES CONSTITUENCY.

SIR,—In your last issue you published a letter from the secretaries of the Medical Parliamentary Committee in which they state that supporters of Professor W. R. Smith, M.D., D.Sc., were claiming him as the candidate adopted by the Medical Committee for this constituency. The secretaries further refer to a list of candidates whose candidatures the Committee approve, but they do not state what is the case—namely, that Professor Smith is of the candidates whose names appear on this list.

To show the absurdity of the secretaries' position I may say that I have before me, as I write, a letter addressed by them to Professor Smith of date November 30th, in which they offer him the active support of speakers in support of his candidature.

I am not aware that any of Professor Smith's supporters thought it necessary to give special emphasis to the fact that his candidature was endorsed by the Medical Committee. If, however, they have done so, they were surely justified in assuming that a candidate was very specially approved by a committee which had offered to lend him vocal support in his candidature.

The joint secretaries will have some little difficulty in extricating themselves from their blunder, and it is most unfortunate for Professor Smith that most of the voting papers will have been returned before this reply could be published in your JOURNAL.—I am, etc.,

ROBERT W. COCKBURN, LL.B., W.S.,

Election agent for Professor W. R. Smith, M.D., D.Sc.

Edinburgh, Dec. 19th.

We have referred this letter to the Honorary Secretaries of the Medical Parliamentary Committee, who reply as follows:

Before the nominations for the recent election took place the Medical Parliamentary Committee drew up a list of medical men considered suitable for Parliament, not for particular seats. Owing to the imminence of the election, it was not thought likely that any seats could be found immediately for these candidates. It was hoped that their names would be available for future by-elections. It was known that Professor Smith proposed to stand for the Scottish Universities constituency. But it seems that Mr. Cockburn was not informed that the appearance of Professor Smith's name in the list was due to a suggestion made by himself that should he not be successful in his present venture he would be eligible at a later date. The letter offering speakers was sent to all medical candidates at the recent election in pursuance of the policy of inculcating in electors present at the meetings the importance of health questions and the need for an increase in the number of medical men in Parliament. The offer was made in a purely non-party spirit, and without any intention of adopting or endorsing a particular candidate for a particular seat.

### Universities and Colleges.

#### UNIVERSITY OF LONDON.

The following candidates have been approved at the examinations indicated:

M.D.—Branch I (Medicine). I. A. Celestin, E. C. Spady. Branch II (Midwifery and Diseases of Women). Grace Stapleton.  
M.S.—Branch I (Surgery). S. Rutson.

#### UNIVERSITY OF MANCHESTER.

The following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—N. H. Davison, B. Walley, Ethel D. Willis. Forensic Medicine: May Ashburner, May S. Jones, J. N. Laing, Ernie Ratner.  
THIRD M.B., CH.B.—General Pathology and Morbid Anatomy: S. Adler, May Blakiston, J. W. Crawshaw, K. V. Deakin, F. R. Ferguson, Evelyn A. Garnett, E. M. Greaves, G. E. Hayward, Sylvia K. Hickson, J. B. Higgins, F. S. Horrocks, Irma M. C. Jehansart, F. C. Jones, W. E. Mason, Doris B. Norman, E. R. Ormerod, Emily M. Peach, H. Rosenthal, G. Sheehan, Constance Snowden, Annie E. Somerford, G. L. Taylor, H. W. Taylor, H. Tomlinson, Mary I. Turner, L. A. van Coffer, R. Williamson.



J. B. Wright, *Pharmacology and Therapeutics and Hygiene*; M. V. Blakiston, Kathleen M. F. Lorton, E. McGroves, Victor M. Jewson, Jessie Kilroe, Gertrude B. Lough, Anne Koto, et al., Florence G. Sharley, J. B. Wright, *Pharmacology and Therapeutics*; Martha F. Barrett, Florence M. L. Graham, Bertha Kenilshaw, *Hygiene*; Dorothy M. L. Dyson, A. Maude, J. S. Robinson.

\* Awarded distinction.

#### ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

The following have been admitted Fellows: J. Edison, R. J. English, J. B. Hogarth, R. L. Hutton, M. A. Nickle, I. A. Razzuk, J. N. MacB. Ross, A. G. Stewart, D. L. Tate, W. R. Tutt, W. Tyson.

## Medical News.

DR. J. B. KENNY, of Roebuck, Clonskeagh, has been appointed to the Commission of the Peace for county Dublin.

DR. R. C. BROWN, F.R.C.P., F.R.C.S., of Preston, late President of the Lancashire and Cheshire Branch of the British Medical Association, is retiring on December 31st from his appointment as certifying factory surgeon, which he has held for fifty-five years.

IN view of the many applications that are likely to be received from partially disabled men for licences to drive motor vehicles, the Home Secretary has reappointed the committee which considered this subject in 1916. The committee consists of eight members, including Colonel H. J. Waring, F.R.C.S., surgeon to St. Bartholomew's Hospital. The secretary is Mr. H. A. Tripp, to whom communications should be addressed at the Metropolitan Police Office, New Scotland Yard, S.W.1.

THE Home Secretary gives notice that he has directed that George Frederick Handel Bartlett, chemist and druggist, of 38, Battersea Park Road; 236, Battersea Park Road; and 143, High Street, Battersea, who on October 17th last was convicted of offences under Defence of the Realm Regulation 43 B, shall cease to be an authorized person for the purposes of that regulation, which regulates dealings in cocaine and opium. The effect of this order is that Bartlett may no longer purchase or be in possession of opium or cocaine, and any person supplying him with these drugs will be committing an offence against the regulation.

## Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL, *unless the contrary is stated*.

Correspondents who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

Authors desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

In order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR OF THE BRITISH MEDICAL JOURNAL, *Artledge Westland, London*, telephone, 2631, GERRARD.
  2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Artledge Westland, London*; telephone, 2631, GERRARD.
  3. MEDICAL SECRETARY, *Mediscara, Westland, London*, telephone, 2634, GERRARD. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.
- \* The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2. That of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, London, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

### QUERIES AND ANSWERS.

#### INCOME TAX.

IN 1917-18 "Inco" left his practice in the care of colleagues, served six months in the army, and then commenced special civil work in a Government office. What should be the basis of his liability for income tax?

\* His military service entitles him to have the assessment on his civil practice adjusted from the average to the actual amount of profit of the year ending April 5th, 1918 (see 13 (1) Finance Act, 1914, Session 2). This amount is not neces-

sarily to be determined on the basis of cash receipts, as these would be greater than the fees earned for him in his absence; the revenue authorities contend for an assessment based on bookings where the practice is being commenced, on the ground that the cash basis can only apply fairly when the old fees received are substantially the same in amount as the unpaid fees carried forward to the next year, and our correspondent can fairly claim that the principle should be followed in the converse case. In view of the absence of military service in 1918-19, the above adjustment can be claimed only if the total actual income is 20 per cent. less than the total income as assessed or charged (see 29 Finance Act, 1916). The answers to our correspondent's specific questions are: (1) The income cannot be averaged, and Government pay is assessed also on the amount accruing in the financial year; life assurance premiums cannot be treated as deductions in calculating total income for the purpose of any of the rates of tax. (2) As suggested above, and if the substitution of the correct income of the year for the "average" brings the total income down below £1,000, the reduced rates apply to the whole income. (3) An intimation should be sent of a claim under S. 13 (1) to the local surveyor of taxes; such claims are required to be made within twelve months—that is, for 1917-18 by April 5th, 1919. (4) The decided cases draw a distinction between expenses incurred in carrying out the duties and those antecedent expenses incurred in reaching the place where the duties are performed. Unless the department concerned is prepared to make some allowance for the special circumstances the claim could not be upheld. (5) The rate is 3s. unless a right of adjustment arises as in No. 2 above.

### LETTERS, NOTES, ETC.

#### TOBACCO AND NEURASTHENIA.

M.B. writes: Since the commencement of the war tobacco has obtained far too great a hold upon the community generally, but I doubt whether the medical profession has fully appreciated the craving which neurasthenics have for tobacco, and especially in the form of cigarettes—a most pernicious vicious circle becomes established, and, as one patient so truly confided to me, the inhalation of cigarette fumes is one of the causes of this disability, and neurotic patients who are candid with themselves and their medical advisers recognize this fact; but unfortunately the loss of self-control prevents the breaking of a habit. I would appeal to the medical profession to assist their neurasthenic patients in overcoming this pernicious state of affairs, which retards improvement, and, I am convinced, prevents a permanent cure in a large percentage of cases.

#### CARBOLIZED OIL INJECTION IN SCARLET FEVER.

DR. F. P. ATKINSON (Bexhill-on-Sea) writes: Some thirty years ago I treated a case of scarlet fever by smearing the body with carbolized oil. I told the nurse that when there was the slightest appearance of peeling I intended to have the whole body smeared with carbolized oil, so as to prevent the skin coming off in such big portions and also for the purpose of disinfection. At the time, however, I said nothing as to what the strength of the carbolized oil was to be. Consequently, as soon as there was a faintest sign of peeling, the nurse got the carbolized oil (1 in 40) from the chemist and smeared the body thorowly with it. The skin soon began to come off in big flakes, as big as the palm of one's hand, while the patient seemed to be going on well. But one morning I found him com, labouring of headache and a feeling of sickness; at the same time the urine had a distinctly smoky appearance. Judging these to be commencing symptoms of carbolic acid poisoning I ascertained the strength of the oil used. I then ordered the use of plain olive oil and the patient made a good and rapid recovery. Moreover, he was very soon able to mix with the other members of the family, as the skin became perfectly smooth and clear. But I do not think I repeated the experiment, especially as Dr. Milne's treatment by eucalyptus oil seemed quite as efficacious and less dangerous.

### SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

		4 s. d.
Seven lines and under	...	0 6 0
Each additional line	...	0 0 9
Whole single column	...	4 0 0
Whole page	...	12 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, no later than the next post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *posto restante* letters addressed either in initials or numbers.



THE  
**British Medical Journal.**

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

**SUPPLEMENT**

CONTAINING

PROCEEDINGS OF COUNCIL

REPORTS OF STANDING COMMITTEES

MEETINGS OF BRANCHES AND DIVISIONS

PROCEEDINGS OF THE GENERAL MEDICAL COUNCIL

MEDICAL BILLS IN PARLIAMENT

NATIONAL INSURANCE PROCEEDINGS

NAVAL AND MILITARY APPOINTMENTS

Etc.

VOLUME II. 1918.

**London :**

PRINTED AND PUBLISHED AT THE OFFICE OF THE BRITISH MEDICAL ASSOCIATION,  
429, STRAND, W.C.







# INDEX TO SUPPLEMENT FOR VOLUME II. 1918.

## A.

Air Force, Royal: Medical Branch, 12, 14, 15, 24, 31, 36, 38, 40, 42, 44, 46, 48, 50, 52, 70, 72, 76, 78, 89, 94, 96  
 Amount of advance payments: the "floating sixpence," 75  
 Army, British, 8, 11, 13, 15, 24, 31, 35, 38, 39, 41, 44, 45, 48, 50, 52, 70, 72, 75, 77, 82, 89, 92, 93, 96  
 Army, British: Army Medical Service, 8, 11, 13, 15, 24, 31, 35, 38, 39, 41, 44, 45, 48, 50, 52, 70, 72, 75, 77, 82, 89, 92, 93, 96  
 Army, British: British West Indies Regiment, 50, 78  
 Army, British: Canadian Army Medical Corps, 14, 16, 32, 38, 42, 46, 48, 50, 72, 78, 89, 94  
 Army, British: Canadian Army Medical Service, 36, 48, 72, 89, 94, 96  
 Army, British: Colonial Medical Service, 32  
 Army, British: Exchanges, 12, 24, 76  
 Army, British: General Reserve of Officers, 14, 42, 44  
 Army, British: Grievances of Territorial and Special Reserve medical officers, 83  
 Army, British: Overseas contingents, 14, 16, 32, 36, 38, 42, 46, 48, 50, 72, 78, 89, 94, 96  
 Army, British: Queen Mary's Army Auxiliary Corps, 76  
 Army, British: Royal Army Medical Corps, 8, 11, 13, 15, 24, 31, 35, 38, 39, 41, 44, 45, 48, 50, 52, 70, 72, 75, 77, 82, 89, 92, 96  
 Army, British: South African Medical Corps, 36, 38, 42, 46, 94  
 Army, British: Special Reserve of Officers, 8, 14, 16, 32, 36, 38, 40, 42, 44, 46, 48, 50, 52, 70, 72, 76, 89, 92, 94, 96  
 Army, British: Territorial Force, Army Medical Service, 46, 94—Royal Army Medical Corps, 8, 12, 14, 16, 32, 36, 38, 40, 42, 44, 46, 48, 50, 52, 70, 72, 76, 78, 89, 92, 94, 96  
 Army, British: Territorial Force Reserve, 14, 16, 38, 42, 44, 46, 52, 78, 89, 44  
 Army, British: Volunteer Force, 8, 12, 14, 16, 32, 36, 38, 40, 42, 46, 48, 50, 89, 94, 96  
 Army, British: West African Medical Staff, 32  
 Army, Indian: Medical Service, 12, 36, 46, 48  
 Association, British Medical: Annual meeting, 22—Award of Stewart Prize, 22—Indian Medical Service, 23—The Presidentship, 24

ASSOCIATION, BRITISH MEDICAL: ANNUAL REPRESENTATIVE MEETING, 15, 17  
 Annual reports of Council, 17  
 Association organization, 29  
 Central Insurance Defence Fund, 28  
 Central Medical War Committee, 18  
 Certification of women munition workers, 25  
 Constitution of Insurance Acts Committee, 22  
 Cost of drugs, chairman's protest, 29  
 Dependants of insured persons, 29  
 Dr. Alfred Cox, O.B.E., 21  
 Education Bill, 34  
 Election of members, 29  
 Election of President, 17  
 Election returns, 22  
 Fees of medical referees for Ministry of Pensions, 25  
 Hospitals Committee, 30  
 Infant consultation centres, 26  
 Inquiry into complaints, 30  
 Irish Committee, 35  
 Medical ethics, 30  
 Medical representation in Parliament, 21  
 Medico-Political Committee, 25  
 Ministry of Health, 26  
 National Insurance, 28

## ASSOCIATION, BRITISH MEDICAL: ANNUAL REPRESENTATIVE MEETING *continued*

Naval and military, 29  
 Notification of infectious disease, 26  
 Overseas Branches, 29  
 Panel practices of women on military service, 28  
 Payment for treatment of discharged disabled sailors and soldiers at voluntary hospitals, 30  
 Position of practitioners examining the patients of other practitioners, 30  
 Postal medical officers, 26  
 Public health and Poor Law, 34  
 Purchase of medical practices by unqualified persons, 34  
 Scientific work, 35  
 Scottish Committee, 35  
 State-aided midwifery service, 20  
 Student probationary members, 29  
 The financial position, 17  
 The Journal, 17  
 The medical profession and the friendly societies of Australia, 29  
 Venereal disease, 25  
 Vote of thanks, 35

Association, British Medical: changes of boundaries of Branches and Divisions, 31  
 Ayrshire Division, election of officers, 39

## B.

BARCLAY, Isaac Bernard, disciplinary case of, 88  
 BEAUMONT, Frederick Charles, disciplinary case of, 89  
 Bedford Division: Annual meeting, 43—Election of officers, 43  
 Burden of costly remedies. *See* Insurance

## C.

Calcium carbide supply to medical practitioners, 45  
 Central Pool, inquiry into, 13, 84, 93  
 Certificates for women workers, 41  
 Certification at longer intervals, 93  
 Conference of Representatives of Local Medical and Panel Committees, 13, 61—Methods of calculating remuneration, 61—Constitution of Insurance Acts Committee, 64—Mileage allowance, 65—Demand for increased capitation fee, 65—Defence Fund, 67—Supply of medicines by panel practitioners, 68—Approval of report, 68—Serums and vaccines, 68—Parliamentary representation, 69—Insurance practitioners' agreement, 69—Remuneration, 69—Dispensary treatment of tuberculosis, 69—Invalided National Service workers, 69  
 Conference of Representatives of Local Medical and Panel Committees in Scotland: Certificates in chronic cases, 9—Constitution of the Insurance Acts Subcommittee (Scotland), 9—Scheme of collective bargaining 9—Future conferences Scotland, 9—

Proposed alteration of classification of practitioners for purposes of mileage grant, 9  
 Position of Highlands and Islands practitioners, 10—Substitution under Military Service (No. 2) Act, 1918, 10—Mileage, 10  
 Coventry case: Pratt and others v. British Medical Association and others, 53

## COUNCIL, GENERAL MEDICAL:

Anatomy Acts Committee, 88  
 Apothecaries' Hall of Ireland, 86  
 Dental registration, 87  
 Disciplinary cases, 88  
 Ministry of Health, 87  
 Preliminary education of medical students, report of committee, 84  
 President's address, 81  
 Remuneration, 87  
 Reports of committees, 87  
 Restoration of names, 87  
 Treasurership, 87

## CURRENT NOTES

Annual Representative Meeting, 15  
 Calcium carbide supply to medical practitioners, 45  
 Certificates for women workers, 41  
 Conference of Representatives of Local Medical and Panel Committees, 43  
 Eligibility for election as a direct representative on the Insurance Acts Committee, 45  
 Fees for notification of infectious diseases, 71  
 Grievances of Territorial and Special Reserve medical officers, 83  
 Indexes, half-yearly, 95  
 Inquiry into Central Pool, 13, 84, 93  
 Insurance Acts Committee, 71  
 Insurance Acts Subcommittee for Scotland, 47  
 Insurance companies and certificates of death, 49  
 Linked hospitals and homes, 47  
 Luxury tax, 37  
 Medical demobilization, 77, 95  
 Medical representation in Parliament, 37, 39, 41  
 Medical resettlement, 95  
 Medical women employed by the War Office, 95  
 Messages in time of epidemic, 84  
 Ministry of Health, 49  
 Ministry of Health and the future of the medical profession, 47  
 Motor cars for travelling to and from a holiday resort, use of, 37  
 Motor spirit licences, renewal of, 13  
 Notes for parliamentary candidates, 83  
 Office appointments, 6  
 Parliamentary session, 33  
 Pay of medical officers of the Territorial Force and Special Reserve, 77  
 Pensions and deductions, 93  
 Protection of milk consumers, 39  
 Quality of petrol, 45  
 Remuneration of medical referees, 49  
 Remuneration of members of pensions boards, 51  
 Schemes and circulars, 43  
 Status of individual members in the management of the affairs of the Association, 77  
 Supply of surgical instruments to civilian medical practitioners for their private use, 6  
 War Emergency Fund of the Royal Medical Benevolent Fund, 13, 15, 34, 41, 43, 51, 84, 93, 95



## D.

Demobilization, 77, 93, 95  
Dorset and West Hants Branch Autumn meeting, 47—Election of officers, 47  
Dublin Division: Medical representation in Parliament, 92—Ministry of Health for Ireland, 92—The late Dr. O'Connell Delahoyde, 92

## E.

Edinburgh Branch: Annual meeting, 10—Election of officers, 10—Scottish Committee, 10—Medical practitioners and the Military Service Act, 10  
Edinburgh and Leith Division: Right of appeal (Ministry of National Service), 38  
Eligibility for election as a direct representative on Insurance Acts Committee, 45

## F.

Fees for notification of infectious diseases, 71  
FLAMENT, Jules Michael Ralph, disciplinary case of, 88  
FRANCIS, John Stanley, disciplinary case of, 89  
Fund, Royal Medical Benevolent: War Emergency Fund of, 13, 15, 34, 41, 43, 51, 84, 93, 95

## G.

General Medical Council. *See* Council  
Grievances of Territorial and Special Reserve medical officers, 83

## H.

Health, Ministry of: Full text of the Bill, 73, 79—And the future of the medical profession, 47—Memorandum on, 79—Proposals for construction passed to War Cabinet for consideration, 49  
HENRY, Stanley, disciplinary case of, 88

## I.

Increased grants to insurance practitioners, 91  
Indexes, half-yearly, 95  
Indian Medical Service: Deputation to the Secretary of State for India, 1—Mr. Montagu's reply, 3  
Insurance companies and certificates of death, 49

## INSURANCE, NATIONAL:

Amount of advance payments, the "floating sixpence," 75  
Burden of costly remedies, 39  
Certifications at longer intervals, 93  
Demobilization, 93  
Increased grants to insurance practitioners, 91  
Inquiry into Central Pool, 13, 84  
Insurance Acts Committee, 71  
Insurance Acts Subcommittee for Scotland, 47  
Remedy for low panel fees, 75  
Treatment of discharged disabled soldiers in Ireland, 51

Ireland, treatment of discharged disabled soldiers in, 51

## L.

Linked hospitals and homes, 47  
London Panel Committee: Amount of advance payments, the "floating sixpence," 75  
Luxury tax, 37

## M.

Manchester Division, election of officers, 39  
Medical demobilization, 77, 93, 95  
Medical representation in Parliament, 37, 39, 41  
Medical resettlement, 95  
Medical women employed by the War Office, 93  
Messages in time of epidemic, 84  
Metropolitan Counties Branch, annual meeting, 11  
Milk consumers, protection of, 39  
Ministry of Health. *See* Health  
Motor cars for travelling to and from a holiday resort, use of, 37  
Motor spirit licences, renewal of, 13

## N.

National Service, Ministry of, right of appeal (for doctors), 38  
Navy, Royal, medical service of, 8, 11, 13, 15, 24, 31, 35, 38, 39, 41, 44, 45, 48, 50, 52, 69, 72, 75, 77, 82, 89, 92, 93, 96  
Navy, Royal: Royal Naval Volunteer Reserve, 8, 11, 13, 15, 24, 35, 38, 39, 41, 44, 45, 48, 50, 52, 69, 72, 75  
Northern Counties of Scotland Branch: Highlands and Islands Medical Service Board, 84—Mileage, 84  
Nottingham Insurance Committee, final credit for medical benefit, 47

## O.

Office appointments, 6

## P.

Parliamentary candidates, notes for, 83  
Parliamentary session, 33  
Pay of medical officers of the Territorial Force and Special Reserve, 77  
Pensions and deductions, 93  
Petrol, quality of, 43  
Pratt and others v. British Medical Association, 53

## R.

Remedy for low panel fees, 75  
Remuneration of medical referees, 49  
Remuneration of members of Pensions Boards, 51  
Right of appeal, 38  
Royal Air Force. *See* Air  
Royal Medical Benevolent Fund. *See* Fund

## S.

Schemes and circulars, 43  
SHARPLEY, Thomas Stoney, disciplinary case of, 88  
Shropshire and Mid-Wales Branch: Election of officers, 36—Ministry of Health, 39  
Soldiers, discharged, disabled, treatment of in Ireland, 51  
Status of individual members in the management of the affairs of the Association, 77  
Surgical instruments, supply of to civilian medical practitioners for their private use, 6  
Sussex Branch: Annual meeting, 10—Whole-time State Medical Service, 10

## V.

Volunteer Force, 8, 12, 14, 16, 32, 36, 38, 40, 42, 46, 48, 50, 89, 92, 94, 96. *See also* Army, British

## W.

War Emergency Fund. *See* Fund, Royal Medical Benevolent

## Y.

Yorkshire, West Riding, Local Medical and Panel Committee: The burden of costly remedies, 39



## BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JULY 6TH, 1918.

## CONTENTS.

## British Medical Association.

## THE INDIAN MEDICAL SERVICE. Deputation to the Secretary of State for India.

	PAGE
STATEMENTS BY THE DEPUTATION ...	1
MR. MONTAGU'S REPLY—	
I.M.S. A PIVOTAL SERVICE ...	3
ABNORMAL WAR CONDITIONS ...	4
PRIVATE PRACTICE ...	4
PAY AND EMOLUMENTS ...	5
THE I.M.S. AND THE R.A.M.C. IN INDIA ...	5
MEDICAL ADVISERS TO GOVERNMENTS ...	6
EDUCATION AND RECRUITMENT ...	6
RESEARCH ...	6

	PAGE
CURRENT NOTES:	
OFFICE APPOINTMENTS ...	6
SUPPLY OF SURGICAL INSTRUMENTS TO CIVILIAN MEDICAL PRACTITIONERS FOR THEIR PRIVATE USE ...	6
MATTERS REFERRED TO DIVISIONS:	
ANNUAL REPRESENTATIVE MEETING. IMPORTANT NOTICE TO MEMBERS ...	7
ASSOCIATION NOTICES: ANNUAL GENERAL MEETING.—ELECTION OF COUNCIL ...	7
NAVAL AND MILITARY APPOINTMENTS ...	8
APPOINTMENTS ...	8
BIRTHS, MARRIAGES, AND DEATHS ...	8
DIARY ...	8

## British Medical Association.

## THE INDIAN MEDICAL SERVICE.

## STATEMENT BY THE SECRETARY OF STATE.

A DEPUTATION from the British Medical Association waited upon the Secretary of State for India, the Right Hon. E. S. Montagu, M.P., at the India Office, on June 27th, to discuss the conditions of the Indian Medical Service. The deputation was introduced by Sir Clifford Allbutt, K.C.B. (President of the Association), and included Lieut.-Colonel R. H. Elliot, I.M.S. (ret.), chairman of the Naval and Military Committee of the British Medical Association, Sir Berkeley Moynihan, K.C.M.G., Surgeon-General P. H. Benson, I.M.S. (ret.), Dr. Dawson Williams (Editor of the BRITISH MEDICAL JOURNAL), and Dr. James Neal (Deputy Medical Secretary). With the Secretary of State were Sir Thomas Holderness, G.C.B. (Permanent Under Secretary), Sir Havelock Charles, G.C.V.O. (Medical Adviser to the Secretary of State), Sir Arthur Hirtzel, K.C.B. (Assistant Under Secretary), and Lieut.-General Sir H. V. Cox, K.C.B. (Secretary Military Department).

Sir CLIFFORD ALLBUTT, Regius Professor of Physic in the University of Cambridge, and President of the British Medical Association, in introducing the deputation, first referred briefly to the existence of the feeling, both in the medical profession and in the Government, that the Indian Medical Service was not as attractive as it might be and as it had been. The feeling he believed to be perfectly true. He then directed his remarks to the necessity for the maintenance in India of organized research. A good deal of very brilliant work was being done by individuals, but there was need for a thoroughly organized and well-endowed system of research in medicine and the ancillary sciences. It was admitted that the Indian Medical Service was not to-day sufficiently attractive; one reason was that the rate of pay was insufficient, but he thought that another reason was that officers who had a disposition to undertake research did not find it easy to obtain a berth in which to carry it on. In his own university every student in the medical faculty had to undertake two pieces of research during his time. It was difficult for a man in practice to settle down to anything like systematic research. If a man was doing research work on an uncertain tenure, or at odd times when he could get leave, little permanent good was done. There should be a system of organized medical research—not utilitarian, but independent disinterested research, made attractive by a sufficient number of permanent berths, so that those engaged in it might devote themselves entirely to research, and be tempted by various positions in the service to take up that kind of work. Speaking of study leave, he said it was not a phrase he would willingly accept; he would rather speak of "study periods," and would maintain that it should be compulsory for a man to undertake such a study period; he should not have to ask for leave; rather study periods should be compulsory from time to time in the course of service.

Lieut.-Colonel R. H. ELLIOT, I.M.S. (ret.), obtained permission to read a statement on the action taken by the British Medical Association with regard to the Indian Medical Service. The statement recalled the fact that in September, 1913, the Secretary of State for India asked the British Medical Association to assist him to ascertain the causes of the very serious falling off in the number and quality of the candidates for positions in the Indian Medical Service. After careful inquiry the Association prepared a memorandum on the present position and future prospects of the service, which was forwarded to the Secretary of State in October, 1913,<sup>1</sup> and placed before the Royal Commission on Public Services in India during its session in London in July, 1914. The memorandum discussed the principal causes of the dissatisfaction existing among the officers of the I.M.S., and indicated the remedies the Association considered necessary. The chief points dealt with were:

(1) The inadequate scale of remuneration. (2) The difficulties in obtaining leave and study leave. (3) The constant, irritating, and damaging interference with private practice. (4) The unsatisfactory position of the Director-General and Surgeon-Generals in relation to the Government of India and the Local Governments.

Evidence on these matters was given before the Royal Commission by Lieut.-Colonel R. H. Elliot on behalf of the Association, which felt that the Commission failed to appreciate the gravity of the position so far as the Indian Medical Service was concerned. Its recommendation and the whole attitude it took up were a cause of bitter disappointment to the officers of the service and to all who had their interest at heart. When its report was published, in January, 1917, the Association drew up a memorandum, recording its profound concern and disappointment with the whole trend of the report and its recommendations, and pointing out that the various points to which the Association had drawn attention had received scanty attention; that there was little or no evidence of any intention to redress the numerous grievances; and that those grievances, if allowed to continue, could not fail to result in a marked deterioration in a service which had already become so unpopular as to cease to attract the class of candidate it formerly commanded. This memorandum having been approved by the Council and Representative Body, it was decided to ask the Secretary of State to receive a deputation from the Association, and when it was found that it could not be received until after the Secretary of State's visit to India, the position was regarded as so serious that a further memorandum was prepared,<sup>2</sup> and copies were sent to the India Office and to the Secretary of State in India.

The Association feels that it has a right to be proud of the past records of the Indian Medical Service, which entitled it at one time to be considered one of the finest, if not the finest medical organization in the world. Its members have distinguished themselves alike on the field of battle and in the cause of science, using the latter word in its very widest acceptance. There was a time when it could and did command the best the British medical schools could give, whereas to-day its officers are in despair. The war, which has provided so many openings

<sup>1</sup> BRITISH MEDICAL JOURNAL, SUPPLEMENT, February 7th, 1914.

<sup>2</sup> Ibid., January 12th, 1918.



for other branches of the army, has brought nothing but ruin to them. We have received a large number of letters containing details of the financial position of the writers, showing that they have been living on their savings or on other sources of private income during the last three and a half years, and are now heavily in debt. They complain that their services have not been used to the best advantage and that they have been constantly superseded by officers junior to them in other branches of the medical organization, and that they are not being paid a living wage. We are confident, Sir, that this matter will receive your very early and very sympathetic attention.

Colonel Elliot then referred to a circular issued by the Adjutant-General in India to G.O.C.'s of divisions on April 5th, 1918, as showing how serious the position was. The circular stated that the attention of the Commander-in-Chief had been drawn to the fact that informal meetings of officers of the Indian Medical Service had recently been held at various stations in India at which the future of that service was freely and informally discussed by those present. The circular went on to state that such assemblies, even though informal, were contrary to the customs of the army and opposed to military discipline. The Association, Colonel Elliot said, was aware that such meetings had been held all over India, and believed that no good could come from stifling the feelings which had given origin to them. It was recognized that no service was more loyal than the Indian Medical Service and that nothing but a very grave state of affairs would have brought the officers to their present state of apprehension and unrest. Colonel Elliot next referred to a statement made by the late Director-General I.M.S. to the effect that officers of the service who were so discontented that they proposed to resign their commission as soon as the war was over would not be allowed to do so. It was hoped to receive an assurance from the Secretary of State that no such interference with the retirement of officers after the war was either intended or probable. The statement read by Lieut.-Colonel Elliot concluded as follows:

So far we have spoken of the interests of the officers who are now in the service, but the Association feels that it is on even stronger ground when it addresses you on behalf of those who are likely to be candidates in the future for commissions in the Indian Medical Service. It desires to remind you that for four years the number of medical students trained has been very small, whilst during the same period the wastage of the lives of medical men has been large. Moreover, the end of the war will see great openings in the colonies and elsewhere for our young medical men. India needs the best that Great Britain can give, but it must be obvious that the quality it obtains will be regulated by the law of supply and demand. The British Medical Association and the medical schools cannot be expected to give of their best to a service with inferior attractions, and the Association is therefore anxious to know whether the Government of India is prepared to offer such terms as will attract the class of man that is needed. With this end in view we wish to ask you, Does the Government propose to effect such reforms as will remove the present disabilities of those engaged in the service?

In conclusion we desire to invite your attention to a point which we feel sure has been already brought before you. It is that the Indian Medical Service is the huge service of India. If it goes every other European service will suffer with it. It will not suffer alone. Of this we are confident, and we speak on very strong evidence. We feel that the occasion is a most momentous one, and not only we and the officers of the Indian Medical Service, but the members of a much larger public as well await your reply with the greatest anxiety.

SIR BERKELEY MOYNIHAN said that he spoke as one who in the days of his youth entered the medical profession in order to enter the Indian Medical Service, and also as one who for a number of years had been engaged in the teaching of men, many of whom had entered the Indian Medical Service and were now serving in it. "I can," he said, "confirm what has been said by former speakers, that ever since I have known of the question there has been a progressive deterioration in the qualities of the service and in all those attributes of the service which should make it attractive to men, but which have insidiously become repellent to them. When men who are about to decide on their future career have asked me as to the opportunities offered to them in the Indian Medical Service, I have had to say of recent years that I could not advise them to enter

it. A few, in spite of that, have entered, and I have received from them letters from time to time showing me that they have regretted the decision they took. When I compare the reputation of the service at the time when I was a student and when it was my ambition to enter it with the reputation which the service now enjoys, I can only say that the change has been one of great disaster. I desire to submit to you some of the considerations which would make, in our view, the service acceptable, so that it could once again attract the best men who are now passing out of our schools. One of the first things that suggests itself is that instead of there being two corps serving in India there should be only one. There should be a Royal Indian Medical Corps, instead of the R.A.M.C. and the I.M.S. When a man is accepted for service in this new corps he should at once be seconded for study as a resident in a hospital at home; that is to say, nobody should be allowed to work in India until he has had an opportunity of acting as a resident, probably both on the medical and on the surgical sides, and perhaps also undertaking researches in the laboratories of his own hospital or another hospital to which he would be allotted. The third condition which we consider desirable is that there should be increased pay. That, I understand, has received sympathetic consideration already, but, so far as we can judge, the amount which is suggested is inadequate. In the fourth place I desire to mention an aspect of the question which has made a particular appeal to me, and that is that the men should have a compulsory study period—I use Sir Clifford Allbutt's phrase rather than 'compulsory study leave.' It has been a growing conviction in the minds of many of us who have been practising medicine and surgery in this country that there has been amongst us all too little intellectual traffic, that the men in one hospital have hardly known what is happening in another. During the last few years some of us have been able to alter things in that regard by the formation of societies and of clubs for travel and by inaugurating and continuing courses for special study. The universities and the teaching schools have attracted men from other hospitals, with the result now—or it was so before the war—that it is common to see surgeons coming from other places to spend periods of study of one, two, three, four, five, or six months in the particular subject in which they are interested. We all feel that if something of that sort could be inaugurated, could be encouraged and could be made compulsory, it would be all to the advantage of the service. The future of medicine and of surgery does not rest entirely upon clinical work. This is a very critical moment in the history of our profession, in the opinion of all who are engaged in teaching. We feel that clinical medicine and clinical surgery have got as far as they are likely to with older methods, and that if any advance is to be made in the future it can only be by linking up research work and clinical work in a greater degree than before. Men in the Indian Medical Service had made a considerable reputation in the past for their original scientific work, but what has been done by one man ought to be done by many, and we look to you to say that it is your intention to encourage research and to offer not only opportunities but something in the way of reward for successful researches carried out. That reward may take many shapes; I need not specify what they are, but we feel that the whole future of the medical profession is bound up with questions of that kind, and that the greater the encouragement you can give for the carrying out of research and the greater the rewards you can offer, the greater will be the advantage to our profession as a whole." Sir Berkeley Moynihan then referred to the question of the continuation of those serving in the Indian Medical Service in their privilege, of which he believed they had been in a more or less measure deprived, of conducting private practice. It was the feeling of all with whom he had spoken that that privilege or that right, whichever it were, should be allowed to continue, always provided, of course, that the duties appertaining to the office which the man held in the service should not be interfered with in any way. Finally, he said that certain administrative changes were necessary, but with these he would leave others to deal. He believed that the position was extremely critical and called for the most tender and sympathetic consideration and treatment. If it received that he had every confidence that the future of the Indian Medical Service would be as great as its very distinguished past.



Dr. NEAL said that the British Medical Association, which numbered some 23,000 members, had not, in taking up this question, been actuated by selfish motives. The total number of officers in the Indian Medical Service was barely 2 per cent. of the total number of registered medical practitioners in the United Kingdom, so that the profession would not be materially affected if the Indian Medical Service did not exist. The Association assumed that the Government desired to have an efficient service, and knowing the discontent which existed among the officers, and the causes which had given rise to it, it felt bound to place its knowledge at the disposal of the Government. Not all the defects to which the attention of the Association had been drawn, and the suggested remedies for them, had been mentioned by the deputation, but they were clearly set out in the various memorandums prepared by the Association. The present position was admittedly unsatisfactory. Young men were deterred from entering the service. As evidence that the teaching authorities of medical schools did not feel that they could advise their students to enter it he read the following extract from a letter received from Professor Harvey Littlejohn, Dean of the Faculty of Medicine in the University of Edinburgh, who regretted that he was unable to be present:

I would gladly have come, as the question is one of great interest and importance. I have for several years advised students not to join the Indian Medical Service under the present conditions, and I did so with regret because in former years the service was able to command the very best of the graduates of Edinburgh.

As the great representative organization of the profession the British Medical Association was looked to for advice, and would be glad to know the intentions of the Government and the extent to which it proposed to give effect to the various reforms which were essential if the service was to preserve in the future the high standard it had attained in the past.

Dr. DAWSON WILLIAMS said he could add nothing to what had been already said, but he had been asked to say a few words because, as Editor of the *BRITISH MEDICAL JOURNAL* for some twenty years, the complaints and grievances and the hopes and fears of the Indian Medical Service had been continually before him. In his own early days the service commanded the cream of the medical students, to whom one of the inducements it offered was a means of livelihood. That was no longer the case. Another inducement which weighed very strongly with the class of man the Indian Medical Service needed was the opportunity India afforded for the study and practice of medicine, and such men looked forward to the possibility of private practice at a later stage of their service. It had been a grief to him to see how steadily, year by year, the whole tone of this great service had deteriorated; it was not that the men had deteriorated, but that their outlook had deteriorated. They had become depressed and discouraged. The deputation knew the immense task before the Secretary of State and the difficulties of his position, but in the Pronouncement made last August he had said that the policy must develop through successive stages. The Association was of opinion that during that development, whatever direction it might take, the Indian Medical Service should be maintained, and appealed to the Secretary of State to restore the Service to the contentment it formerly enjoyed.

Surgeon-General BENSON said that, having held the appointment of Surgeon-General in Madras, he wished particularly to deal briefly with the position of the Surgeon-General to the local Government. As the head of the scientific branch the Surgeon-General had no access to the members of Council or the Governor; all his proposals were dealt with, as a rule, by a junior civilian and afterwards handed over to the member of Council who held the medical portfolio. As he was not fully possessed of the technical and scientific knowledge required to deal with these matters, the proposals were generally, or very often, shelved without proper justification. Another point of importance was the difficulty experienced by officers in getting leave—not only leave for furlough, but leave for study; that was, he believed, entirely due to the deficiency in the cadre of the Indian Medical Service.

[In the following verbatim report of Mr. Montagu's statement we have introduced cross headings.]

#### THE SECRETARY OF STATE FOR INDIA.

Mr. MONTAGU said:

Sir Clifford Allbutt and Gentlemen, I think my first duty is to apologize to you for the great length of time which has elapsed before I saw my way to receive this deputation, and my second duty is to thank you for coming here to-day, and for giving the carefully thought out and very weighty words of warning which you have all addressed to me, particularly those of Colonel Elliot. I do not think it will be necessary for me to say that advice coming from you, the representatives of the medical profession, particularly at this moment, when your profession stands, if possible, higher than it ever did, because of the services that you have rendered both at home and in the field, will receive the most attentive and sympathetic consideration not only from me but from the Government of India, who are charged with the responsibility of maintaining the Indian Medical Service.

#### *Mode in which a Final Policy must be Settled.*

Now, Gentlemen, I am going to follow the example of Colonel Elliot: I am going, if you will permit me, to read in the main what I have to say to you. I cannot give you to-day, either in outline or in detail, a settled policy. Our policy with regard to the problems which you have brought to our notice must be carefully elaborated, in a time of great pre-occupation, not by me but by the whole Government machine—by the Government of India as a whole, by the India Council, over which I have the honour to preside, consulting together and carefully weighing all the advice and assistance which we can obtain. Therefore, I think the best thing I can do is to tell you quite frankly my own personal views, in order that you may know, at a time when the policy is not complete, what I at any rate intend to try and achieve. I do not mean to say that there is any difference of opinion among us, because I know there is not. I have recently come from India, where I have had opportunities of consultation with the Viceroy and the members of his Government, and I can say that there is not. I have no right to speak for anybody else at this stage, and I want you to understand that I am speaking for myself only.

#### *The I.M.S. a Pivotal Service.*

Gentlemen, during my visit to India I gave considerable attention, as far as I could in the time at my disposal, to informing myself as to the condition of affairs in the Indian Medical Service. I was partly influenced by the fact that I was to have the honour of meeting this deputation when I returned home, and that it was my duty to be prepared to say something to them that was worth their trouble to hear. Secondly, I knew already—and knew still more when I had been a short time in India—the unsatisfactory condition of affairs in the service. Nobody could have listened to the leaders of a great profession, as I have listened to them this afternoon, and heard of their inability to advise students to enter the Indian Medical Service under present conditions, without realizing that that was a situation which must give rise to the greatest apprehensions among those who were responsible for the future of the service and must reflect a very unsatisfactory state of affairs in the service itself. Gentlemen, I was anxious to do my share in removing those grievances and apprehensions from a service which, as Colonel Elliot has said, has so proud a history of imperial achievement—an imperial achievement which I think has never been shown more remarkably than in the contribution to our cause during the four years of war. Perhaps the fact that many years ago I approached some way towards the portals of your profession as a medical student has given me a special and peculiar interest in problems of this kind. But I think more important than any other consideration is the underlying fact that I hold for the time being a position which imposes upon me the duty of considering in all its aspects the welfare of the Indian Empire. The problem which we are confronted with to-day is not a question of doing something for the medical profession; it is not a question of doing something for the Indian Medical Service; it is question of doing something for India by ensuring a supply of good doctors. It is hardly worth saying—it is a platitude—that this is a vital necessity. Just as India cannot to-day, or so far as anybody can see—I was going to say for ever—do without the services of those who help to



govern her, so India cannot command the services of those who help to govern her unless the Europeans who carry the burden of the empire in India can be supplied with the best expert medical aid. And therefore, as you, Sir, rightly said, the Indian Medical Service can be regarded as the pivot upon which all other imperial services in India depend. But, over and above that, the Indian Medical Service is a service on which India is mainly dependent for the satisfaction of all its manifold medical and sanitary requirements, and also—and not least—for the education of future generations of medical men in India. I therefore think it is an essential part of our duty to see that the Indian Medical Service should not be allowed to deteriorate, and I can assure you that I am determined to do everything I can to provide for India a medical service of the highest quality obtainable—a service that will be able to do its work, a service that is content with the conditions under which it works, and therefore a service whose work will be in keeping with the great traditions of the past. Therefore I am particularly anxious to express to you my gratitude for your assistance, and my threat that I shall ask the British Medical Association, in the months that are to come, for further assistance at every stage, and I shall begin by communicating to the Government of India the text of your observations to-day.

Now, before dealing with some of the detailed points that you made, I should like to state to you, if I may, my views on some of the general aspects of the case. We start by wanting, for the reasons that I have mentioned, an efficient medical service for India, and we desire it at a time when there is a world-wide demand for British doctors, at a time when the horrible national necessities of the war are taking boys who would otherwise be medical students and putting them into the army, and at a time when the way in which the members of your profession have put their services at the disposal of the armies in the field and the casualties which they have suffered must make the supply of doctors short and the competition for their services, both at home and abroad, great. Therefore it seems to me that for the reasons I have stated we must have doctors in India for the sake of India. It would be folly of the worst possible kind not to prepare to offer, when peace comes, such conditions of service to the doctors whom we require as to ensure successful competition with the other people who want them as we do.

#### *Abnormal War Conditions.*

I need not remind you that the Indian Medical Service is not a purely military service. It has its military side and it has its civil side. In war the military side of the service necessarily altogether overshadows the civil. I believe I am right in saying that no less than 339 officers have been reverted from civil to military duty. This in itself has, I think, aggravated the discontent which all have to admit by abnormal conditions, by the friction which compulsory reversion to military duty necessarily involves, by the misunderstandings about pay, by the opportunity for the closest comparison with the R.A.M.C., and finally by the suspensions of retirements owing to the necessity of keeping the service up to its maximum strength by the retention of all efficient officers. In so far as discontent arises from these abnormal conditions I can assure you that both the Government of India and I will do our best to grapple with the difficulties. We have improved the rates of staff pay in the field; we have developed a scheme of accelerated and acting promotion to prevent supersession of Indian Medical Service officers by officers of the R.A.M.C.; and finally we have made promotions in the place of officers who have had to be retained beyond the normal limit. Details of these steps have already been published in the press. In addition, two temporary surgeons-general have recently been appointed to meet the special needs of the war, and at this moment we are considering here a proposal of the Government of India to create certain additional military administrative appointments in the Indian Medical Service carrying the rank of colonel.

#### *Normal Conditions.*

However, apart from these abnormal conditions, we are really concerned this afternoon in the preparation of conditions for normal times, and therefore I want to lay down four governing principles which it appears to me must be achieved for those normal times.

#### *Opportunities to Advance Medicine: A Unified Service.*

First of all I would suggest to you that a medical man in the Indian Medical Service must be ensured suitable opportunities for what perhaps I may call interesting practice. It must be worth his while professionally and scientifically. It must offer him opportunities for contributing by a wide experience to the knowledge of his profession and therefore to the possible cure or prevention of the ills from which humanity suffers. I am told that there is no country in the world professionally more attractive than India, and I think, therefore, that the opportunities which the country affords must be at the disposal of those whom we ask to come out from this country to serve her. The application of this principle would make it, I think, impossible, or, at any rate, difficult, to separate the military side of the Indian Medical Service from the civil side. I do not wish to pre-judge the question, but it would appear to me that neither the military side nor the civil side alone would fulfil the principle which I have just stated.

#### *Private Practice.*

Then I come, as Sir Berkeley suggested, to the question of private practice. My views on this matter can be very shortly stated. It would be contrary, in my opinion, to this first principle to deprive members of the Indian Medical Service of their opportunities of private practice.

The question has recently been most carefully examined, both in this office and in India. It has two chief aspects: First, what is the legal position? Has an officer in the Indian Medical Service any right vested in statute to private practice? Secondly, whatever the legal position, what is the attitude to this question likely to prove most advantageous to the officials and peoples of India whose servant he is? As to the legal position, I am advised by the authorities of this office—and with this opinion the Government of India, who have gone into the matter independently, agree—that there is nothing in the state of the law at the present time which gives an officer of the Indian Medical Service a statutory right of private practice, whether within certain prescribed limits or as a general permission. Government is quite free to make what rules it likes for the Indian Medical Service on this question. I am glad that it is so. It seems to me that it would be an intolerable position for the Government of India as an administrator of a great service to have its freedom of administration circumscribed in so important a matter.

But the practical matter of policy is much more important than the legal position. What is best for the peoples of India and for the service itself? Let me state the position as I understand it. In the first place the Government has thought it necessary to debar the holders of certain posts from the privilege of private practice. They think it necessary to retain that power, and to exercise it by revising the list from time to time. Secondly, the Government consider that they must retain power to determine the conditions under which the privilege of private practice may be exercised, and to see that the exercise of it does not interfere with the efficient discharge of the officer's duties, and that in regard to professional charges the privilege is not abused. Having considered the matter very carefully, I personally am satisfied that the present arrangement, which gives freedom to practise privately within well recognized and quite wide limits, is open to no serious objection, either from the point of view of the interests of the Indian Medical Service or from that of the peoples of India. Their interests in the matter must be recognized. It is arguable—and I for one would certainly argue—that it is to their interests that every possible encouragement should be given to the development of an indigenous private medical profession; it might then be contended that one way of doing so would be to circumscribe the opportunities of Government doctors to private practice or even to take away those opportunities altogether. But, as I have already stated, I could not subscribe to such a view as that. It seems to me better in every way that this indigenous medical profession should grow up in an atmosphere of free competition with highly trained European doctors. Competition of this kind sets a high standard, and consequently encourages and maintains a strong connexion with Western medical schools and methods. I see, therefore, no reason for curtailing the present privileges of the Indian Medical Service in the



matter of private practice and many reasons against doing so, chief among which I would say that it would derogate from the principle which I am trying to establish—that the scientific and professional opportunities of the country must be at the disposal of the officers of the service. Of course private practice must not be allowed to encroach upon public duty. Everybody agrees that the State comes first, but it is in the interests of the State that in the time at his disposal the doctor should benefit by the opportunities of private practice, and it seems to me at this stage, although I cannot express any final opinion, that any abuse of this privilege can be cured by the ordinary methods of service discipline, and I would leave it at that. So much for the first principle.

#### *Pay and Emoluments at Present Inadequate.*

My second principle is that the remuneration offered to the service should be adequate. Speaking for myself again, I consider that the pay and emoluments of the service are inadequate at present and are admittedly in need of revision. So far as concerns the military side of the service, the introduction of the station hospital system for Indian troops will afford an opportunity of reconsidering the present scales of pay and instituting a comparison between the emoluments of Indian Medical Service officers and those of R.A.M.C. officers under their station hospital system. I regret I am not able yet to announce any decision as regards civil pay, but I recognize the urgency of this side of the question, even at a time when so many of the doctors ordinarily on the civil side are temporarily on the military side, and I intend to use the full weight of my authority in pressing the matter to a decision, which, in spite of the difficulties which we all recognize, I consider has been too long delayed already.

#### *Leave.*

The question of leave is closely connected with that of pay and emoluments. Of course, there were difficulties in obtaining leave before the outbreak of war. The Public Services Commission considered that the reserves for leave, deputation, and training needed recalculation, and, though it is impossible, during the continuance of the war, to arrive at any satisfactory solution of this question, the Government of India and I are both fully alive to its importance. Improved rates of sterling leave pay for the officers in military employ are under consideration, and I hope will be announced shortly. The cadre of the service must provide for an adequate leave reserve, because it is obvious that sufficient periodic holidays at home are necessary for Europeans serving in India.

#### *Increased Opportunities for Indians to Enter.*

Now I come to my third principle, and that is that the Indian Medical Service must afford in its organization increased and increasing opportunities for Indians to enter the service. I am sure you will admit that this is essential if the service is to continue to be firmly established in the respect of the people of India. It is in harmony with the policy of His Majesty's Government as regards all services as expressed by them through me on August 20th last. The application of this principle means that Indians must be trained either in this country, or—I hope increasingly—by improvement and extension of the opportunities for medical education in India, to enter the service on equal conditions and with equal opportunities of promotion. This involves, among other things, the development of aided schools and colleges in India. I need hardly say, but I ought to say, that the assertion of this principle is not intended to detract from the necessity of keeping an adequate proportion of officers from home, both to supply the needs of the European service and to maintain the traditions of the service.

#### *Minor Causes of Irritation, Friction, and Annoyance.*

My fourth principle is that the conditions of the service shall be as free as we can make them from irritation, friction, or annoyance. Now it is not only the correspondence which I receive, and which you all, I am sure, receive; it is not only my visit to India that has convinced me—but I think even the most superficial observer would acknowledge that this condition is not fulfilled at the present time. There is great unhappiness in the service. Dr. Elliot has brought to my notice something that has been said about threatened resignations. The best way of

dealing with that, Gentlemen, is to remove the causes for unhappiness that make people want to resign, and I look forward to the day when Sir Berkeley Moynihan will use his unrivalled opportunities to persuade people to go into the Indian Medical Service, when people will go about their work so happily that nobody will talk of resignation, and when every one will regret the time when advancing age makes return home necessary. Some of the unhappiness can undoubtedly be cured by attention to the specific points which you have raised, by attention to some of the matters with which I have already incidentally dealt in discussing my principles.

#### *The I.M.S. and the R.A.M.C. in India.*

But there is one over-riding consideration which Sir Berkeley Moynihan referred to—one matter which, apart from doubts as to the future as regards professional opportunity or pay, seems to me to make for a dangerous state of affairs. It is in the relations between the R.A.M.C. as employed in India and the I.M.S. It does not seem to me to be possible that, with two services, the relations of which are so intimate and peculiar as the relations between these two services, you can avoid the friction which is happening from day to day. It is alleged that faults of one are visited on the shoulders of the other; that credit due to one is given to the other; that promotion in one is delayed by the other; that the prestige of one is greater than the prestige of the other; that the claims of one, or, if I may use an expression which must not be taken too literally, the grievances of one receive better attention than the claims or the grievances of the other. Is not this—I put it forward very tentatively—inseparable from the maintenance of the two services, side by side, as separate organizations in India? I do not now express a positive and definite opinion as to which of the two services should be absorbed in the other, or what name you should give the new service. That must depend largely upon other considerations which will be determined by the events of this war. I do not even now say that "absorption" is the right word to use. What I do say is that the two services must be considered together with a view to promoting harmony, and with a view, so far as possible, to achieving unification. I think that this means a drastic reorganization of the Indian Medical Service, and a drastic reorganization of the relations of the Indian Medical Service to the Government, which you, Sir, mentioned. I think we should be prepared for this, and that we should be ready with some scheme of reorganization for the time when recruiting starts again in full swing after the war, and I think that that reorganization should proceed with the view and intention of ensuring the four principles that I have just enunciated.

I have already brought my views on this matter to the attention of the Government of India, and I assure you that I shall continue, despite their great preoccupations, to do so. I discussed the matter with prominent members of the Indian Medical Service and with the military authorities in India, and my conviction that prompt action was necessary was confirmed by all that I heard. I do not mean by "pressure" that pressure on the Government of India is necessary, for I am satisfied, and I know that their actions will show, that they realize the urgency of the case as much as I do. All that I mean is that from this side, as I know from their side, we will not lose sight of the matter or let the grass grow under our feet. I am sure I may hope that when we are preparing our scheme, when we are formulating our new organization, the British Medical Association will give us the benefit of their advice, because I am very anxious that whatever scheme is adopted should have their approval.

#### *Medical Advisers of the Secretary of State, the Government of India, and Local Governments.*

Gentlemen, I am afraid I have taken up a great deal of your time, but, if you have not completely lost patience, I want to deal with one or two points which I have picked out, not because I have omitted the others from the considerations that you have brought before me. I need hardly say that I entirely agree that the Secretary of State, the Government of India, and the Local Governments require and should take all suitable means to obtain the best and most accessible advice obtainable on the very various medical and sanitary problems with which a



modern Government is called upon to deal. As you are aware, the duties of the medical personnel of this office were considered by my predecessor and more particularly defined. The Secretary of State's Medical Adviser, who had recently been liberated from the routine duties of the Medical Board, has now powers and responsibilities which are as particularized in your representation. The Medical Adviser acts also as an appeal board when required. So much for this office. The exact relations between the Government of India and the Local Governments and their respective medical advisers I feel I must leave to be worked out locally; but I propose, as I said before, to communicate a copy of the proceedings of this deputation to the Government of India at once, so that the whole question may be fully considered by the authorities in that country.

#### *Education and Recruitment.*

As regards education and recruitment, you recommend three things. First, that candidates from India should be required to undergo a period of training in British medical schools, especially in the diseases of women and children; secondly, that successful candidates for the service should be encouraged to hold resident hospital appointments—I think you said “made to hold”——

SIR BERKELEY MOYNIHAN: Yes, sir.

THE SECRETARY OF STATE: And, thirdly, that facilities for study leave or study periods are of great importance. I am in full agreement with your Association as to the first—that all members of the Indian Medical Service should have had training in the diseases of women and children. As regards the suggestion that training must necessarily be in British medical schools, you will no doubt recall that the Public Services Commission made a specific recommendation that such training should be required, and remarked that the means for acquiring it are lacking in many parts of India. In so far as this deficiency exists in India, I agree that the training must be acquired in this country, but I look forward with confidence to the time when India itself will provide facilities for an all-round medical training. I also entirely agree that it is desirable that successful candidates should, to as full an extent as the exigencies of the service may permit, have held resident hospital appointments. Full provision for their being seconded for this purpose already exists.

As regards study periods, I am fully alive to the advantages they offer, and in the year before the war no less than eighty officers went through these courses of study, and only the war has put a stop to them. This leave carries allowances with it, and is not debited against ordinary leave. It qualifies now for accelerated promotion where evidence is produced that the course of study undertaken has been properly pursued. I will bring your suggestions, Sir Clifford, specially to the notice of the Government of India. The importance of affording officers opportunities, during the early part of their service in India, of attending the practice of hospitals in the Presidency and other large towns is one of those questions which must necessarily await the return of normal conditions.

Then when you talked of recruitment you observed that the grant of permanent commissions by selection should be kept within the narrowest possible limits, and that it should be made plain that the grant of temporary commissions in the Indian Medical Service should carry with it no guarantee of subsequent permanent appointment. As regards the second point, there is a clause in the agreement which every temporary officer is required to sign which perhaps I may quote to you: “I accept this agreement on the understanding that it confers no claim to permanent appointment to the Indian Medical Service.” At the same time it must be obvious that a man's record of temporary service rendered under the exacting conditions of war will be a most valuable criterion of the qualities of initiative, self-reliance, and pluck which are so necessary in the case of a service like the one we are discussing. I am heartily in agreement with your view that the appointments made by selection should be confined within the narrowest possible limits. I think I can claim that the actual number of appointments made—36—since the institution of the Selection Committee in the autumn of 1915 fully proves that the pledge publicly given at the time when the Committee was established—namely, that appointments would be made only to provide for the absolutely indispensable

needs of the service—has been fully adhered to. The composition of the Committee is, I think, a sufficient guarantee that no candidates have been appointed who did not fully come up to the standard of success demanded by competitive examination. In the great majority of cases candidates, in addition to academic distinction won, had proved their fitness by service well rendered in the field. My only anxiety is that as the war goes on the number of appointments which it will be necessary to make at its completion, or so soon after as it may be possible to fill up the depleted cadre of the service, continually increases. At present the estimate of such appointments reaches the minimum number of 150.

#### *Research.*

There is only one other topic upon which I should like to say a word. I can assure Sir Clifford Allbutt of my sympathy with everything that he has said about research. Sir Pardee Lukis established the Research Association, and the *Journal of Research* bears witness to its work. It is only a few weeks ago since I myself visited the Parel Laboratories in Bombay, where Colonel Liston is conducting such good research work, especially on plague and serums generally, and I am sure you will admit, as you stated when you opened the proceedings this afternoon, that there are many examples of valuable research being done in India. You and I are in complete agreement in thinking that opportunities for research and reward for research form an important part in the considerations which are necessary to ensure a good medical service in India.

#### *General Agreement between the Viceroy and the Secretary of State.*

Gentlemen, that is all I have to say to you this afternoon, and I am sorry to have detained you so long. What I have said has been more in the nature of a frank expression of my own views than an attempt to formulate in detail a new policy. I have to repeat that both the Viceroy and I, who have only recently been discussing this subject together, are fully alive to the importance of the problem which you are here to present to me, and I am awaiting the proposals of the Government of India. I feel optimistic; and I have no doubt that, with the assistance which I am sure you will give us, with the medical advice which he and I have at our disposal, we shall find a solution which will put an end to the present unsatisfactory condition of affairs, which will ensure for India the medical assistance which she needs, and which will ensure a future for your profession in that country as worthy and as important as its past history.

SIR CLIFFORD ALLBUTT: Will you allow me, Sir, to thank you not merely for your great courtesy in receiving us this evening, but for the very full and careful consideration you have given to our views?

## CURRENT NOTES.

#### *Office Appointments.*

THE Council of the Association at its meeting on April 24th decided not to fill at present the vacancy in the office staff caused by the death of Mr. Guy Elliston, but appointed Mr. W. E. Warne to be Acting Financial Secretary and Business Manager, and Mr. E. A. Taylor to assist him in carrying out the work of the office under his supervision. These appointments were reported formally by the Finance Committee, whose proposals with regard to remuneration were submitted to the quarterly meeting of Council on June 26th. Suggestions have been made towards official recognition of the services rendered to the Association by Mr. Elliston, but the form which this should take is still under consideration.

#### *Supply of Surgical Instruments to Civilian Medical Practitioners for their Private Use.*

The permits issued by the British Medical Association (SUPPLEMENT, June 1st, 1918, p. 59) are not required when surgical appliances are ordered by medical practitioners for their patients. Civilian medical practitioners requiring surgical instruments for their own personal use should obtain a Ministry of Munitions form of certificate from any post office, and fill in on the first page the date, the name, and address of the firm from whom the instruments



are to be obtained, and a description of the instruments required. The form should then be signed and forwarded to the Medical Secretary, 429, Strand, W.C.2, for endorsement. It must be understood that as supplies of surgical instruments are limited, requirements must be kept down to the absolutely necessary.

#### MATTERS REFERRED TO DIVISIONS.

### British Medical Association.

## ANNUAL REPRESENTATIVE MEETING, LONDON, 1918.

The Annual Representative Meeting of the Association will be held at the Connaught Rooms, Great Queen Street, Kingsway, London, W.C.2, on Thursday, July 25th, at 10 a.m., and following days as may be necessary.

**Important Notice to Members.**—Owing to the enforced restrictions in the size of the JOURNAL and its SUPPLEMENT, it is not possible to publish therein the Annual or Supplementary Report of the Council as in previous years. The Financial Statement and Estimate and the Recommendations contained in the Annual Report were published in the SUPPLEMENT of May 4th. The Recommendations and a list of the more important matters contained in the Supplementary Report are appended hereto. Copies of the complete Reports are being sent post free to all members applying for them.

In addition to the above-mentioned Reports and Recommendations, there will also be included in the final Agenda of the Annual Representative Meeting, to be issued to the members of the Representative Body on or about July 18th, the Notices of Motion by Divisions and Branches published in the SUPPLEMENT of May 25th, and all further Notices of Motion received from Honorary Secretaries or members of the Representative Body up to Thursday, July 11th, found by the Agenda Committee to be in order.

#### (D) ORGANIZATION.

##### GROUPING OF HOME CONSTITUENCIES FOR ELECTION OF TWELVE MEMBERS OF COUNCIL, 1919-20.

**Recommendation C.**—That, as in the case of the 1918-19 grouping, the grouping of constituencies for election of 12 members of Council, 1919-20, be left to the Council.

(Para. 201 of Supplementary Report of Council.)

#### (H) MEDICO-POLITICAL.

##### PROPOSALS FOR A STATE-AIDED MIDWIFERY SERVICE.

**Recommendation A.**—(i.) That the British Medical Association is strongly opposed to any measures calculated to place the practice of normal midwifery solely in the hands of midwives.

(ii.) That ante-natal work should not be undertaken by midwives except in so far as this work is limited to advice on general domestic hygiene. All advice and treatment of any conditions likely to affect injuriously the health of the expectant mother or her child is the province of the medical practitioner, and any such condition known to the midwife should be immediately reported to the medical practitioner.

(iii.) That steps be taken (a) to call the attention of the proper authorities to the national danger likely to arise from any measures tending to diminish the practice of normal midwifery by registered medical practitioners by reason of the loss of medical experience necessary to the maintenance of the capability of medical practitioners to deal with abnormal labour; and (b) to point out that with the large increase in the number of women medical students there is every reason to anticipate the existence in the near future of a sufficiency of duly qualified medical practitioners to meet the whole needs of the situation, both as regards midwifery and ante- and post-natal care and treatment.

(iv.) That in any scheme for the improvement of the midwifery service of the country it shall be provided that the private medical practitioners of the locality shall be responsible for any necessary clinical supervision of the practice carried on by midwives.

(Para. 210 of Report.)

#### MEDICAL REPRESENTATION IN PARLIAMENT.

**Recommendation B.**—That the Representative Body proceed to consider the desirability of the Association taking steps to raise a voluntary fund to assist the candidature of such members of the medical profession as may be approved as candidates for Parliamentary seats. (Para. 217 of Report.)

By order,

ALFRED COX,

Medical Secretary.

July 3rd, 1918.

#### LIST OF THE MORE IMPORTANT MATTERS DEALT WITH IN THE SUPPLEMENTARY REPORT OF THE COUNCIL, 1917-18.

##### (C) CENTRAL MEDICAL WAR COMMITTEE.

Death of Lieut.-Colonel J. Michell Clarke.—Distinctions conferred on officials of the Committee.—Military Service Act, 1918.—Immediate work of the Committee.—General demobilization of doctors at the end of the war.—Exemption of doctors' chauffeurs.

##### (D) ORGANIZATION.

Grouping of Home Divisions for election of Representative Body, 1918-19.—Grouping of Home Constituencies for election of 12 Members of Council.—Reports of Divisions and Branches for 1917.—Grants to Branches.—Membership.

##### (E) JOURNAL.

##### (G) MEDICAL ETHICS.

Rules of procedure in Ethical matters.—Action against the Association and Others.

##### (H) MEDICO-POLITICAL.

Proposals for a State-aided Midwifery Service.—Education Bill.—Medical Representation in Parliament.—Indecent advertisements: Criminal Law Amendment Bill (H.L.).—Supply of surgical instruments to medical practitioners.—Medical practitioners and Reduction of Lighting, etc., Order.—Coinage (Decimal System) Bill (H.L.).—Representation on Ministry of Labour Committee.—Representation on Ministry of Food Committee as to food regulations and extra rations for invalids.—Appointment of Medical Referees by Ministries of Pensions, National Service, Post Office, and Police.—The Association and the Political Parties.

##### (I) NATIONAL HEALTH INSURANCE.

Increased practice expenses.—Allowances for increased cost of living.—Contributions towards expenses of Insurance Acts Committee by Panel Committees.

##### (M) SCOTLAND.

Ministry of Health.—Education (Scotland) Bill.—Highlands and Islands Medical Service.

##### (O) OVERSEA BRANCHES.

New South Wales Branch.

## Association Notices.

### ANNUAL GENERAL MEETING.

NOTICE is hereby given by the Council that the Annual General Meeting of the British Medical Association will be held at the Connaught Rooms, Great Queen Street, London, W.C., on Friday, July 26th, 1918, at 2 o'clock in the afternoon. Business: (1) Minutes of last meeting. (2) Appointment of auditors (Messrs. Price, Waterhouse and Co. offer themselves for re-election). (3) Award of Stewart Prize. (4) Report election of President.—By Order,

W. E. WARNE,

Acting Financial Secretary and Business Manager.

Dated this 20th day of June, 1918.

429, Strand, London, W.C.2.

### ELECTION OF TWELVE MEMBERS OF COUNCIL BY GROUPED REPRESENTATIVES.

NOTICE is hereby given that Nominations for Candidates for election of Members of Council by grouped Representatives for the year 1918-19 will be received by the Medical Secretary up to the end of the first hour of the proceedings of the Annual Representative Meeting on Thursday, July 25th, 1918. Each Nomination must be on the prescribed form, copies of which will be forwarded by the Medical Secretary on application.

The Voting Papers will be issued at the Representative Meeting to each Representative or Deputy Representative of a Constituency in the United Kingdom in attendance at the Meeting.

By order of the Council,

ALFRED COX,

Medical Secretary.



## BRANCH AND DIVISION MEETINGS TO BE HELD.

**EAST YORK AND NORTH LINCOLN BRANCH.**—Mr. H. L. Evans, Secretary (101, Prince's Avenue, Hull), gives notice that the annual meeting of the East York and North Lincoln Branch will be held, by the courtesy of the President-elect, Dr. G. A. Grierison, at Flottergate House, Grimsby, on Saturday, August 3rd. Business: Annual report, financial statement, nominations and election of officers, etc. Mr. H. L. Evans also gives notice that the annual meeting of the East Yorkshire Division will be held in the board room of the Hull Royal Infirmary, on Tuesday, July 23rd, at 8.15 p.m.

## Naval and Military Appointments.

## ROYAL NAVAL MEDICAL SERVICE.

The following appointments are announced by the Admiralty: Surgeon J. P. Shorten to Plymouth Hospital. Temporary Surgeons F. G. E. Hill, D.S.O., to the *Arrogant*, F. W. Carstairs to the *Gibraltar*, L. Gibbon to Plymouth Hospital, G. H. FitzGerald to Chatham Hospital, A. C. Roxburgh to Queensferry Hospital.

## ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon F. J. S. Heaney to the *Englet*, to be Surgeon Probationer. 1. E. McCaffrey, H. R. Moon, J. S. Fer, A. E. Riddell, R. M. Pendrigh, G. E. Tremble, W. Bolt, H. A. Whitecomb, N. C. Ward, J. B. Wiley, S. D. Stanton, W. Shaw, C. C. H. Chavasse, B. Hart, R. E. Beck.

## ARMY MEDICAL SERVICE.

Colonel (honorary Surgeon-General) Sir J. Mulzer, K.C.M.G., C.B., relinquishes the temporary rank of Major-General on ceasing to be specially employed.

## ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel G. J. Houghton, D.S.O., to be temporary Colonel whilst employed as Assistant Director of Medical Services of a Division.

Temporary Major E. L. Gowland, D.S.O., relinquishes the temporary rank of Lieut.-Colonel on reposting.

Captains E. D. Caddell, M.C., and R. B. Phillips, relinquish their acting rank of Lieut.-Colonel and revert to the acting rank of Major (with pay and allowances of their substantive rank).

Temporary Captains to be acting Lieut.-Colonels whilst in command of a medical unit: W. C. Horton from February 10th to 11th, (acting Major) J. L. Jackson from February 25th to March 11th, when he reverts to the acting rank of Major, (acting Major) R. Svensson.

Captain J. D. Kidd, M.C., to be acting Lieut.-Colonel whilst employed as Assistant Director of Medical Services.

Captain J. Rowe relinquishes the acting rank of Major on reposting.

Temporary Captain A. J. Clayton to be acting Major whilst specially employed.

Temporary Captains to be acting Majors: M. Donaldson (from January 4th to 20th), W. C. Horton (from February 12th to March 12th), B. C. Tennent, M.C., H. T. H. Butt, G. McNeill.

C. E. Iakin to be temporary Captain.

J. C. Turnbull, late temporary Captain, is granted the honorary rank of Captain.

Lieutenants (temporary Captains) to be Captains: G. B. Hadden, H. C. Godding, M.C.

Temporary Lieutenants to be temporary Captains: R. Calleya, J. S. Young, T. Gardner, A. H. Hall, J. T. Daly, D. R. Acheson, G. McNeill, P. Murphy, E. C. Tamplin, E. McK. Reid, J. L. Rankine, G. L. N. Miles, E. H. Noney, I. J. Roche, R. H. Dix, W. O. McKane, G. Wachter, F. E. MacFarlane, W. H. Pallett, W. Fleming, E. Lewis, R. W. Eddie, P. de B. Smith, A. H. Southam, J. W. Johnstone, J. B. O'Reilly, R. W. Reid, T. C. Innes, E. G. van B. Bergh, H. G. Barrie, L. C. W. Cane, H. W. Elliott, S. M. Mackenzie, G. McQ. Brunton, S. B. Brook, D. M. Humby, J. H. Porter, A. Roemmele, R. W. Brown, J. Wells, R. F. Lunn, H. D. Matthews, W. Kingdon, J. W. Miller, M. Stewart, H. A. Edwards, F. H. Kitson, F. R. L. Atkins, M. Macleod, E. F. Wills, S. H. Robinson, E. Thorp, D. Webster, J. C. Marshall, E. D. Struthers, F. M. Auld, C. E. Waldren, N. R. Ussher, F. W. W. Smith, W. B. H. Dundee, P. Hall-Smith, F. Thompson, R. H. Robinson, L. M. Markham, W. Deane.

Officers relinquish their commissions: Temporary Majors H. S. Raper, V. J. Blake, temporary Captains R. L. Shields, H. R. Hurter on account of ill health, and is granted the honorary rank of Captain, M. A. MacKinnon, H. P. Hamilton, M.C., T. Pretsell, A. Emery, H. R. Sedgewick, J. C. Houston, W. R. White-Cooper, C. R. R. Huxtable, M.C., J. A. Vlasto, M.C., R. M. Forde, I. Campbell, F. W. Harrowell, R. C. Fuller, R. W. Ryan, W. Rogerson, H. F. Nolan, T. Gilchrist, A. J. Frinca, G. B. Simpson, G. D. Kerr, M. A. McKeever, E. H. Price (H. Holroyd, M.C., J. A. Tobin, E. A. Aylward, J. M. Morrissey, H. F. Vandermin, R. H. King, J. A. Giles, B. Beamish, W. Oliver, F. W. Davidson, H. C. A. Haynes, M.C., L. M. Dawson, M.C., R. W. Hogg, M.C., P. A. Boyce, J. J. Field, G. S. A. Bishop, K. Black, R. L. S. Nutball, and J. T. Courtice and J. London, who are granted the honorary rank of Captain; temporary Lieutenants B. Spencer, J. M. H. Caldwell, H. L. Blackley, J. H. Hall, D. L. Davies, H. G. Bywater, P. J. Thornton, A. G. Gamble, H. W. Jeans, J. P. Moran, D. Ross, W. M. Brown, H. W. P. Young, W. C. Mayo, G. E. Downs, A. Fraser, W. T. Lydall, T. W. Lonsdale, W. A. Sharpin, R. F. Ballantyne, J. J. S. Scrase, F. Baillie, J. McKelvey, G. C. McL. Barber, F. W. Stewart, F. S. Rogers, R. W. H. Hillis, S. C. Jellicoe, H. L. Wilson, C. H. Wilson, P. R. Carroll, F. M. Matheson, M. B. Taylor, D. T. Evans; temporary honorary Lieutenant C. E. Allison.

To be temporary Lieutenants: E. R. Wheeler, I. Hodgkinson, C. H. Broadhead, J. B. McGannahan, E. F. Crabtree, C. G. Seligman, R. Rae.

To be temporary honorary Lieutenant: D. E. Carter.

## SPECIAL RESERVE OF OFFICERS.

## ROYAL ARMY MEDICAL CORPS.

Captain W. H. L. McCarthy, M.C., relinquishes the acting rank of Major on reposting.

Lieutenants to be Captains: D. C. Beaumont, J. E. Carpenter, E. B. Andrae, K. Masson, J. A. Martin, N. M. Lewis, A. T. Woodward, M. F. Murphy, J. Wilson.

To be Lieutenants: T. H. J. Douglas from Glasgow University Commanding O.T.C.

## TERRITORIAL FORCE.

## ROYAL ARMY MEDICAL CORPS.

Major W. A. Dingle is retired under the provisions of paragraph 116 T.F. Regulations, and is granted permission to retain his rank and to wear the prescribed uniform.

Major R. A. Bickerstaff is restored to the establishment.

Major A. Cook is seconded for service overseas.

Captain (Brevet Major) H. F. Horne is seconded for service with the R.A.F.

Captains A. B. Murray and J. Hobbs to be Majors.

Captain F. H. Robbins to be acting Major whilst specially employed.

Captains F. G. Stuart and A. S. Parkinson relinquish their commissions on account of ill health contracted on active service and are granted the honorary rank of Captain.

Captain (acting Lieut.-Colonel) A. T. Mallhal relinquishes his acting rank on alteration in posting.

Captain N. C. Rutherford, D.S.O., from T.F.R. to be Captain with precedences from December 12th, 1914.

To be Lieutenant: J. T. A. Walker.

## VOLUNTEER FORCE.

*Durham Medical Volunteer Corps.*—M. Buchanan to be temporary Major.

*Hertfordshire Medical Volunteer Corps.*—The notice which appeared in the *London Gazette* of June 17th regarding temporary Lieutenant George North Wilford is cancelled.

*Kent Medical Volunteer Corps.*—F. Holgate Smith to be temporary Lieutenant.

*Lancashire Medical Volunteer Corps.*—Temporary Captain G. Stowell to be temporary Major.

*Lancashire Medical Volunteer Corps.*—H. S. McIntosh to be temporary Lieutenant.

*Middlesex Medical Volunteer Corps.*—Temporary Major P. G. Darvil-Smith, from Middlesex Motor Volunteer Corps, to be temporary Major.

*Middlesex Motor Volunteer Corps.*—J. O. Shannons to be Medical Officer and temporary Lieutenant (in substitution of notification published last week).

*Northumberland Medical Volunteer Corps.*—M. Thompson to be temporary Lieutenant.

*Northumberland Volunteer Regiment.*—Medical Officer and temporary Lieutenant W. L. Ruxton resigns his commission.

*Suffolk Medical Volunteer Corps.*—Lieut.-Colonel W. Keates (late the Suffolk Regiment) to be temporary Lieut.-Colonel. To be temporary Majors: Captain J. R. Dobbin and Lieutenants H. G. Wood-Hill, and H. E. Barnes (late R.A.M.C.), R. W. Mulloch (late Surgeon-Captain 3rd East Anglian Howitzer Brigade), J. F. C. Hossack, A. M. N. Pringle, C. K. Moseley, D. A. Carruthers (late Captain 1st Forfar R.G.A. Vols.). To be temporary Captains: W. F. Fryer, H. P. Sleigh, D. N. Seth-Smith, G. H. Ransome, M. H. Mannigan (late Lieutenant 2nd V.B. Suffolk Regiment), G. I. T. Stewart, S. O. Eades, A. C. Young, G. R. Fox, F. C. Wetherell, E. A. C. Bayler (late Surgeon-Lieutenant 1st V.B. "The Buffs," East Kent Regiment).

*West Riding Medical Volunteer Corps.*—P. Bennett to be temporary Lieutenant.

## APPOINTMENTS.

MALTON, E. A., M.B., Assistant Medical Officer of the Brownlow Hill Workhouse of the Liverpool Parish.

RUTHERFORD, C., M.B., B.Ch., Assistant Medical Officer of the Brownlow Hill Workhouse of the Liverpool Parish.

STRATON, A. W. K., M.R.C.S., L.R.C.P., District and Workhouse Medical Officer of the Wilton Union.

CERTIFYING FACTORY SURGEONS.—P. V. Dodd, M.D. (Hertford), Waltham District, co. Hants; W. F. Stone, B.A. (Canterbury), M.R.C.S., L.R.C.P. (Galgate District, co. Lancaster); H. Wachter, M.B., B.C. (Canterbury District, co. Kent).

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which should be forwarded with the notice not later than the first post on Wednesday evening in order to ensure insertion in the current issue.

## BIRTH.

HERRIOT. On June 23rd, to Captain and Mrs. W. L. Herriot, 13, Lower Brook Street, Ipswich, a daughter.

## DEATHS.

MEADOWS.—On May 8th, Frederick Evelyn Woolner Meadows, M.R.C.S., L.R.C.P. (London, Middlesex Hospital), of Otley, Ipswich, aged 39 years.

WILLIS.—On June 26th, W. Morley Willis, F.R.C.S., 7, Regent Street, Nottingham.

## DIARY FOR THE WEEK.

## MONDAY.

ROYAL SOCIETY OF MEDICINE.—Section of Ophthalmology: 7.30 p.m. Mr. Ernest Strickland: Rheumatoid Arthritis treated by roentgen-tion. Mr. F. N. Doubleday: Local Anaesthesia.

## DIARY OF THE ASSOCIATION.

Date. Meetings to be Held.

## JULY.

23 Tues. East Yorkshire Division, Annual Meeting, Hull, 8.15 p.m.

24 Thurs. OPENING OF ANNUAL REPRESENTATIVE MEETING, Connaught Rooms, Great Queen Street, London, W.C. 10.15 a.m. East Anglian Branch, Annual Meeting, Ipswich, 2.30 p.m.

26 Fri. ANNUAL GENERAL MEETING, 4.15 p.m.

## AUGUST.

3 Sat. E. York and North Lincoln Branch, Annual Meeting, Grimsby.



# BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JULY 13TH, 1918

## CONTENTS.

	PAGE
Conference of Representatives of Local Medical and Panel Committees in Scotland—	
CERTIFICATES IN CHRONIC CASES	4
CONSTITUTION OF THE INSURANCE ACTS SUBCOMMITTEE (SCOTLAND)	5
SCHEME OF COLLECTIVE BARGAINING	6
FUTURE CONFERENCES IN SCOTLAND	7
PROPOSED ALTERATION OF CLASSIFICATION OF PRACTITIONERS FOR PURPOSES OF MILEAGE GRANT	8
POSITION OF HIGHLANDS AND ISLANDS PRACTITIONERS	10
SUBSTITUTION UNDER MILITARY SERVICE (No. 2) ACT, 1918	10
MILEAGE	10

	PAGE
MEETINGS OF BRANCHES AND DIVISIONS:	
EDINBURGH BRANCH	10
SUSSEX BRANCH	10
METROPOLITAN COUNTIES BRANCH	11
ASSOCIATION NOTICES—ANNUAL REPRESENTATIVE AND ANNUAL GENERAL MEETINGS.—BRANCH AND DIVISION MEETINGS TO BE HELD	11
NAVAL AND MILITARY APPOINTMENTS	11
APPOINTMENTS	12
BIRTHS, MARRIAGES, AND DEATHS	12
DIARY	12

### Conference

OF

### REPRESENTATIVES OF LOCAL MEDICAL AND PANEL COMMITTEES IN SCOTLAND.

IN accordance with a promise given at the general Conference held in London last April, the Insurance Acts Subcommittee (Scotland) called a Conference of Representatives of the Scottish Local Medical and Panel Committees, on June 20th, at the North British Station Hotel, Edinburgh. There were present:

*County Committees.*—Drs. W. A. Macnaughton (Kincardineshire), J. B. Miller (Lanarkshire), G. C. Burgess (Forfarshire), E. M. Tyrrell (Selkirk), Jas. Hill (Renfrewshire), A. Asher (Caithness and Sutherland), Murray Stewart (Kirkcudbrightshire), A. M. Easterbrook (Midlothian), Mungo Bryson and David Huskie (Dumfriesshire), G. A. Dickson (Linlithgowshire), W. L. Cullen (Roxburghshire), John Young (Stirlingshire).

*Burgh Committees.*—Drs. C. Nairn (Greenock), John Hunter (Motherwell), P. C. MacRobert (Peebles), R. T. C. Robertson (Hamilton), Thomas Wood and J. Allan Gray (Leith), Jessie J. Thom (Dundee), Fergus McKenna (Ayr), R. Robertson (Edinburgh), John Ritchie (Glasgow), James Andrew (Coatbridge), T. M. Strang (Clydebank).

*Members of the Insurance Acts Subcommittee (Scotland).*—Drs. F. R. Drever, R. C. Buist, Michael Dewar, together with the Clerk of the Insurance Acts Subcommittee (Mr. J. Finlay) and the Medical Secretary.

DR. DREVER, as Chairman of the Insurance Acts Subcommittee (Scotland), took the chair and welcomed those present. He apologized for the absence, among others, of Drs. J. A. Macdonald and H. B. Brackenbury, both of whom had been invited and had hoped to attend.

The meeting first discussed a report by the Insurance Acts Subcommittee (Scotland) of its activities since its formation. This was unanimously approved, and gratification was expressed at the good work done by the Subcommittee during its short existence.

#### Certificates in Chronic Cases.

A motion by Renfrewshire was moved by DR. JAMES HILL:

That it is the opinion of this Conference that, in chronic cases, only monthly certificates should be required by approved societies.

Great dissatisfaction was expressed by almost all present at the persistent way in which many approved societies insisted upon weekly certificates in chronic cases, to the annoyance of the patient and the waste of the doctor's time.

The resolution was finally carried as follows:

That it is the opinion of the Conference that, in chronic cases, only monthly certificates should be required by the approved societies, such certification not to be prejudicial to the right of the insured persons to obtain weekly payment of benefit if desired.

The same matter was dealt with in a discussion on the following motion by DR. R. T. C. ROBERTSON (Hamilton) which was carried unanimously, and referred to the Subcommittee for consideration and any action deemed desirable.

That this Conference is of opinion that (a) insured persons are not sufficiently informed as to the procedure required of them under the National Insurance Acts and the Regulations incorporated therewith, especially in regard to certificates of incapacity, initial, intermediate and final, and (b) calls upon the Insurance Commissioners to issue Regulations, in terms of the powers conferred upon them, imposing on approved societies the duty of bringing to the notice of their members the necessity of conforming to the Regulations.

### Constitution of the Insurance Acts Subcommittee (Scotland).

DR. J. ALLAN GRAY (Leith) moved:

That the constitution of the Insurance Acts Subcommittee (Scotland) be altered and enlarged so that the Subcommittee may be able to initiate and deal with matters other than those remitted to it by the Insurance Acts Subcommittee.

The CHAIRMAN explained that the reference to the Subcommittee had been drafted with great care so as to give the Subcommittee the freest possible hand to act in National Insurance matters affecting the Scottish profession, and the experience of the past year had shown that there were no restrictions on the practical usefulness of the Subcommittee to Scottish practitioners. If such restrictions were experienced he had no doubt the parent Committee would make what alterations were required.

This motion was withdrawn, as the mover said the report of the Subcommittee had convinced him that the Subcommittee was doing good work, though he was doubtful whether some of it was technically within its reference.

#### Scheme of Collective Bargaining.

DR. THOMAS WOOD moved the following, from the Leith Panel Committee:

That, in signing M19/1917-18, Scottish insurance practitioners will not hold themselves bound, unless the 80 per cent. of the panel practitioners referred to be 30 per cent. of the Scottish panel practitioners, and further that this question of resignation shall be remitted by the Insurance Acts Committee to the Scottish Subcommittee, who shall deal directly with the Scottish Commissioners, and who, before coming to a decision, shall obtain the consent of the Scottish Panel Committees.

Considerable discussion took place, and the CHAIRMAN asked the Medical Secretary to explain how the collective bargaining scheme was intended to operate. The motion was then withdrawn, the mover being satisfied that the special interests of Scottish insurance practitioners were fully safeguarded under the scheme.

#### Future Conferences in Scotland.

DR. A. M. EASTERBROOK moved the following on behalf of Midlothian:

That a conference of representatives of Local Medical and Panel Committees in Scotland be held annually, in a month to be fixed, in order that Committees might conveniently and more leisurely prepare considered motions for discussion by the members.

After discussion, it was resolved:

That it be left to the Insurance Acts Subcommittee (Scotland) to call a conference when such is considered necessary and desirable, as long notice as possible being given to enable committees to consider and formulate their motions.

### Proposed Alteration of Classification of Practitioners for Purposes of Mileage Grant.

The following motion was referred, after discussion, to the Subcommittee, with an expression of the sympathy of the Conference with the case of "county" practitioners:

That this Conference affirms the opinion that the official classification of the areas of medical practitioners in Scotland as "rural" and otherwise is unfair to a large body of the practitioners; that there should be three classifications—namely, "urban," "county," and "rural"; that the flat rate applicable to "urban" practices is inadequate as regards "county" practices in the same degree as a flat rate for "county" practices is inadequate for "rural" practices; and that the system of supplementing the flat rate by payments from the Mileage Grant operates unfairly as between "county" practitioners and "urban" practitioners; and that this Conference pledges itself to endeavour to secure amelioration of the flat rate to meet the case of "county" practitioners as well as of "rural" practitioners.



*Position of Highlands and Islands Practitioners.*

The CHAIRMAN and Dr. ELLISTON reported as to the action recently taken by the Scottish Committee of the Association to protect the interests of those practitioners serving under the Highlands and Islands (Medical Service) Board, and the Conference expressed its approval of the steps so taken and its appreciation of the intimate connexion which those interests had with those of the ordinary insurance practitioner.

*Substitution under Military Service (No. 2) Act, 1918.*  
Dr. DEWAR, on behalf of Edinburgh, moved:

That the Conference views with grave apprehension the proposal of the Director-General of National Service to introduce the system of "substitution" in medical practice under the Military Service Act (No. 2), 1918, and strongly urges the Director-General not to put into force the powers in that respect conferred upon him by the Act.

After discussion and full explanation the motion was withdrawn.

*Mileage.*

The following motion by Dr. MUNGO BRYSON (Dumfriesshire) was referred to the Insurance Acts Subcommittee (Scotland) for consideration and any action it may deem desirable:

That in the opinion of this Conference no settlement will be satisfactory which does not recognize the claims of the rural practitioners to such increased remuneration, in the form of a graduated mileage grant or otherwise, as will form an adequate recognition not only of their heavier expenses but also of their greater responsibilities.

The resolutions of the Conference in general were referred to the Insurance Acts Subcommittee (Scotland) for action either by it or by the parent Committee as seem desirable. The meeting ended with a vote of thanks to the Chairman for presiding and to the Medical Secretary for his attendance.

The Berks County Medical Committee has arranged to hold a meeting, on July 18th, in the library of the Royal Berkshire Hospital, at Reading, at 3.30 p.m., to organize representation of Panel Committees on the Insurance Acts Committee of the British Medical Association. Dr. Williams Freeman, the present representative of the Southern Counties on that Committee, will address the meeting and a general discussion will follow.

## Meetings of Branches and Divisions.

*EDINBURGH BRANCH.*

The annual meeting of the Edinburgh Branch was held in the Royal College of Surgeons, Edinburgh, on June 25th. In the absence of the president Dr. ROBERT THIN was voted to the chair.

The report of the Branch Council and the Honorary Treasurer's annual financial statement were approved.

The Branch Council's nominations of office-bearers for 1918-19 were unanimously approved as follows:

*President*, Dr. McKenzie Johnston. *President-elect*, Dr. R. A. Lundie. *Vice-Presidents*, Dr. J. J. Graham Brown and Dr. William Stewart. *Honorary Treasurer*, Dr. R. A. Lundie. *Honorary Secretaries*, Dr. John Stevens, Captain John Eason. *Central Council*: Dr. John Stevens has been re-elected the Representative of the Edinburgh and Fife Branches on the Council of the Association.

Dr. MCKENZIE JOHNSTON then took the chair, and expressed his thanks to the Branch for electing him president. In proposing a vote of thanks to Dr. Blair for his services as president during the past year, he expressed the regret which was felt that Dr. Blair was unable to be present owing to a recent illness, and he further proposed that an expression of high appreciation of Dr. Blair's services to the Association and to the profession during a long period of years, in the various offices which he had held, including that of Representative of the South-Eastern Counties Division (almost continuously since the Representative Body was constituted), and finally that of president of the Branch, be placed in the records of the Branch, and communicated to Dr. Blair with an expression of best wishes for his complete recovery. This was cordially agreed to.

Under the Annual Report of Council the PRESIDENT made sympathetic reference to the death of Mr. Guy Elliston, Financial Secretary and Business Manager of the Association, expressed high appreciation of his services to the Association, particularly in establishing its financial position, and, from his own intimate personal friendship with Mr. Elliston, stated how deeply he had the best interests

of the profession at heart. He concluded by moving, Dr. JAMES RITCHIE seconding, that the Secretary be instructed to send from the Edinburgh Branch a message of condolence to Mrs. Guy Elliston. This was unanimously agreed to.

*Scottish Committee.*

A report was given of the proceedings of the Scottish Committee, chiefly with reference to the formation of a Highlands and Islands Subcommittee.

*Medical Practitioners and the Military Service Act, 1918.*

In connexion with the war emergency a discussion took place on the Military Service (No. 2) Act, 1918, as affecting medical practitioners. The action of the Branch Council in addressing the letter, published in the *BRITISH MEDICAL JOURNAL* of June 8th, to several members of the Government and of Parliament and to various others was unanimously approved, and the Branch Council was given power to take whatever action it deemed necessary in the interests of the profession.

*SUSSEX BRANCH.*

The annual meeting of the Sussex Branch was held at Chichester on June 26th. The President-elect, Dr. ERNEST H. BUCKELL, J.P., entertained twenty-seven members to luncheon; the Bishop of Chichester, the Dean, the Mayor, and the Town Clerk were also present. At the meeting the annual report of the Branch was approved, and the officers for the forthcoming year elected. The newly-elected President, having taken the chair, gave an address, of which the following is an abstract:

*A Whole-time State Medical Service.*

At present, he said, there was no bill before Parliament, but he understood there was a certain section of the medical profession who were agitating for such a bill, and who had approached the Labour party in Parliament with that in view. There were other rumours afloat affecting the matter, and there seemed to be a growing feeling that some such bill was likely to come in the not very distant future. The object would be to provide the very best medical attendance to rich and poor alike, and all private practices and public appointments would disappear; they would all be Government appointments. There would be an administrative staff, a clinical staff, a staff of inspectors, and a staff of specialists, and the public would be divided into groups. There would be innumerable forms to fill up. The doctors' holidays and free action would be interfered with in every shape and form, and they would become part and parcel of a large machine, doing what they were told, and being kept up to doing what they were told by the visits of inspectors. Friendly societies and all such institutions would disappear, because there would be no longer any need for them. There would be stock medicines and the art of prescribing would be practically done away with. Such a scheme would be attractive to medical men returning from the war whose private practices were ruined, and to some others with private means. He thought the scheme would not be to the advantage of the general public and certainly not to the medical profession. As regarded the advance of the science of medicine and surgery, the result would be disastrous. By an improvement of the National Insurance Act, giving adequate hospital accommodation and improving the environment of the poor, doctors and the general public would gain a great deal more in health and life than under any such scheme as he had sketched.

In the discussion which followed, Dr. A. MORRIS (Bognor) remarked that if all doctors were in the British Medical Association and they were able to present an undivided front to the Government when the time came, they would get their way.

Dr. GARRATT (Chichester) thought their weak point in the past had been their total failure to enlist the interest of the voting public. He did not think any combination among doctors would be sufficiently strong to achieve anything until they did that, and if they tried to go in face of the public it would be as it was before when they had a strike—nothing but a deplorable fiasco.

Dr. DALBY (Brighton) thought any scheme of state medical service must go along the lines of the National Insurance Act by way of extension and enlargement. The president had taken too gloomy a view, he added.



A resolution was eventually adopted urging the British Medical Association to take action to secure compensation for practitioners adversely affected by any system of state medical service.

#### METROPOLITAN COUNTIES BRANCH.

At the sixty-sixth annual general meeting of the Metropolitan Counties Branch, on June 28th, Dr. M. G. Biggs succeeded Dr. C. O. Hawthorne as president and delivered the address which is printed at page 26 of this week's JOURNAL.

Before the delivery of the address the annual report of the Council for the year 1917-18 and the financial statement for the year ending December 31st, 1917, were approved and adopted. Major W. McAdam Eccles, R.A.M.C.(T.), was chosen to be president elect. Dr. Comyns Berkeley, Mr. James Berry, Dr. H. J. Cardale, and Dr. H. M. Cooper were elected vice-presidents, Mr. H. Betham Robinson was re-elected honorary treasurer, and Mr. N. Bishop Harman and Captain Wilfred Kingdon, R.A.M.C., honorary secretaries. The representatives of the Branch on the Central Council are Drs. M. G. Biggs and H. B. Brackenbury, Major W. McAdam Eccles, and Major-General Sir Bertrand Dawson, M.D., G.C.V.O. Before the president's address a vote of thanks to Dr. Hawthorne, the outgoing president, was carried by acclamation, and after the address it was arranged that the Emergency Committee should consider the advisability of convening a special meeting of the Branch for the discussion of the subject raised by Dr. Biggs.

### Association Notices.

#### ANNUAL REPRESENTATIVE MEETING, 1918.

THE Annual Representative Meeting of the Association will be held at the Connaught Rooms, Great Queen Street, Kingsway, London, W.C.2, on Thursday, July 25th, at 10 a.m., and following day(s) as may be necessary.

By order,

ALFRED COX,

Medical Secretary.

July 3rd, 1918.

#### ANNUAL GENERAL MEETING.

NOTICE is hereby given by the Council that the Annual General Meeting of the British Medical Association will be held at the Connaught Rooms, Great Queen Street, London, W.C., on Friday, July 26th, 1918, at 2 o'clock in the afternoon. Business: (1) Minutes of last meeting. (2) Appointment of auditors (Messrs. Price, Waterhouse and Co. offer themselves for re-election). (3) Award of Stewart Prize. (4) Report election of President.—By Order,

W. E. WARNE.

Acting Financial Secretary and Business Manager.

Dated this 20th day of June, 1918.

429, Strand, London, W.C.2.

#### BRANCH AND DIVISION MEETINGS TO BE HELD.

**EAST ANGLIAN BRANCH.**—Dr. B. H. Nicholson, Secretary, gives notice that the annual meeting of the Branch will be held at the Crown and Anchor Hotel, Ipswich, on Thursday, July 25th, at 2.30 o'clock. Agenda: To pass ethical rules as approved by the Annual Representative Meeting of 1915, for the guidance of Branches. Financial report for 1917.

**EAST YORK AND NORTH LINCOLN BRANCH.**—Mr. H. L. Evans, Secretary (101, Prince's Avenue, Hull), gives notice that the annual meeting of the East York and North Lincoln Branch will be held, by the courtesy of the President-elect, Dr. G. A. Grierson, at Flottergate House, Grimsby, on Saturday, August 3rd. Business: Annual report, financial statement, nominations and election of officers, etc. Mr. H. L. Evans also gives notice that the annual meeting of the East Yorkshire Division will be held in the board room of the Hull Royal Infirmary, on Tuesday, July 23rd, at 8.15 p.m.

**SOUTHERN BRANCH.** The Honorary Secretary, Mr. James Green (Brandon House, Mile End, Portsmouth), gives notice that the annual meeting will take place on Thursday, July 18th, at 3 p.m., at the Mayor's Banqueting Hall, Town Hall, Portsmouth (by the Mayor's kind permission), Dr. H. J. May in the chair. At the conclusion of business Dr. May will vacate the chair in favour of the incoming president, Dr. Lyster Cole-Baker of Southsea, who will deliver the presidential address. Dr. L. Cole-Baker invites the members to tea, which will be served during the meeting. There will be no golf competition or luncheon. Gentlemen who intend to stop to tea will oblige by communicating with Dr. J. H. F. Way, 151, Victoria Road North, Southsea.

## Naval and Military Appointments.

#### ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty: Fleet Surgeons T. F. O'Keefe to the *Minarch*, H. R. Garner to the *President*, Staff Surgeon T. W. Jeffery to the *Woodcock*. Temporary Surgeons: T. E. Brentnall and W. Bell to the *Thunderer*, A. O. Gray to Granton Hospital; J. S. Ellis, D. S. Prentice, and J. V. Mainprize to Plymouth Hospital; D. J. Nichol, H. W. A. Hall, and O. D. Brownhead to Hassar Hospital; T. C. Russell to R.M. Barracks, Forton; G. E. Mullins to the *Bombay*, G. H. C. Harding to the *Liverpool*, A. L. Spencer-Payne to the *Roxburgh*. To be temporary Surgeons: J. A. L. Cook, G. Blorton, G. B. Lowe.

#### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Probationer R. C. Williams to the *Scorpion*. To be Surgeon Probationers: J. R. Tallow, J. C. Anderson, R. S. Allison, C. H. Andrews, C. D. Crawford.

#### ARMY MEDICAL SERVICE.

Colonel (temporary Major-General) G. B. Stanstreet, C.B., C.M.G., temporary Deputy Director-General, to be Deputy Director-General.

#### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonels to be temporary Colonels whilst employed as Assistant Directors of Medical Services of Divisions: W. P. Gwynn, E. McDonnell, D.S.O., W. C. Croly.

Temporary Major T. M. Carter to be acting Lieut.-Colonel whilst in command of a medical unit.

Major A. L. B. Green, D.S.O., Hereford Regiment (T.F.), to be temporary Major.

To be acting Majors whilst specially employed: Temporary Majors M. Bridgman and C. M. Row; temporary Captain E. W. Willett.

Captain A. G. Elliott relinquishes the acting rank of Lieut.-Colonel on reposting.

Temporary Captain T. Martin relinquishes the acting rank of Major on reposting.

Temporary Captains relinquish the acting rank of Major on reposting: H. J. de Brent, M.C., A. S. K. Anderson, D.S.O., M.C., T. T. Higgins, F. C. Tibbs.

Temporary Captains to be acting Majors: J. F. R. Gairdner, J. McN. Murray (from January 29th to February 23rd), N. G. W. Davidson, H. Dudley, R. H. E. Whitaker, R. Hoison, M.C., H. C. Watson, M.C., J. G. Johnston, R. J. Vernon, A. M. Wood, R. R. Blair, W. B. G. Angus, S. J. L. Lindman.

Captain S. S. Dunn, retired A.A.M.C., attached R.A.M.C., to be temporary Captain.

Late temporary Captains granted the honorary rank of Captain: A. E. J. Barcroft, T. Bell.

The name of temporary Captain Arthur Sunderland is as now described, and not as in the *London Gazette* of June 13th.

Temporary honorary Lieutenants to be temporary honorary Captains: D. A. Bartley, W. H. Irish.

Temporary Lieutenants to be temporary Captains: W. F. Erskine, O. May, G. A. Hoffmann, R. Alderson, W. P. Miles, J. Lambie, H. O'H. O'Neill, C. W. Preston-Hillary, H. G. F. Spurrell, S. E. Atkinson, J. Avery, H. V. Mitchell, W. B. Wilson, P. W. Hampton, R. Crawford, K. McK. Duncan, J. Ritchie, W. Anderson, W. Lillico, H. B. Wickham, J. Hunter, J. F. Bridge, J. Wyllie, S. D. Craig, L. Hutchinson, E. S. Prior, E. O'D. Graham, R. Duncan, H. O. West, E. W. Wittey, S. H. White, G. H. C. Lumsden, A. E. Knapp, G. Madge, O. V. Payne, G. W. Curtis, W. W. Allison, E. Tate, J. D. Ferguson, A. J. May, A. B. Sykes, A. C. Renton, R. H. Thomson, F. G. Ralphs, W. H. F. Eales, J. A. Wood, T. Clarke, H. R. Wright, F. W. Pollard, V. G. Best, T. Gillespie, W. E. Waymark, J. Williamson, S. Wood, J. A. McSweeney, R. E. G. Gray, A. E. Leapingwell, H. T. P. Young, H. M. Roberts, J. F. Peart, S. Brown, W. B. Primrose, W. Weir, J. B. Aickin, J. A. Mearns, W. Mair, J. Steward, G. A. Pratt, A. H. B. Hartford, R. Peart, W. W. Carlow, P. Talbot, J. C. Wootton, A. W. Ewing, W. Rotherham, A. Evans, A. C. Russell, J. Wilson, C. M. Ockwell, J. Dunbar, T. P. Robertson, L. Welby, F. H. Fuller, N. E. Sampey, J. I. F. Knight, C. B. Ticehurst, F. W. MacKichan, R. Brown, J. Scott, F. H. Dodd, J. H. Jones, D. P. Lindsay, L. H. Werden, N. Gray, J. S. Wilson, C. L. Driscoll, E. E. Paget-Tomlinson, G. C. Anderson, H. W. Moran, R. G. Smith, P. D. Hunter, B. J. Cusack, E. A. Sanders, J. R. Munro, R. J. W. McKane, J. Ferguson, D. D. Ritchie, R. J. Bentley, S. H. Sweet, H. Spurway, A. I. Shepherd-Walwyn, G. E. Thornton, W. S. Graham, J. K. Manson, J. Dalgleish, J. L. Meynell, E. M. Niall, S. B. White, J. R. Reid, W. Tregea, W. B. Clarke, S. N. Campbell, E. MacM. Mahon, J. B. Cook, J. Grogono, F. W. Grogono, E. P. Harding, B. Kelly, C. A. B. Horsford, C. A. Lawrence, J. B. Banister, J. Ellenbooven, E. Morrison, P. J. Hay, J. A. S. Morton, J. C. Ryan, B. Suggitt, F. H. Diggle, A. M. Malcolmson, A. Tait, M. S. Wood, A. R. Taylor, G. H. Hackney, Smith, J. Cross, C. H. G. Lyall, E. Morgan, T. A. Davies, T. Kennedy, B. B. Phillips, C. B. Gerrard, C. B. M. Allidge, R. N. Woodsend, J. McGibbon, R. T. A. Patchett, L. Waymo, Morgan, A. H. Gray, F. Crooks, H. Baird, V. J. Rigg, M. Aikman, P. L. Pollard, W. Cook, R. S. Strachan, D. O. Fairweather, T. Fraser, C. Brash, R. Taylor, J. D. Oliver, J. A. Powell, J. N. M. Sutherland, A. Matheson, E. L. Thomas, J. W. A. Wilson, D. L. G. Radford, E. A. Morrison, D. P. Smith, P. A. Hendley, S. W. Swindells, A. Westerman, G. Eager, E. G. D. Beuson, G. Milne, C. M. Stevenson, U. Marks, T. B. Valle, A. H. Duckett, J. J. Todd, D. W. Tacey, H. R. Cran, E. N. Dunlop, J. G. Woolham, N. H. M. Burke, J. D. Hartley, J. D. Jones, G. Denholm, A. F. Waterhouse, M. D. Mackenzie, L. L. Callander, J. Dawson, H. C. Taylor, J. B. H. Holroyd, H. E. Middlebrooke, W. H. Parkinson, H. Maffin, T. Brodie, G. L. Langley, F. de R. Martyn, W. B. Peacock, A. O. Bissin, J. F. Lindsay, F. McG. Loughnane, C. Gray, G. D. Dawson, H. A. Mason, J. Gilchrist, J. Orr, J. W. McDougall, G. Mowat, D. R. C. Shepherd, C. L. Stewart, E. C. Roberts, H. F. Marshall, H. R. L. Allott, F. E. C. Willington, R. C. Pitt, A. J. Adkins, W. H. Gibson, J. T. B. MacSill, D. Longwill, M. J. Macaulay, F. H. Mosse, D. P. Macdonald, L. D. Wright, R. Fraser, E. J. Manning, C. J. Taylor, W. Duguid, St. G. M. L. Homan, C. W. C. Harvey, G. E. A. Mitchell, T. R. Couldrey, F. J. O'Brien, J. Fortune, I. B. Richardson, G. H. Gunson, W. B. A. Moore, S. G. Johnson, R. W. Dale, A. G. Bland, A. S. Findlay, J. A. Hagerty, H. P. Wright, F. D. Scott, W. H. Gowan, A. G. Stewart, J. W. Robertson, G. Garland, A. R. Jennings, H. Thorp, E. U. Williams, A. J. Ferguson.

Officers relinquish their commissions: Temporary Major W. Robinson, on ceasing to be employed at the Sunderland War Hospital. Temporary Captains: C. S. Gidson, F. M. Carruthers, G. A. D. McArthur, I. E. Brunson, C. B. Tivy (and is granted the honorary rank of Captain), S. L. Haslett, K. M. B. Simon, F. M. Harvey, M.C., W. W. D. Thomson, N. W. Jenkin, L. M. Davies, Temporary Lieutenants: J. Rusk, H. Tipping, B. W. H. Huttis, A. O. Wilson,







## BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JULY 20th, 1918.

## CONTENTS.

	PAGE		PAGE
<b>British Medical Association.</b>		<b>NAVAL AND MILITARY APPOINTMENTS</b>	13
<b>CURRENT NOTES:</b>		<b>APPOINTMENTS ...</b>	14
RENEWAL OF HALF-DUTY MOTOR SPIRIT LICENCES ...	13	<b>BIRTHS, MARRIAGES, AND DEATHS</b>	14
WAR EMERGENCY FUND, ROYAL MEDICAL BENEVOLENT FUND	13	<b>DIARY FOR THE WEEK ...</b>	14
INQUIRY INTO CENTRAL POOL ...	13	<b>DIARY OF THE ASSOCIATION</b>	14
<b>ASSOCIATION NOTICES: ANNUAL REPRESENTATIVE AND ANNUAL GENERAL MEETINGS ...</b>	13		

## British Medical Association.

## CURRENT NOTES.

## Renewal of Half-duty Motor Spirit Licences.

MEDICAL practitioners are reminded that their motor spirit licences expire on August 1st. A form of application appears inside the cover of every licence which should be filled in and forwarded, together with the licence itself, to the Secretary of the Petrol Control Department, 19, Berkeley Street, London, W., not later than the end of the third week of July, if a further licence is required at the commencement of the following month. Other instructions relating to the issue of a further licence are given on the first page of the existing licence, and strict compliance with the necessary conditions will avoid delay. It is also desirable that correspondence relating to matters in connexion with the actual issue of the licence should as far as possible be deferred until the new licence is received.

## War Emergency Fund of the Royal Medical Benevolent Fund.

The following further subscriptions have been received from Divisions of the Association in response to the recent appeal, and have been passed on to the Treasurer of the War Emergency Fund. The names of individual subscribers are published monthly in the advertisement pages of the JOURNAL.

	£	s.	d.
Southport Division, per Dr. R. Harris, Honorary Secretary	1	1	0
Buckingham Division, per Dr. H. J. Henderson, Honorary Secretary	11	11	0
Guildford Division, per Dr. H. F. Parker, Honorary Secretary	21	11	0
Marylebone Division, per Mr. N. Bishop Harman, Honorary Secretary	2	2	0

## Inquiry into Central Pool.

The following further contributions have been received from Panel Committees towards the cost of the inquiry undertaken by the Insurance Acts Committee into the constitution of the Central Pool:

	£	s.	d.
Cambridgeshire Panel Committee	5	5	0
Shropshire Panel Committee	2	2	0
Glamorganshire Panel Committee	4	4	0
Perthshire Panel Committee	1	1	0
Perth Panel Committee	1	1	0
Northamptonshire Panel Committee	3	3	0

## Association Notices.

## ANNUAL REPRESENTATIVE MEETING, 1918.

The Annual Representative Meeting of the Association will be held at the Connaught Rooms, Great Queen Street, Kingsway, London, W.C.2, on Thursday, July 25th, at 10 a.m., and following day(s) as may be necessary.

By order,

ALFRED COX,

Medical Secretary.

July 3rd, 1918.

## ANNUAL GENERAL MEETING.

NOTICE is hereby given by the Council that the Annual General Meeting of the British Medical Association will be held at the Connaught Rooms, Great Queen Street, London, W.C., on Friday, July 26th, 1918, at 2 o'clock in the afternoon. Business: (1) Minutes of last meeting. (2) Appoint-

ment of auditors (Messrs. Price, Waterhouse and Co. offer themselves for re-election). (3) Award of Stewart Prize. (4) Report election of President.—By Order,

W. E. WARNE,

Acting Financial Secretary and Business Manager.

Dated this 20th day of June, 1918.

429, Strand, London, W.C.2.

## BRANCH AND DIVISION MEETINGS TO BE HELD

**EAST ANGLIAN BRANCH.**—Dr. B. H. Nicholson, Secretary, gives notice that the annual meeting of the Branch will be held at the Crown and Anchor Hotel, Ipswich, on Thursday, July 25th, at 2.30 o'clock. Agenda: To pass ethical rules as approved by the Annual Representative Meeting of 1915, for the guidance of Branches. Financial report for 1917.

**EAST YORK AND NORTH LINCOLN BRANCH.**—Mr. H. L. Evans, Secretary (101, Prince's Avenue, Hull), gives notice that the annual meeting of the East York and North Lincoln Branch will be held, by the courtesy of the President-elect, Dr. G. A. Grierson, at Flottergate House, Grimsby, on Saturday, August 3rd. Business: Annual report, financial statement, nominations and election of officers, etc. Mr. H. L. Evans also gives notice that the annual meeting of the East Yorkshire Division will be held in the board room of the Hull Royal Infirmary, on Tuesday, July 23rd, at 8.15 p.m.

## Naval and Military Appointments.

## ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty: Fleet Surgeons E. G. Sawdy to the *Latona*, additional; F. E. Bolton to Plymouth Hospital. Staff Surgeons B. Pick to Haslar Hospital, A. G. Malcolm to the *Liverpool*. Temporary Surgeons T. L. P. Harries to the *Excellent*, J. A. Lumsden-Cook to Haslar Hospital, G. B. Lowe and G. Burton to Chatham Hospital; A. Selby to the *Glory*, H. P. Williams to the *Suffolk*, F. P. Pocock, M.C., and A. R. Macmillan, D.S.C., to the *Victory* for R.N. Division.

## ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon F. P. Nicholas to Gibraltar Hospital, Surgeon Probationer W. Shaw to the *Loyal*. To be Surgeon Probationers: A. H. M. Eaton, J. E. Deane, J. S. Lyle, W. Lescelles, J. R. Craig, A. L. C. Harrop, E. C. Grey, J. R. Wills.

## ARMY MEDICAL SERVICE.

Temporary Colonel Sir Robert Jones, C.B. (Major R.A.M.C.T.F.), to be temporary Major-General.

## ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel G. G. Delap, D.S.O., relinquishes the temporary rank of Colonel on reposting.

To be acting Lieut.-Colonels:—Whilst specially employed: Major R. V. Cowey, D.S.O., temporary Major J. C. Davies. Whilst in command of medical units: Temporary Captain G. D. Hindley, Captain (acting Major) C. H. Denyer, M.C., Captain J. Rowe.

The following relinquish the acting rank of Major on reposting: Temporary Captains T. Russell, H. F. Sheldon.

To be acting Majors: Captains F. S. Tamplin, C. McQueen, M.C., M. O. Wilson, W. Mathieson, H. W. Carson, M. White, F. G. A. Smyth, W. L. Webster, G. S. Parkinson, D.S.O., G. O. Chambers, R. Gale, D.S.O., E. C. Beddows, M.C., R. E. Todd, T. H. Balfour, M.C., O. W. McSheehy, D.S.O., E. B. Marsh, T. J. Kelly, M.C., N. Cantlie, M.C., J. H. Pendered, M.C., C. de W. Gibb, F. G. Thatcher, F. R. Laing, S. D. Large, D.S.O., M.C., W. V. Corbett, S. M. Hattersley, J. C. A. Dowse, M.C., A. H. Heslop, D.S.O., A. D. Stirling, D.S.O., A. I. Robertson, T. I. Dun, M.C., P. W. Hampton (whilst specially employed). Temporary Captains R. S. Dickie, W. H. D. Smith, N. I. Sinclair (from January 4th to April 5th, 1918), W. H. Sheffield, A. R. Muir, M. Bates, J. I. P. Wilson, W. J. J. Arnold, C. L. Spackman, E. R. D. Maconochie, E. B. Smith, J. W. C. Gunn, R. H. Strong, E. E. Chipp, G. Stiel, L. A. I. Davies, T. F. Saunders, R. Masse, L. R. Broster, H. B. G. Russell, W. S. S. Berry, C. J. H. Sharp, H. G. Kilner, J. Bignani, G. Rankine, M.C., A. P. Saint, M.C., A. S. K. Anderson, D.S.O., M.C., A. K. Cosgrove, M.C., M. P. Paton, M.C., E. J. Selby, W. H. Alderton, L. Anderson, D.S.O., J. R. M. Whigham, M.C., O. E. Crosbie, M.C., A. H. Spicer, A. E. Knight, M.C., R. M. Handfield-Jones, B. Whitehead, F. B. Winfield, L. Meakin, Lieutenants (temporary Captains): E. Catford, A. E. Richmond, D. Pottinger, M.C., J. W. O'Brien, M.C., H. A. Rowell, M.C., L. G. Bourdillon, D.S.O., M.C., C. Russell, M.C., W. T. Hare, M.C., M. B. King, M.C.

Officers relinquish their commissions: Temporary Captains W. R. Hodge, C. S. Glegg, A. F. Mavely, B. N. Murphy. Temporary honorary Captains E. V. Jones and S. McO. Boyd, on ceasing to be employed with the Welsh Hospital, Netley, and the British Red Cross Society in



France respectively: temporary Lieutenants A. H. Collins, W. Smith, C. Murray; temporary honorary Lieutenant H. D. Hayward.

D. Cairns, late temporary Captain, is granted the honorary rank of Captain.

The name of temporary Captain Oswald C. G. Shields is as now described, and not as in the *London Gazette* of May 15th 1918.

Lieutenant H. C. Hinwood, M.B., R.F.A.(S.R.), to be temporary Lieutenant.

Temporary honorary Lieutenant H. Halsted to be temporary honorary Captain.

#### ROYAL AIR FORCE.

##### MEDICAL BRANCH.

Granted temporary commissions:—As Lieut.-Colonels: Fleet Surgeons R. H. Monement, W. H. Pope, N. J. Roche, J. St. J. Murphy; Staff Surgeon H. Cooper, D.S.O. As Major: A. Paling. As Captains: A. E. Henton, D. Guthrie. As Lieutenants: E. L. Bunting, A. Read, A. K. Soutar, F. H. Wallace.

#### SPECIAL RESERVE OF OFFICERS.

##### ROYAL ARMY MEDICAL CORPS.

Captains to be acting Majors whilst specially employed: E. R. Chambers, B. Shires.

Captain C. H. G. Penny to be acting Major.

Captains to be acting Lieut.-Colonels whilst in command of a Medical Unit: (acting Major) C. N. Gover, W. H. L. McCarthy, M.C.

Captain F. Jefferson relinquishes the acting rank of Major on rejoining.

Captains to be acting Majors: A. R. F. Clarke, A. B. Mitchell, M.C., J. H. Beverland, D. S. Martin, P. Walsh, J. A. Hill, J. M. Darling, D.S.O., M. W. Paterson, M.C., W. F. McLean, D. C. MacDonald, J. G. McCutcheon, J. Walker, M.C., A. J. Clark, M.C., J. Vallance, G. F. P. Gibbons, G. Dalziel, M.C., K. K. Drury, M.C., A. J. Gibson, M.C., A. Wilson, M.C., D. Dougal, M.C., E. A. Mills.

#### GENERAL RESERVE OF OFFICERS.

##### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel C. E. P. Fowler, O.B.E., to be temporary Colonel whilst employed as Assistant Director of Medical Services of a Division.

#### OVERSEAS CONTINGENTS.

##### CANADIAN ARMY MEDICAL CORPS.

Temporary Colonel C. A. Hodgetts, C.M.G., is seconded for duty with the Ministry of National Service, without pay and allowances.

To be temporary Lieut.-Colonels: Temporary Majors (acting Lieut.-Colonel) C. W. Vipond, A. A. Gardner, (acting Lieut.-Colonel) R. H. Macdonald, M.C., P. K. Menzies.

Temporary Major J. G. W. Johnson to be acting Lieut.-Colonel whilst specially employed.

Temporary Captain A. J. Swan to be temporary Major.

To be temporary Captains: W. J. Grant, K. M. B. Simon, D. E. S. Wishart.

#### TERRITORIAL FORCE.

##### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel E. A. Wraith, D.S.O., to be an Assistant Director of Medical Services, and to be temporary Colonel whilst so employed.

Major (Brevet Lieut.-Colonel) F. E. A. Webb to be acting Lieut.-Colonel whilst specially employed.

Surgeon-Major H. Skelding, from Yeomanry, to be Major, with precedence from August 10th, 1914.

Captains (acting Majors) to be acting Lieut.-Colonels whilst commanding a field ambulance: J. H. P. Fraser, M.C. (and remain seconded), H. A. Macmillan, M.C.

Captain (acting Majors) relinquish their acting rank on ceasing to be specially employed: A. W. Berry, A. Jones, H. J. Gorrie, H. J. A. Longmore (and remain seconded), T. W. S. Paterson.

Captain (temporary Major) A. L. Whitehead is restored to the establishment.

Captains to be acting Majors whilst specially employed: M. S. Double, A. P. Thomson, M.C., E. V. Connellan, J. G. Cooke, J. Dundas, S. J. C. Holden, F. E. Withers (and remain seconded), F. L. A. Greaves, B. M. Footner, G. B. Eadie, H. Duguid, G. B. Gill, G. B. J. A. Robinson, S. S. B. Harrison, M.C., R. Fullarton, W. H. Rowell, A. Ramsbottom, D. J. Scott, M.C., H. M. Calder, D.S.O., F. W. C. Brown, S. S. Greaves, M.C., A. G. Hebblethwaite, D.S.O., S. J. Cleary, W. H. Davison, J. Dale, J. M. Hamill, L. R. Tosswill, O. W. D. Steel, M.C., W. D. Frew.

Captain (temporary Major) A. Don relinquishes his temporary rank on ceasing to be specially employed.

Captains to be Majors: (acting Majors) G. E. StC. Stockwell, H. L. Gregory.

Captain A. W. Harrington is seconded for duty with a general hospital.

Captain G. A. Auden is restored to the establishment on vacating the appointment as Deputy Assistant Director of Medical Services.

Captain R. O. Sibley is seconded whilst holding an appointment as Deputy Assistant Director of Medical Services.

Captain J. Saffley, from T.F.Res., to be Captain with precedence as from April 1st, 1915.

Lieutenants to be Captains: F. J. E. China, L. Hawkes, H. L. Robinson, T. M. Ormiston.

#### TERRITORIAL FORCE RESERVE.

Lieut.-Colonel W. A. Benson, D.S.O., from R.A.M.C., to be Lieut.-Colonel.

Major C. W. Edwards and Captains H. J. Wheeler and W. E. Falconar, from R.A.M.C., to be Major and Captains respectively.

#### VOLUNTEER FORCE.

The following appointments to the various Medical Volunteer Corps have been notified. The date of precedence of the appointments is indicated in parentheses:

*Derbyshire*.—Medical Officer and temp. Captain G. S. Sims, from 1st Batt. Derbyshire Vol. Regt., to be Captain (March 29th, 1917). To be temp. Lieutenants: Medical Officers and temp. Lieutenants E. Bond (July 30th, 1917), W. R. Paton (July 30th, 1917), A. Court (February 13th, 1917), G. E. Baydon (December 15th, 1917), S. J. Parkhill (July 31st, 1917), W. A. Walters (June 18th, 1917), from the 2nd, 3rd, 4th, 6th, 7th, and 8th Batts. respectively Derbyshire Vol. Regt.

*Devonshire*.—To be temp. Lieutenant: Medical Officer and temp. Lieut. W. W. Stabb, from 4th Batt. Devonshire Vol. Regt. (July 11th,

1917). To be temp. Captain: Medical Officer and temp. Captain W. Langran, from 5th Batt. Devonshire Vol. Regt. (Oct. 3rd, 1917).

*Dorsetshire*.—Medical Officer and temp. Lieutenant G. G. Morrice, from 1st Batt. Dorsetshire Vol. Regt., to be temp. Lieutenant (March 9th, 1917).

*Dumbartonshire*.—Medical Officer and temp. Captain J. R. F. Cullen, from 1st Batt. Dumbartonshire Vol. Regt., to be temp. Captain (January 23rd, 1917).

*City of Dundee*.—Medical Officer and temp. Captain D. J. Forbes, from 1/1st Batt. City of Dundee Vol. Regt., to be temp. Captain (December 7th, 1917).

*Durham*.—Medical Officer and temp. Captain J. C. French, from 2nd Batt. Durham Vol. Regt., to be temp. Captain (October 13th, 1917). To be temp. Lieutenants: Medical Officers and temp. Lieutenants J. J. Weir (May 26th, 1917), S. G. Mostyn (April 22nd, 1918), N. Philipson (May 30th, 1917), A. D. Kelly (September 10th, 1917), from the 1st, 4th, 9th, and 12th Batts. respectively Durham Vol. Regt.

*City of Edinburgh*.—Medical Officer and temp. Lieutenant W. G. Aitchison, from 1/1st Batt. City of Edinburgh Vol. Regt., to be temp. Lieutenant (January 15th, 1917). Medical Officer and temp. Captain H. Hay, from 2/1st Batt. City of Edinburgh Vol. Regt., to be temp. Captain (May 10th, 1917).

*Essex*.—Medical Officer and temp. Captain J. H. Salter, from 3/2nd Batt. Essex Vol. Regt., to be Captain (May 29th, 1917). To be Lieutenants: Medical Officers and temp. Lieutenants G. F. Wilson (May 9th, 1917), F. Isdell (September 2nd, 1917), G. F. Cooper (March 2nd, 1917), J. S. Brookfield (May 1st, 1918), from the 1st, 4th, 5th, and 3rd Batts. respectively Essex Vol. Regt.

*Fife*.—Medical Officer and temp. Captain A. L. Curror, from 1st Batt. Fife Vol. Regt., to be temp. Captain (February 4th, 1917).

*Glamorganshire*.—To be temp. Captains: Medical Officers and temp. Captains C. Biddle (December 13th, 1917) and T. John (February 4th, 1918), from 2nd and 3rd Batts. respectively Glamorganshire Vol. Regt. To be temp. Lieutenants: Medical Officer and temp. Lieutenant J. Hartman, from 1st Batt. Glamorganshire Vol. Regt. (February 10th, 1917).

*City of Glasgow*.—To be temp. Lieutenants: Medical Officers and temp. Lieutenants E. McConnell (April 4th, 1917), J. W. Mathie (November 3rd, 1917), J. H. Teacher (February 11th, 1918), from the 4th, 3rd, and 1st Batts. respectively City of Glasgow Vol. Regt.

*Gloucestershire*.—To be temp. Captain: Medical Officer and temp. Captain T. C. Leman (July 3rd, 1917), from 1st Batt. Gloucestershire Vol. Regt. To be Lieutenants: Medical Officers and temporary Lieutenants J. M. Martin (February 10th, 1917), from 4th Batt. Gloucestershire Vol. Regt., and C. V. Knight (March 26th, 1918), from Gloucestershire Motor Vol. Corps.

*Haddington*.—To be temp. Lieutenant: Medical Officer and temp. Lieutenant B. R. Macdonald, from 1st Batt. Haddingtonshire Vol. Regt. (April 4th, 1917).

*Hampshire*.—To be temp. Lieutenants: Medical Officer and temp. Lieutenants P. E. Todd (August 16th, 1917), E. J. Lytle (March 2nd, 1918), from 1st and 3rd Batts. respectively Hampshire Vol. Regt.

*Hertfordshire*.—To be temp. Lieutenants: Medical Officers and temp. Lieutenants W. Gruggen (January 18th, 1917) and H. H. Thomson (December 1st, 1917), from 2nd and 1st Batts. respectively Hertfordshire Vol. Regt.

*Kent*.—To be temp. Captains: Medical Officers and temp. Captains A. F. Street (March 15th, 1917), H. Brown (June 14th, 1917), from 4th and 11th Batts. respectively, Kent Vol. Regt., P. J. Curtis (April 17th, 1918), and C. D. Oured (April 17th, 1918), from Kent Motor Vol. Corps. To be temp. Lieutenants: Medical Officers and temp. Lieutenants H. W. Thomas (January 29th, 1917), R. Wilkinson (January 29th, 1917), H. O. Preston (March 25th, 1917), E. J. Wood (March 5th, 1917), H. A. Walter (September 12th, 1917), J. Richardson (September 26th, 1917), E. St. C. Henriques (December 1st, 1917), from 7th, 10th, 2nd, 5th, 3rd 1st, and 6th Batts. respectively Kent Vol. Regt.

#### APPOINTMENTS.

DALY, T. J., L.R.C.P. and S. Incl., Certifying Factory Surgeon for the Mullingar District, Co. Westmeath.

SMITH, T. B., M.B., Ch.B. Glasg., Medical Officer of Health and School Medical Officer for Dudley.

WARD, George Edgar Septimus, M.D., M.R.C.P., Assistant Physician to the Middlesex Hospital.

#### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.

##### BIRTH.

FINLAY.—At Lealholme Nursing Home, Sunderland, on 11th inst., to Captain and Mrs. James J. Finlay, a son.

#### DIARY FOR THE WEEK.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—Annual Meeting, Royal College of Physicians, Edinburgh, July 23rd. Address by President, Lieut. Colonel John Keay, R.A.M.C., Types of Neurasthenia, by Drs. W. Ford Robertson and Claud F. Fenwick. July 24th. Demonstrations, by Lieut.-Colonel Cathcart and Major Rankine, Artificial Limbs; Lieut. Colonel Sir Harold J. Stokes, Orthopaedic Cases; Captain E. W. Bramwell, Functional Neuroses; Major D. G. Marshall, I.M.S., and Dr. L. K. Davies, Microscopical Demonstration on Malaria and Dysentery.

#### DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
JULY.	
23 Tues.	East Yorkshire Division, Annual Meeting, Hall, 8.15 p.m.
25 Thurs.	OPENING OF ANNUAL REPRESENTATIVE MEETING, Connaught Rooms, Great Queen Street, London, W.C., 10 a.m.
	East Anglian Branch Annual Meeting, Ipswich, 2.30 p.m.
26 Fri.	ANNUAL GENERAL MEETING, 2 p.m.
AUGUST.	
3 Sat.	East York and North Lincoln Branch, Annual Meeting, Grimsby.



## BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JULY 27TH, 1918.

## CONTENTS.

	PAGE		PAGE
<b>British Medical Association.</b>		<b>NAVAL AND MILITARY APPOINTMENTS.</b>	
<b>CURRENT NOTES:</b>		EXCHANGE	15
THE ANNUAL REPRESENTATIVE MEETING ...	15	APPOINTMENTS ...	16
WAR EMERGENCY FUND, ROYAL MEDICAL BENEVOLENT FUND	15	BIRTHS, MARRIAGES, AND DEATHS	15
ASSOCIATION NOTICES ...	15		

## British Medical Association.

## CURRENT NOTES.

## The Annual Representative Meeting.

As we go to press the Annual Meeting of the Representative Body is being held in the Connaught Rooms, London, under the chairmanship of Mr. E. B. Turner. The proceedings began on Thursday morning, July 25th, and will be continued on the following day. The annual and supplementary reports of Council, and the recommendations contained therein, will as usual form the basis of the discussions by the Representative Body; the more formal business of the Annual General Meeting will be transacted on Friday afternoon, July 26th.

Early in the proceedings of the Representative Meeting sympathetic references were made by the Treasurer and the Chairman of the Journal Committee to the loss the Association has sustained by the death of Mr. Guy Elliston, the Financial Secretary and Business Manager.

The sections of the reports of Council dealing with Finance and the JOURNAL were presented by the Treasurer, Dr. Haslip, and the Chairman of the Journal Committee, Major Lucas, respectively; both speakers dealt with the difficult conditions under which the JOURNAL was at present being conducted, and explained the nature of the restrictions on the supply of paper imposed by the Government regulations which had compelled the Council to reduce the number of pages in the weekly issue. The Treasurer pointed out that as the reduction affected the advertisements as well as the reading matter, it would probably have a serious influence on the finances of the Association for the current year.

The sections of the reports dealing with the Central Medical War Committee were then presented by its Chairman, Mr. T. Jenner Verrall, and led to considerable discussion, which is in progress as we go to press.

We hope to publish a full report of the meetings in the next two issues of the SUPPLEMENT.

## War Emergency Fund of the Royal Medical Benevolent Fund.

The following further subscriptions have been received from Divisions of the Association in response to the recent appeal, and have been passed on to the Treasurer of the War Emergency Fund. The names of individual subscribers are published monthly in the advertisement pages of the JOURNAL.

Canterbury and Faversham Division, per Dr. Neil Robson,	£ s. d.
Honorary Secretary ...	5 5 0
Marplebone Division, per Mr. N. Bishop Harman,	
Honorary Secretary ...	20 0 0
Newcastle-on-Tyne Division, per Dr. James Hudson,	
Honorary Secretary ...	7 5 0

## Association Notices.

## BRANCH AND DIVISION MEETINGS TO BE HELD.

**EAST YORK AND NORTH LINCOLN BRANCH.**—Mr. H. L. Evans, Secretary (101, Prince's Avenue, Hull), gives notice that the annual meeting of the East York and North Lincoln Branch will be held, by the courtesy of the President-elect, Dr. G. A. Trierson, at Flottergate House, Grimsby, on Saturday, August 3rd. Business: Annual report, financial statement, nominations and election of officers, etc.

## Naval and Military Appointments.

## ROYAL NAVAL MEDICAL SERVICE.

The following appointments are announced by the Admiralty: Fleet Surgeon J. MacDonald to the *Venerable*; Staff Surgeons G. S. Davidge to the *Assistance*, G. C. Cross to the *Implacable*, G. H. S. Mills (emergency) to the *Indus*; Surgeons R. A. Rankine to R.N. Infirmary, Deal, L. A. Moncrieff to the *Sapphire*; temporary Surgeons J. R. Barrow-Crough to the *Victory* for R.N.D., R. Creasy to the *Glory*, D. A. Knight to Chatham Hospital, N. Macleod to Haslar Hospital, J. D. Byrd to Plymouth Hospital, J. Brooks to the *Apollo*, W. S. Tunbridge to the *Pelorus*, B. J. Brewitt to the *Crescent*, additional, for service at Cromarty. To be temporary Surgeons: A. W. Cocking, W. E. Heath.

## ROYAL NAVAL VOLUNTEER RESERVE.

To be Surgeon probationers: D. Meikle, W. J. A. Russell.

## ARMY MEDICAL SERVICE.

Temporary Lieut.-Colonel J. M. Cowan (Major R.A.M.C.T.F.) to be temporary Colonel.

## ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel J. W. H. Houghton, D.S.O., relinquishes the temporary rank of Colonel on reposting.

Lieut.-Colonel C. Garner, ret. pay, to be acting Colonel whilst specially employed.

J. V. G. B. Tighe to be temporary Lieut.-Colonel whilst serving at Gateshead War Hospital, Stannington.

Major S. B. Smith, D.S.O., retains the acting rank of Lieut.-Colonel whilst employed as Assistant Director of Medical Services of an Army.

Captains relinquish the acting rank of Lieut.-Colonel and revert to the acting rank of Major, with pay and allowances of their substantive rank: W. H. S. Furney, T. B. Nicholls.

J. C. Webb to be temporary Major.

Captain J. W. C. Stubbs, M.C., to be acting Lieut.-Colonel whilst in command of a medical unit.

To be acting Majors: Temporary Majors W. S. Dickie, R. Dick, H. F. Woolfenden, Captains G. F. Allison, C. Scales, A. P. O'Connor, W. E. Marshall, M.C., P. T. Priestley, temporary Captains E. L. Mackenzie, M.C., J. H. Legge, M.C., L. H. C. Birkbeck, D. C. Taylor, M.C., E. F. C. Dowding, J. A. C. Roy, Colin Mackenzie, J. G. Duncanson, H. Stokes, T. Bragg, W. H. Fleetwood, E. B. Sunderland, W. de M. Peyton, Lieutenant (temporary Captain) J. La F. Lauder.

Temporary Captain H. Moore relinquishes the acting rank of Lieut.-Colonel and reverts to the acting rank of Major, with pay and allowances of his substantive rank.

Temporary Captain A. B. Jordan relinquishes the acting rank of Major on reposting.

Captain T. D. Inch, M.C., from R.A.M.C.(S.R.), to be Captain with precedence next below S. Smith, February 19th, 1918 (substituted for notification in the *London Gazette*, July 3rd, 1918).

Temporary Captains relinquish their commissions on account of ill health, and are granted the honorary rank of Captain: M. Hooper, J. M. Johnston.

P. M. Turnbull, M.C., late temporary Captain, is granted the honorary rank of Captain.

The notifications in the *London Gazette* of July 1st and 4th, 1918, regarding temporary Captains K. Black and B. M. Cairuthers are cancelled.

To be temporary Captains: Captain R. W. B. Gibson, S.A.M.C., Captain T. L. Harrison, C.A.M.C., T. H. Twigg, T. Milling, W. G. Ridgway, F. W. Jones, J. E. R. Orchard, H. E. C. Fox (late Surgeon R.N.), D. T. H. Croly, E. Maynard, W. A. Russell, T. J. Buckley, S. P. Snook, temporary Lieutenants F. Heatherley, A. Barrett, A. T. Moon, J. W. O'Farrell, A. C. Brown, G. S. Robinson, H. Topham.

To be temporary Lieutenants: L. H. McConnell, A. L. Lynch, N. F. Sinclair, D. D. Farquharson, R. M. Manwaring-White, A. W. Mack, Sutherland, A. Prentice, B. W. Lacey, J. Devine, F. H. Nixev, O. Eccles, A. S. Ransome, E. D. D. Davis, B. A. McSwiney, A. H. Ward, J. Moore, A. H. Marsh, G. Ap Thomas, R. A. MacArthur, W. Daut, C. K. T. Hewson, P. N. Twomey, N. C. Fischer, N. J. Newbould, W. H. W. Mewhirer, W. E. Thompson, A. V. Moberly, H. G. Browning, G. S. Robinson, F. C. Mann, P. H. Hearder, C. H. Steinbach, A. W. Hare, F. W. Daniels, S. B. Turner, D. Davie, M. Baronov.

Officers relinquish their commissions: Temporary Captains F. M. Walker, M.C., A. Weigall, E. G. H. Weir, A. L. George, E. L. Massiah, J. Lindsay, T. D. McLaren, W. Rogerson, and G. H. Brown, H. Saunders, and R. McI. Muir, who are granted the honorary rank of Captain; temporary Lieutenants W. M. Fergusson (on account of ill health), W. Martin, H. V. Mitchell.

Temporary honorary Lieutenants to be temporary honorary Captains: H. F. Bold-Williams (whilst serving with the No. 8 Red Cross Baltic and Corn Exchange Hospital), P. D. Spohn, E. A. Cayo.

## ROYAL AIR FORCE.

## MEDICAL BRANCH.

To be temporary Captains: R. J. Maglione, I. M. Thomson, A. H. Todd.



L. S. Hooper (Temporary Captain R.A.M.C.) is granted a temporary commission as Captain and to be temporary Major whilst specially employed.

C. S. Dowdell to be temporary Captain and not Lieutenant, as stated in the *London Gazette* of June 11th.

Lieutenant N. P. Stallard to be Captain.  
To be temporary Lieutenants: G. Dunderdale, J. P. Hennessey, F. Gibb, J. S. Harbison, G. W. Harbottle, J. J. O'Mullane, M. J. Whetton, A. G. Graham.

#### SPECIAL RESERVE OF OFFICERS.

##### ROYAL ARMY MEDICAL CORPS.

Captain I. D. Evans relinquishes the acting rank of Major on re-posting.

Captains to be acting Majors: T. Lindsay, J. B. Scott, M.C., W. W. Shorten, P. W. Mathew (whilst specially employed).

Lieutenants to be Captains: J. Scott, J. Adams, J. C. C. Howe, A. B. MacDougall, P. A. Stewart, O. M. Myrlees, W. L. Agnew.

J. C. Coutts, from St. Andrews University O.T.C., to be Lieutenant.

#### OVERSEAS CONTINGENTS.

##### CANADIAN ARMY MEDICAL CORPS.

Temporary Major J. M. Nettleton to be temporary Lieut.-Colonel.

#### TERRITORIAL FORCE.

##### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel J. Clay to be Assistant Director of Medical Services and to be temporary Colonel whilst so employed.

Captain (acting Lieut.-Colonel) J. M. Hunt relinquishes his acting rank on ceasing to command a general hospital.

Captain (acting Lieut.-Colonel) D. Shannon relinquishes his acting rank on ceasing to be specially employed.

Captain (acting Major) W. L. Robertson, M.C., to be acting Lieut.-Colonel whilst commanding a field ambulance.

Captains relinquish the acting rank of Major on ceasing to be specially employed: A. F. B. Shaw, J. G. Morgan, M.C., R. S. Taylor, A. N. S. Carmichael.

Captains to be acting Majors whilst specially employed: (Brevet Major) J. Ewing, L. M. V. Mitchell, G. G. Middleton, G. B. Buchanan, W. T. Torrance, J. Browne, P. S. Martin, M.C., D. W. Reese, J. J. E. Biggs, J. H. Robinson, C. S. Wink, F. Ward, E. B. Hinde, M. Morris, L. Milton, C. E. Petley, A. B. P. Smith, W. F. Mackenzie, R. S. Taylor, C. S. P. Black, M.C., J. A. H. Aitken, R. G. Walker, M.C., C. H. K. Smith, O. W. C. Myles, M.C., F. A. W. Drinkwater, W. J. Richards, C. Kerr, A. P. Watson, W. Dyson, M. U. Wilson, W. T. Gardiner, M.C., L. West, A. L. S. Tuke, M.C., W. T. Ritchie, J. M. Smith, T. J. T. McHattie, A. Radford, and J. J. Rainforth, D. Lamb, and J. Blackwood, who remain seconded.

Officers seconded: Captains A. J. Drew (for duty overseas), H. Buck (for duty with a general hospital), H. L. Driver (for duty in London district); Lieutenants A. G. Harrington, J. Dall, G. N. F. Reddan, T. H. Savory, D. Smith, and A. Sykes, for duty with the R.E.

Lieutenants to be Captains: (Temporary Captain) A. Leitch, G. Hyce, W. V. Barritt.

#### TERRITORIAL FORCE RESERVE.

Surgeon A. W. Cuff, from R.F.A. (T.F.), to be Surgeon-Major.

Captain G. L. K. Pringle, M.C., from R.A.M.C., to be Captain.

#### VOLUNTEER FORCE.

The following appointments to the various Medical Volunteer Corps have been notified. The date of precedence of the appointments is indicated in parentheses:

*Huntingdonshire*.—To be temp. Lieutenant: Medical Officer and temp. Lieutenant W. F. Fisher, from 1st Batt. Huntingdonshire Vol. Regt. (February 8th, 1918).

*Isle of Wight*.—To be temp. Captain: Medical Officer and temp. Captain E. F. W. Buckell, from 1st Batt. Isle of Wight Vol. Regt. (April 13th, 1918).

*Kincardineshire*.—To be temp. Lieutenant: Medical Officer and temp. Lieutenant C. Aymer, from 1st Batt. Kincardineshire Vol. Regt. (July 30th, 1917).

*Kinross-shire*.—To be temp. Captain: Medical Officer and temp. Capt in D. R. Oswald, from 1st Batt. Kinross-shire Vol. Regt. (March 23rd, 1917).

*Kirkcudbrightshire*.—To be temp. Lieutenant: Medical Officer and temp. Lieutenant J. Cromie, from 1st Batt. Kirkcudbrightshire Vol. Regt. (July 30th, 1917).

*Lancashire*.—To be temp. Captains: Medical Officers and temp. Captains D. Fenton (March 19th, 1917), J. M. Ferguson (January 1st, 1918), J. M. Dowzer (January 5th, 1918), W. A. Rice (May 1st, 1918), from the 10th, 11th, 4th, and 17th Batts. respectively Lancashire Vol. Regt., and M. Bannister (February 11th, 1918) and W. J. R. Dunn (March 9th, 1918), from Lancashire Motor Vol. Corps. To be temp. Lieutenants: Medical Officers and temp. Lieutenants J. E. Healey (February 20th, 1917), J. D. McVean (March 19th, 1917), F. J. Baidon (April 5th, 1917), J. Melvin (July 26th, 1917), W. Stewart (September 3rd, 1917), W. O. Piper (October 1st, 1917), J. Brown (October 17th, 1917), H. B. Bates (December 20th, 1917), J. R. H. Dabourg (February 27th, 1918), J. Holmes (April 3rd, 1918), from the 12th, 15th, 8th, 9th, 2/15th, 3/11th, 2nd, 7th, 6th, and 16th Batts. respectively Lancashire Vol. Regt.

*Leicestershire*.—To be temp. Captains: Medical Officers and temp. Captains J. A. H. Barnes (February 8th, 1917), F. S. Morrison (April 5th, 1917), J. M. Lidgow (October 3rd, 1917), J. R. Foulds (April 2nd, 1918), from the 1st, 3rd, 2/1st, 2nd Batts. respectively Leicestershire V. I. Regt.

*Lincolnshire*.—To be temp. Captains: Medical Officers and temp. Captains T. Annington (March 23rd, 1917), from 3rd Batt. Lincolnshire Vol. Regt., D. J. M. Bone (May 30th, 1918), from Lincolnshire Motor Vol. Corps. To be temp. Lieutenant: Medical Officer and temp. Lieutenant R. Slocock (October 3rd, 1917), from 1st Batt. Lincolnshire Vol. Regt.

*City of London*.—To be temp. Captains: Medical Officers and temp. Captains H. Webb (May 30th, 1917), M. C. Sykes (August 13th, 1917), D. McB. Greig (October 16th, 1917), from 5th, 2nd, and 6th Batts. respectively City of London Vol. Regt.

*County of London*.—To be temp. Captains: Medical Officers and temp. Captains B. Duke (March 23rd, 1917), E. S. Tait (March 25th, 1917), F. S. Barber (May 12th, 1917), H. W. Wood (May 13th, 1917), W. Lauzan-Brown (June 19th, 1917), F. M. Turner (July 13th, 1917), B. A. Richmond (August 10th, 1917), T. Halliwell (October 16th, 1917), F. J. Fidler (November 29th, 1917), G. Pollock (March 7th, 1918), A. A. Angelis (April 16th, 1918), R. M. H. Walford (May 1st, 1918), from 15th, 1st, 10th, 1/12th, 2/6th, 16th, 2/11th, 17th, 14th, 13th, 1/11th, 7th Batts. respectively

*County of London Vol. Regt.* To be temp. Lieutenants: Medical Officers and temp. Lieutenants: J. F. Sarjeant (February 27th, 1917), M. C. Corner (April 4th, 1917), J. Heard (May 1st, 1917), J. L. I. Moore (February 8th, 1918), J. Norton (December 12th, 1917), from 8th, 6th, 2/12th, 21st, and 4th Batts. respectively County of London Vol. Regt., A. H. Gibbon (August 10th, 1917), from County of London Vols. Bn. units.

*Merionethshire*.—To be temp. Captain: Medical Officer and temp. Captain C. E. Macnamara (July 17th, 1917), from 1st Batt. Merionethshire Vol. Regt.

*Middlesex*.—To be temp. Captains: Medical Officers and temp. Captains H. R. Bowtell (January 26th, 1917), J. R. Leeson (June 8th, 1917), F. G. Hargrave (July 9th, 1917), from 4th, 2nd, and 3rd Batts. respectively Middlesex Vol. Regt. To be temp. Lieutenants: Medical Officers and temp. Lieutenants J. S. Crone (February 8th, 1917), A. Wylie (March 22nd, 1917), from 6th and 5th Batts. respectively Middlesex Vol. Regt., E. W. Starkie (January 12th, 1918), and A. E. Tughan (January 12th, 1918), from Western and Northern Groups respectively Middlesex Motor Vol. Corps.

*Midlothian*.—To be temp. Captain: Medical Officer and temp. Captain W. Robertson (January 24th, 1917), from 2/1st Batt. Midlothian Vol. Regt. To be temp. Lieutenant: Medical Officer and temp. Lieutenant R. Inch (November 13th, 1917), from 1/1st Batt. Midlothian Vol. Regt.

*Monmouthshire*.—To be temp. Lieutenant: Medical Officer and temp. Lieutenant A. H. Martin (August 11th, 1917), from 1st Batt. Monmouthshire Vol. Regt.

*Montgomeryshire*.—To be temp. Captain: Medical Officer and temp. Captain W. R. Williams (February 2nd, 1918), from 1st Batt. Montgomeryshire Vol. Regt.

*Morayshire*.—To be temp. Lieutenant: Medical Officer and temp. Lieutenant J. Adam (April 5th, 1917), from 1st Batt. Morayshire Vol. Regt.

*Northamptonshire*.—To be temp. Lieutenant: Medical Officer and temp. Lieutenant E. J. Jennings (July 18th, 1917), from 1st Batt. Northamptonshire Vol. Regt.

*Northumberland*.—To be temp. Captains: Medical Officers and temp. Captains J. G. Miller (January 2nd, 1918), C. H. Evers (April 6th, 1918), from 4th and 5th Batts. respectively Northumberland Vol. Regt., and H. B. W. Paige (March 30th, 1918), from Northumberland Motor Vol. Corps. To be temp. Lieutenant: Medical Officer and temp. Lieutenant J. M. MacLachlan (July 5th, 1917), from 3rd Batt. Northumberland Vol. Regt.

*Nottinghamshire*.—To be temp. Captain: Medical Officer and temp. Captain H. O. Taylor (April 26th, 1917), from 3rd Batt. Nottinghamshire Vol. Regt. To be temp. Lieutenants: Medical Officers and temp. Lieutenants J. D. Willis (May 30th, 1917), A. Fulton (December 15th, 1917), from 2nd and 1st Batts. respectively Nottinghamshire Vol. Regt., and W. Hunter (March 15th, 1918), from Nottinghamshire Motor Vol. Corps.

*Oxfordshire*.—To be temp. Captain: Medical Officer and temp. Captain J. O. Sankey (March 8th, 1917), from 1st Batt. Oxfordshire Vol. Regt. To be temp. Lieutenant: Medical Officer and temp. Lieutenant J. A. H. Mogg (October 24th, 1917), from 2nd Batt. Oxfordshire Vol. Regt.

*Pembrokeshire*.—To be temp. Lieutenant: Medical Officer and temp. Lieutenant J. M. Owen (June 11th, 1917), from 1st Batt. Pembrokeshire Vol. Regt.

*Perthshire*.—To be temp. Lieutenant: Medical Officer and temp. Lieutenant T. W. Dewar (February 19th, 1917), from 2nd Batt. Perthshire Vol. Regt.

*Renfrewshire*.—To be temp. Lieutenants: Medical Officers and temp. Lieutenants R. S. Penman (June 4th, 1917), A. Leitch (June 21st, 1917), from 1/1st and 2/1st Batts. respectively Renfrewshire Vol. Regt.

*Rutlandshire*.—To be temp. Lieutenant: Medical Officer and temp. Lieutenant J. S. P. Dickey (February 13th, 1918), from 1st Batt. Rutlandshire Vol. Regt.

#### EXCHANGE.

REGIMENTAL MEDICAL OFFICER, at present stationed in Northern Command, is desirous of exchanging to the London District. Any one wishing to exchange please apply to No. 2788, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

#### APPOINTMENTS.

DISTRICT MEDICAL OFFICERS.—J. H. Bell, M.B., Ch.B. (Driffield Union), J. Dixon, L.R.C.P. and S. (Pontefract Union), G. A. Simmons, M.R.C.S., L.R.C.P. (Newbury Union).

#### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.

#### MARRIAGE.

MACANLAY-BRYSON.—On July 15th, at Dumfries, by the Rev. J. A. Campbell, Traquair, Lieutenant Thomas Symington Macanlay, M.D., R.A.M.C., of Serenban, Federated Malay States, to Eleanor Minnie, daughter of Mr. Alexander Bryson, Castramont, Retchell Park, Maxwelltown.

#### DEATHS.

DAVIDSON.—On July 23rd, at Woodville, Shettleston, Glasgow, Robert Davidson, M.B., C.M., D.P.H., aged 62 years.

ETTLER.—On the 19th inst., at his residence, 114a, Harley Street, London, W.1, the result of a serious operation, William James McCulloch Ettler, M.D., F.R.C.S., in his 50th year.

SARGENT.—On June 25th, at Bombay, following sunstroke, Edwin John Gostwyck Sargent, Surgeon R.N., H.M.S. *Topaze*, the beloved only child of William Gostwyck Sargent, M.D.S.S.A., J.P., and Mrs. Sargent, Pansion House, Padstow, Cornwall, and grandson of the late H. E. Sargent, Surgeon, M.D., Polyphat, Launceston, and the late John Bowen, M.A., Priest, Blackwood, aged 25.

STITT.—On the 17th inst., at Halifax, N.S., of blood poisoning, Robert R. Stitt, Medical Officer ss., second son of the late Colonel Samuel Stitt of Birkenhead and Mrs. Stitt of Cady, Cheshire, and loved husband of Eva Stitt, Port St. Mary, I.O.M., in his 51st year.



# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 3RD, 1918.

## CONTENTS.

	PAGE		PAGE
<b>ANNUAL REPRESENTATIVE MEETING.</b>			
ELECTION OF PRESIDENT ... ..	17	DR. ALFRED COX, O.B.E. ... ..	21
ANNUAL REPORTS OF COUNCIL ... ..	17	CONSTITUTION OF INSURANCE ACTS COMMITTEE ... ..	22
THE FINANCIAL POSITION ... ..	17	ELECTION RETURNS ... ..	22
THE JOURNAL ... ..	17	(To be continued.)	
<b>CENTRAL MEDICAL WAR COMMITTEE ... ..</b>			
MILITARY SERVICE ACT, 1918 ... ..	18	<b>ANNUAL GENERAL MEETING.</b>	
ECONOMY IN MILITARY MEDICAL SERVICE ... ..	18	AWARD OF STEWART PRIZE ... ..	22
EXPENSES OF MEDICAL WAR COMMITTEES ... ..	19	THE INDIAN MEDICAL SERVICE ... ..	23
WOMEN DOCTORS AND THE WAR OFFICE ... ..	20	THE PRESIDENCYSHIP ... ..	24
REAPPOINTMENT OF THE COMMITTEE ... ..	20	NAVAL AND MILITARY APPOINTMENTS ... ..	24
A STATE-AIDED MIDWIFERY SERVICE ... ..	20	APPOINTMENTS ... ..	24
MEDICAL REPRESENTATION IN PARLIAMENT ... ..	21	BIRTHS, MARRIAGES, AND DEATHS ... ..	24

### EIGHTY-SIXTH ANNUAL MEETING

OF THE

## British Medical Association.

LONDON, 1918.

### ANNUAL REPRESENTATIVE MEETING.

MR. E. B. TURNER, F.R.C.S. (Chairman of Representative Meetings), in the Chair.

THE proceedings of the Annual Representative Meeting opened on Thursday, July 25th, 1918, at the Connaught Rooms, London, at 10 a.m. The number of Representatives present was 116, and of members of Council other than Representatives, 16. The return of election of Representatives and Acting Deputy-Representatives was received, and certain apologies for absence were read. The Standing Orders of the last Representative Meeting were adopted, as was the report of the Agenda Committee, dealing with the order of business.

It was agreed to exclude representatives of the lay press during the consideration of the report of the Central Medical War Committee.

#### ELECTION OF PRESIDENT.

ON the motion of the CHAIRMAN OF COUNCIL, Sir Clifford Allbutt was re-elected President of the Association for 1918-19 by acclamation. The CHAIRMAN, in putting the motion, said that the Association had in Sir Clifford Allbutt a President who was not content with the mere perfunctory performance of the duties of that position, but one who turned up with great regularity at many committees and gave the Association the most valuable assistance.

#### ANNUAL REPORTS OF COUNCIL.

IN moving the approval of the preliminary part of the Annual Report, Dr. J. A. MACDONALD said that to the mournful obituary had to be added the name of Dr. James Green of Portsmouth. In the absence of the Representative for Cambridgeshire and Huntingdonshire, the CHAIRMAN formally moved an amendment protesting that the Annual Report was too meagre. Dr. MACDONALD said that it was under sheer compulsion that the Council published a Report less copious than usual, owing to insufficiency of paper and to other restrictions. The full Report was sent to chairmen and secretaries of the Divisions, along with an intimation that any member who wished to get a Report could have it. Dr. F. REES (Wigan) said that he found the Report extremely interesting and very concise; he thought that most Representatives were pleased that the shortage of paper had necessitated a less extended

document than on former occasions. The amendment was lost, and the remainder of the preliminary part of the Report was approved.

#### THE FINANCIAL POSITION.

DR. G. E. HASLIP, the Treasurer, began his statement by referring to the loss which the Association had sustained in the death of its Financial Secretary. Those who had worked with Mr. Guy Elliston knew that his heart had been in the work of the Association. The speaker referred to Mr. Elliston's secretaryship of the Medical Insurance Agency, through which the medical charities last year benefited by a sum of £1,000. The success of that agency was a lasting memorial to the energy and foresight of Guy Elliston.

THE finances of the Association had been adversely affected by the continuance of the war. After providing against depreciation and all visible liabilities, the balance to be carried forward to the surplus funds was £2,841. A loan of £11,000 from the Central Insurance Defence Fund had been paid off as also had a loan of £600 from the Central Emergency Fund; both amounts had been invested in national war securities. The receipts of the Association were lower by £1,200, owing to the increase in the number of members serving abroad, who paid a reduced subscription. The total increase in the expenditure of the Council and its Committees was £2,818. As to the JOURNAL, the difficulties encountered in 1916 had been accentuated during the year under review. The price of paper had continued to advance, until now, for paper of an inferior quality, five times the pre-war rate was being charged; moreover the uncertainty of the supply was still very great. Sufficient paper was in stock to last until the end of the year, and there was just a chance that by that time the pressure might be relieved. Unfortunately, a reserve of paper amounting to 61 tons was destroyed by fire, and it was possible to get a permit from the Government for only two-thirds of that quantity. The expenditure on paper for the JOURNAL and SUPPLEMENT and address bands in 1916 was £8,000, in 1917 it was close upon £13,000, or more than half as much again. The cost of printing was also higher. A satisfactory feature of the JOURNAL accounts was an increase of advertisement revenue by £1,400. That showed the stability of the JOURNAL, but in reckoning upon this asset, regard must be paid to the diminished number of pages in present issues; the increased rate for advertisements would not compensate for the necessary reductions in advertisement space.

THE financial part of the Report was then agreed to without discussion.

#### THE JOURNAL.

MAJOR ALBERT LUCAS (Chairman of the JOURNAL Committee) said that he wished to echo the sentiments which the Treasurer had expressed with regard to the late Guy



Elliston. Mr. Elliston was always most keenly alive to the interests of the Association, and worked most enthusiastically for it. In every little point affecting the financial side of the Association he was always most astute; not only so, but when he died Major Lucas said that he for one felt that he had lost a personal friend. The year had been one of the greatest difficulty in regard to the production of any newspaper. It had been anticipated that the paper supply would be cut down, but it had been cut down more drastically than was expected, and instead of having, as in pre-war times, about sixty or seventy pages of literary matter and as many of advertisements, the weekly issue now contained sixty-four pages, divided about equally between literary and advertising matter. It was much easier to publish a full paper than a condensed one, but he considered that the condensation had been a great success. The time might arrive, if war conditions continued, when it would become necessary to cut down still more. The price of the JOURNAL to non-members had been raised to one shilling; in spite of this increased charge as many copies were being sold as before. The raising of the price meant that non-members of the Association were paying as much or more for the JOURNAL than members paid for all the advantages of the Association. Dr. Horner's service as Assistant Editor had been entirely satisfactory. He had worked very loyally with the Editor, and the Committee had been very pleased with his work. Lieut.-Colonel Guy Stephen had resigned his office as Sub-Editor, and the Committee had granted him a retiring allowance in view of his satisfactory service for about fifteen years.

#### *Accident Insurance.*

Dr. S. CRAWSHAW (Ashton-under-Lyne) moved that the Association publish a medical annual, and, further, that a system of accident insurance be formulated in connexion with the JOURNAL. He said that the first suggestion was, he understood, in process of being carried out; as to the second, he thought that some form of accident insurance or sickness insurance to be included in the regular subscription would bring in more members.

Major LUCAS said that a handbook had been issued at an expenditure of £130, and the CHAIRMAN added, in reply to Dr. CRAWSHAW, that it was hoped to make the handbook an annual production.

Major LUCAS said that the question of an accident policy had been previously considered and reported on in 1909-10; the Council was then advised that the establishment of such a policy was legally impracticable on any footing which would involve the Association in pecuniary liability, and, further, even if there were no legal obstacles, it would lower the prestige of the JOURNAL.

The rider was withdrawn, and the Report under the heading of the JOURNAL approved.

#### *CENTRAL MEDICAL WAR COMMITTEE.*

Dr. T. JENNER VERRALL, Chairman of the Central Medical War Committee, said that up to November last the Committee continued its relations as aforesaid with the War Office, but the Ministry of National Service then took over all questions relating to recruiting, including the supply of medical officers. From the beginning of its relations with the new Ministry every effort had been made to establish efficient and cordial correspondence, and the Ministry did not take important steps without seeking the advice of the Committee. No Ministry could possibly promise that in any given case or continuously the advice of the Committee would be taken; but the Committee had the machinery by which it could ascertain the condition of medical man power throughout the country, and all the information it possessed was placed at the disposal of the Ministry. In July, 1917, the Committee informed the late D.G.A.M.S. that the supply of doctors would dry up; that did not mean that no more medical men would go into the army. Every year a number of men became qualified and available for military service, and in the case of many others the local conditions which made military service impossible or extremely difficult had become modified. What the Committee meant was that the task of supplying vacancies became harder as time went on. That this statement was justified was proved by the fact that, taking the period from January, 1918, to the present time, the Committee had fallen behind in the supply of deficiencies to the extent of over 150 men, and that at a time when the

army was crying out for doctors. With regard to the position of medical students, Sir Donald MacAlister had expressed the opinion that the outlook for those becoming qualified was better than twelve months ago. Applications for demobilization gave the Committee, and more especially the executive subcommittee, many searchings of heart. During the past few weeks, however, the authorities had intimated that in the present emergency no more applications of the kind could be entertained. By the "present emergency" was meant the situation which had developed on the western front since March. Applications for demobilization must therefore be received with great hesitation, and granted in only a very few instances. The Committee had urged that when demobilization was asked for on any ground at the request of the Committee—not at the request of the officer—the gratuity should not be forfeited. That concession had not yet been made. As to general demobilization, the Committee was doing its best to look ahead.

#### *Military Service Act, 1918.*

The following resolution standing in the name of the Brighton Division was then considered:

That in the opinion of this Representative Body, as the medical profession, either as medical officers in the navy, army or air service or as civilian practitioners, have, with negligible exceptions, rendered ungrudging assistance to their King and country, any conscription extended beyond the age limit determined on for the rest of the nation and moreover different in character and of the nature of an industrial conscription, which has constantly been repudiated by the Government, is totally unnecessary and unwarranted. It is an unjustifiable reflection on their patriotism embodied for all time in an Act of Parliament. This Representative Body regrets that the Council did not find it possible to object to the proposed special treatment of the profession, and considers it necessary to place on record this protest.

In support of this it was pointed out that it was not any want of patriotism or any hanging back of the older men which dictated this amendment. In the administration of medical service in Sussex the difficulty had been to keep the older men back. The motion was framed because the Division felt that whereas the Government had given a distinct assurance to the representatives of labour that there should be no industrial conscription, it had meted out to the medical profession alone a form of professional conscription.

Dr. F. A. L'E. BURGESS (Birmingham Central) thought the Council right in not protesting against the raising of the military age for the medical profession above the age determined on for the rest of the nation. Several large industrial areas—his own, for instance—requested the Central Medical War Committee to ask the Government to raise the military age. The great majority of medical men were absolutely patriotic, and had done their utmost to help in the war, but it had happened in some districts that one man was not doing his duty, and it was this exception they wanted to reach. By raising the military age there would be no further difficulty.

Dr. MACDONALD (Chairman of Council) reminded the meeting that the subject of the conscription of the profession as apart from the rest of the community was raised in the Representative Meeting last year, when the report of the Council on this subject was approved and a contrary amendment defeated. Speaking for himself, he said that he did not object to conscription when it was done openly; what he did object to was the backhanded manner in which this particular conscription was brought about. The Representative Meeting, however, had clearly agreed to the principle of conscripting the whole profession.

Dr. JAMES PATTON (Gateshead) said that those remaining in civil practice in industrial districts were already so overworked that it would be impossible to carry on if more men were taken from among those of higher age. It was impossible for a medical man to get a holiday because he could not get a locum tenens. Strong representations should be made that the medical aspect of the matter should be reviewed.

Dr. E. H. WILLOCK (Croydon) said that the action of the Government in this particular was one of the sanest pieces of recent statesmanship. It had to consider both military and civil necessities. He agreed that the medical men in the army should be used to the very fullest purpose, and that there should not be the waste which had gone on up to the present, but he felt that he interpreted the



feeling of his brethren when he said that they wished to be where they were most wanted. Speaking as one in general practice himself, he felt that if they only set to and organized their private work they could do a great deal more than at present.

Dr. F. RIES, Wigan, said that they ought to feel proud that the Government recognized them as being a body of men who were essential to the life of the country, and who could do their work efficiently up to a higher age than others. Personally he felt proud to have passed lately as a Grade I man, and he would be very willing to do anything that he was asked to do. He was still not convinced that the Government was doing its best with the men at its disposal, but he did not see how things could be altered at present.

Dr. J. W. JOHNSON (Bury) said that it was for the Local Medical War Committees to make arrangements for the working of the practices of the men who had gone. There had been men eager to take advantage of the absence of their fellow practitioners, but he now found a greater propensity on the part of some of these men to help their colleagues.

Dr. VERRALL said that even if he were to agree with the Chairman of Council in his criticism of the manner in which this thing was carried inside Parliament or fostered outside, still, if the meeting recalled what it did last year when it threw out an amendment in the name of Liverpool protesting against this very thing, it could not accept the Brighton amendment now. The necessities of the times and the making of the utmost use of the medical profession were the justification.

The CHAIRMAN pointed out that under the Act the Government had the power when the emergency arose to apply to any portion of the community the measures already applied to the medical profession; it was more satisfactory to have them applied directly in the House of Commons than subsequently by an Order in Council.

The amendment was put to the meeting and lost.

Dr. J. STEVENS (Edinburgh) moved as an amendment that no medical man should be conscribed into the ranks unless he had refused to take a commission. He held that if for any reason a practitioner felt that he could not undertake this new civil work, he ought to be given the opportunity of accepting a commission before he was conscribed.

Dr. R. A. LUNDIE (Edinburgh), in seconding, said that the medical profession had been placed in a most invidious position by the regulations which practically forced them to accept civil practice. As holders of a commission, these older men would in many cases have easier conditions of work than if forced to undertake heavy civil practice; it would lighten the situation if they had the offer of a commission before being conscribed into the ranks.

Dr. W. F. DEARDEN (Manchester) said that if a medical man accepted the standard exemption or certificate of protection he agreed when called on to undertake any civil service required by the National Service Ministry. If he knew himself to be unsuitable for the allotted sphere, his refusal to accept the condition would mean that he must go into the army as a private.

Dr. VERRALL said that a man might be unfit to perform military service and yet be quite fit to do ordinary medical work. It might be impossible on physical grounds to grant him a commission, although he would be capable of civil practice. The object of the new legislation being to get more doctors to serve as doctors, it was very unlikely that any medical man would be used in any non-medical occupation if it was at all possible for him to do any medical work.

This amendment also was lost.

#### *Economy in Military Medical Service.*

Dr. G. E. HASLIP (Westminster) moved a rider:

That this Representative Meeting, in view of the feeling that the services of the medical men in the army are not being fully utilized, urges the necessity of publishing the report of the Commission to France on the medical work in the army, or of giving the Central Medical War Committee access to such report.

He said that much was heard of waste of medical man power in the army and of men not fully utilized. The Commission was sent to France because of dissatisfaction at the waste of medical power. The report had not been published; the Under Secretary of State had refused to present it to the House of Commons, and the Commission was not asked to pursue any further investigations.

The only reply from the Government was to raise the age to 56. The Central Medical War Committee was not only the medical tribunal, but the recruiting centre of medical officers for the army, and if it was its function to find such men for the army, it was only right that the Committee should know whether the men they found were being used properly or extravagantly.

Dr. HOWARD MARSHALL (Gloucestershire) said that the wastage of medical power in France was appalling.

Dr. C. BUTTAR (Kensington) said that unless something definite were to result from passing the resolution, it would be better to leave matters alone.

Dr. JOHN CLARKE (Woolwich) referred to the action of engineers and workers in skilled crafts who had insisted upon certain facts being laid before them by the Government. Could not the medical profession insist upon similar treatment?

Dr. J. A. MACDONALD said that he would admit Dr. Clarke's position if medical men had the power of the vote behind them, as the munition workers had. If the Government was informed that the withdrawal of men from civil practice had almost reached its limit, and that in default of definite proof that the army was making the best use of the men the Central Medical War Committee had furnished it could take no further action, the Government might take the matter out of the hands of a professional body, hand it over to its own recruiting organization, and take any men it pleased.

In the course of the discussion it was pointed out that the Committee had tried, and other people had tried, to gain access to this report and had been repulsed. But those who were in the service at the moment were satisfied that, whether the report was ever published or not, something must have been done which had altered matters considerably. Some influence had been at work for good in the way of better organization and economy. The majority of men in the service who were anxious for work had always found it, whether at home or abroad.

Dr. H. F. OLDHAM (Lancaster) said that while the profession was proud that the Committee had been given its present powers, it would be quite fair for it to tell the Government that if it was to continue to do the work efficiently it must know the ground it had to traverse. The best way of focussing the demand would be to alter the rider by omitting the suggestion with regard to the publication of the report, and concentrating on the desirability that the Committee should have access to it. He moved an amendment in that sense, which Dr. Haslip accepted.

Dr. VERRALL said that if the non-publication of the report was a detriment to recruiting it was their duty to make the demand upon the Government. They could only have suspicions as to what the report contained, but they might draw conclusions and regard it as possible that some of the proposals were now being carried out.

The rider was then agreed to in the following form:

That this Representative Meeting, in view of the feeling that the services of medical men in the army are not being fully utilized, urges the necessity of giving the Central Medical War Committee and the Scottish Medical Service Emergency Committee access to the report of the Commission of Inquiry in France.

Dr. NOY SCOTT (Plymouth) raised the question of medical students in a position to pass certain professional examinations. What was the position of a student who, having qualified by attendance and certificates to enter had failed in the actual examination?

Dr. VERRALL said that in such a case the dean of the school could exercise discretion if he decided that the student ought to have another chance before being called up for service, there could be no doubt that he would be allowed to go up again. If a man deliberately failed he could be called up at once.

#### *Expenses of Medical War Committees.*

With regard to several riders on the paper expressing the view that out-of-pocket expenses of the Central and Local Medical War Committees should be paid by the Government, Dr. MACDONALD said that it had been left to the officers of the Association to watch for a favourable time to apply for a subvention. That time, in their opinion, had not yet arrived. If it was desired to keep the Committee in any position of independence they must be prepared to pay for it.



The CHAIRMAN said there was a strong feeling on the Committee that it was essential to its work that it should not be a paid body at present. As to the expenses of the local committees, the idea was to apply for a lump sum at some future time.

The riders were withdrawn.

#### *Women Doctors and the War Office.*

Dr. CHRISTINE MURRELL (Kensington) moved:

That this Representative Meeting protests against the conditions under which the women doctors are serving with His Majesty's forces, as being in conflict with the policy of the Association that no distinction be made on the ground of sex as regards the emoluments to be paid to women practitioners.

She was informed that medical women in the home forces working under the War Office did not get the yearly gratuity, had no "service" reduction of income tax, no cheap travelling facilities when off duty, no ration allowance, and no pension, while sick pay was doubtful. She was not one of the women concerned, but she had no hesitation in appealing to men doctors to see that their women colleagues had equal conditions of service.

Dr. GARSTANG seconded.

Lieut.-Colonel BOLAM said that a civil medical practitioner, if working whole time in a hospital, could get 24s. a day, according to certain rates that were laid down, but he got no concession in the way of railway facilities or income tax, and was, in fact, in exactly the same position as the medical women of whom Dr. Murrell had spoken.

Major MCADAM ECCLES (Marylebone) said that there were a number of lady practitioners who were purely civilian and were giving their services to the country. There were also a very few who were entitled to wear uniform, and had all the facilities of the male practitioner in uniform, while those not in uniform were in the same position as men not in uniform.

After some further discussion it was agreed to instruct the Council to inquire into the conditions under which women practitioners did military work, and if it was found that there was any conflict with the accepted policy of the Association, that no distinction on the ground of sex should be made as regards the emoluments to be paid to women practitioners, to press for the alteration of such conditions.

#### *Reappointment of Central Medical War Committee.*

The CHAIRMAN moved the reappointment of the Committee with the same personnel, except that Major Russell Coombe should take the place of the late Lieut.-Colonel J. Michell Clarke, and Dr. C. H. Panting of Leyton the place of Dr. B. A. Richmond. Dr. Richmond had resigned from the Committee, having accepted office as one of the visitors of the National Service Ministry. The Committee in the future would have some exceedingly strenuous work to perform. It was a Committee which the Government now understood and consulted in all possible ways.

Major FOTHERGILL suggested that the words "with power to fill vacancies," should be added to the motion, but the CHAIRMAN said that from the first the Committee had had the power to co-opt and had co-opted. Also on Major FOTHERGILL's motion, a hearty vote of thanks was accorded to Dr. Verrall for his services during the past year.

#### *A STATE-AIDED MIDWIFERY SERVICE.*

Dr. T. W. H. GARSTANG, as chairman of the Medico-Political Committee, moved the following recommendations of Council with regard to proposals for a State-aided midwifery service. They might seem to be self-evident propositions, but it was possible they might not seem so to the lay public; it was therefore thought well to ask the Representative Meeting to give them definite approval. The four sections were discussed separately.

- (i) That the British Medical Association is strongly opposed to any measures calculated to place the practice of normal midwifery solely in the hands of midwives.
- (ii) That ante-natal work should not be undertaken by midwives except in so far as this work is limited to advice on general domestic hygiene. All advice and treatment of any conditions likely to affect injuriously the health of the expectant mother or her child is the province of the medical practitioner, and any such condition known to the midwife should be immediately reported to the medical practitioner.
- (iii) That steps be taken (a) to call the attention of the proper authorities to the national danger likely to arise from any

measures tending to diminish the practice of normal midwifery by registered medical practitioners by reason of the loss of medical experience necessary to the maintenance of the capability of medical practitioners to deal with abnormal labour, and (b) to point out that with the large increase in the number of women medical students there is every reason to anticipate the existence in the near future of a sufficiency of duly qualified medical practitioners to meet the whole needs of the situation, both as regards midwifery and ante-natal and post-natal care and treatment.

- (iv) That in any scheme for the improvement of the midwifery service of the country it shall be provided that the private medical practitioners of the locality shall be responsible for any necessary clinical supervision of the practice carried on by midwives.

With regard to (i) Dr. C. E. S. FLEMMING (Salisbury) said that he was not opposed to the principle of the resolution, but he objected to the manner in which it was put to the public, which disguised the inherent altruism and public spirit of the profession. He moved accordingly. After some discussion Dr. Flemming's amendment was carried by 23 to 13, and the clause was subsequently amended to read:

That while recognizing the urgent need for an improved midwifery service, the British Medical Association is of opinion that it would be gravely detrimental to the public interest that the practice of normal midwifery should be placed solely in the hands of midwives.

Dr. FLEMMING also moved to amend No. (ii) by substituting for the words "is the province of the medical practitioner," the words "can be properly given only by the medical practitioner," in order to avoid creating an unfavourable impression in the minds of some people.

Dr. MACDONALD said that he regretted to differ from Dr. Flemming's general position, but he was persuaded that the opinion of the Association was quite definite that antenatal work, save of the limited kind set out in the recommendation, should not be undertaken by midwives.

The amendment was lost.

Dr. FLEMMING further objected to No. (iii), on the ground that it suggested that students might gain experience at the expense of parturient women. If any better service was possible, it should be adopted without reference to its effect on the training of the younger medical men. He believed there were means by which the midwifery service could be improved, and that practitioners could control it to a greater extent than was the case at present.

Dr. H. F. OLDHAM (Lancaster) said that, of course, doctors must learn the practice of midwifery in the homes of the people as well as in the hospitals, but to put that forward as an argument why someone else should not do the work was to take up a false position.

Dr. D. A. SHEAHAN (Portsmouth) said that when the medical men at present abroad were home again doctors would probably be glad to have midwifery.

An amendment to refer back was lost, and the original clause carried.

In moving No. (iv) Dr. GARSTANG said that they were trying to get into the suggested declaration as much control for the local medical profession over the practice of midwifery as, in his opinion, they would ever be likely to get—that is, that the private medical practitioners of the locality should be put in a position of official supervision over midwifery cases attended by midwives more particularly when these cases were abnormal and beyond the capacity of the midwife.

Mr. BISHOP HARMAN said that there should be a reservation of this work for the private practitioner, and not for the whole-time officer appointed *ad hoc*. Major RUSSELL COOMBE described the arrangements in Devonshire for inspecting midwives. Dr. C. H. PANTING thought that the whole-time officers of the county should inspect the midwives. Dr. FLEMMING said that the Local Government Board was subsidizing midwives in order to maintain what was called an efficient midwifery service. Dr. H. B. BRACKENBURY pointed out that the resolution was drafted in order to get the work of the clinical practitioner in proper relation to any midwifery clinical service. Dr. J. HUNTER (the Lothians) suggested that by placing midwives under the control of two separate medical men friction would arise. He thought it sufficient for the midwife to be under the control of the medical officer of health.



Dr. GARSTANG said that the paragraph was not concerned with what the medical officer of health did. Midwives were not controlled by the medical officer of health; they were simply inspected, and might be reported on and punished. That part of the Midwives Act and its administration was not touched in this recommendation. In most counties the medical officer of health, who was responsible for midwives, never saw one personally from year end to year end. He was an administrative and not an executive officer, and usually the Public Health Committee gave him a number of assistants who visited the midwives, but these only paid visits about twice a year. It was in abnormal cases that supervision was specially required. At present the practitioner called in by the midwife under such circumstances had no particular further connexion with the midwife's treatment; he was supposed to keep an eye on the patient for a certain time afterwards. The object of this suggestion would be to give the practitioner called in a semi-official status.

Clause (iv) was then carried. Dr. GARSTANG said that, owing to lack of the necessary notice, these could only be regarded as resolutions of the Representative Meeting, and not necessarily in the technical sense as the policy of the Association.

#### MEDICAL REPRESENTATION IN PARLIAMENT.

Dr. GARSTANG, as chairman of the Medico-Political Committee, then moved the recommendation of Council:

That the Representative Body proceed to consider the desirability of the Association taking steps to raise a voluntary fund to assist the candidature of such members of the medical profession as may be approved as candidates for parliamentary seats.

Divisions and Branches had been circularized as to the likelihood of success attending the inauguration of a fund by the Association for assisting parliamentary candidatures; replies had been received to date from 115 out of 215 home Divisions. Of the Divisions replying, 47 might be taken as of opinion that success would attach to the inauguration of such a fund, 43 that it would not be a success, one Division on a postal vote was equally divided, 11 reported that they had arrived at no decision, and 13 were to meet shortly to deal with it. Anything that he said must be taken as his own ideas and not recommendations of the Council. His own feeling was that some attempt ought to be made to create this fund. If it succeeded they would have done a great and important work. If it failed they would have a practical answer to those members of the profession who for several years past had been constantly nagging at them to do something of the kind.

Mr. BISHOP HARMAN (Marylebone) said that the question was not an easy one, yet if anything was to be done, now was the time to do it, when parties were in a state of flux. His own Division asked the Council to take steps to initiate and raise a voluntary fund to assist approved candidatures, irrespective of political party.

The motion proposed by Dr. GARSTANG was carried, and the meeting then proceeded to discuss various riders involving more definite action.

Dr. W. JOHNSON SMYTH (Bournemouth) moved:

That the time has arrived when the medical profession should be more fully represented in the House of Commons. To this end financial aid should be provided when necessary for candidates approved by the British Medical Association from funds specially collected by it for this purpose.

He believed that at the next election there would be twenty or thirty Labour candidates who would be medical men, and if the Labour party came into office or even into a position of holding the balance of power, legislation might well be passed radically affecting the medical profession. The House of Commons would be deeply impressed by the so-called medical views of doctors representing Labour; but was it likely that they would support the ideals of the Association? It was an urgent matter that the Association should do something to support approved candidatures.

Dr. H. F. OLDHAM (Lancaster) regarded the proposition as utterly impossible. They might subscribe as much money as they liked, and pay any member of Parliament what subsidy they pleased, but the member would owe his seat to the party that placed him there and to his constituents, not to the medical profession. If a man at any election put himself forward as representing the medical

profession, he would be defeated; let him come forward as supporting some political party or social movement, and he would have a hope of success. What numbers could the general practitioners of the country muster as against the rest of the population? Even if they had a single vote in Parliament, what would that vote be worth? A man talking in Parliament on medical subjects was a voice crying in the wilderness; the member had got to play the political game. It would be wiser to use their resources in organizing the profession. Let them speak to Parliament as a profession when any social or economic question came up which affected them. If the Association could speak for the profession it would be listened to. When the public listened to them, Parliament must. He hoped they would have nothing to do with subsidizing candidatures.

An amendment, "provided such candidates are general medical practitioners," fell to the ground without a seconder.

Dr. J. A. MACDONALD said that he did not agree with some of Dr. Oldham's arguments. What they wanted in the House of Commons was a man who could speak officially for the Association as representing its view. There were certain men in Parliament who sympathized with the Association to some extent, but what was wanted was a man who, when it came to a question of medical politics, was prepared to set aside his ordinary party associations. If the Association wanted this thing members would have to put their hands in their pockets.

Major RUSSELL COOMBE described the circumstances under which the chemists secured a representative in the person of Mr. Glyn-Jones. He had been of very great service in Parliament to the chemists whose organization had promoted his candidature.

Lieut.-Colonel R. H. ELLIOT objected to the argument that medical practitioners could not hope for much because, compared with the rest of the community, their numbers were few. The matters they represented were in no way illustrated by the relative smallness of their numbers, but were questions affecting the whole population. It had been asked, What was one man's vote in Parliament? But one man of the right sort might be the means of influencing a group.

Dr. G. E. HASLIP (Westminster) was not optimistic with regard to the collection voluntarily of £3,000 or £4,000. To begin with a collection of £500 would be an earnest of their determination. He would suggest that it be left to the Council to support any suitable medical candidate irrespective of his party connexions. The candidate should give his word of honour that he was entering Parliament with the purpose of expressing the views of the Association and the medical profession. This would be the small beginning of direct representation.

Major FOTHERGILL disagreed with the view that the first thing was money; the first thing was the man. The dubious result of the reference to the Divisions and Branches was due to the fact that no man was in view. The man whom he had in mind was Dr. Alfred Cox. (Applause.) The money would follow if they got the candidate.

The CHAIRMAN suggested that to the end of the rider should be added the words:

And that the Council is hereby instructed to take such action as may best conduce to the attainment of this object.

With this addition, the rider was carried, with two dissentients, and the Chairman said that this and the other riders would be referred to the Council.

#### DR. ALFRED COX, O.B.E.

At this stage in the proceedings the CHAIRMAN referred to the fact that as a result of Dr. Cox's work for the Central Medical War Committee he had been honoured by the King. (Applause.) They would join in giving him very hearty congratulations, and also would send their congratulations to Miss Lawrence, whose work had been of great value to the office.

Dr. VERRALL (Chairman of the Central Medical War Committee) warmly seconded the motion of congratulation. He knew how thoroughly well deserved the honour was.

Dr. J. A. MACDONALD associated himself with the motion, which he desired to put on a broader basis. It was not merely on account of his work for the Central Medical War Committee that Dr. Cox was honoured. He had come in



contact not only with the War Office but with other departments of the Government, and there also Dr. Cox had impressed the staff with the sterling work he had done.

The motion was carried with acclamation.

Dr. Cox, in responding, said he did not disguise his satisfaction and pleasure at the distinction the King had bestowed upon him, but the honour would have been a small thing in his eyes if he had not felt that it was shared by the Association to which he had given the best years of his working life. He would convey the congratulations of the meeting to Miss Lawrence, M.B.E., who had furnished a brilliant example of the way in which women had risen to the occasion in the war.

#### CONSTITUTION OF INSURANCE ACTS COMMITTEE.

The order of the meeting was varied to allow Dr. H. B. BRACKENBURY (Chairman of the Insurance Acts Committee) to move the following recommendation of Council:

That the Annual Representative Meeting amend the Schedule to the By-laws as to the constitution (other than membership *ex officio*) of the Insurance Acts Committee to read as follows:

##### Otherwise Appointed.

Members of the Association appointed as follows:

6 elected (in the manner prescribed by the Representative Body) by the elected Representatives of the Constituencies formed for the United Kingdom under By-law 33, namely, 4 by all the elected Representatives (acting together) of the Constituencies so formed for England and Wales, and one each by all the elected Representatives (acting together) of the Constituencies so formed for Scotland and for Ireland respectively;

24 elected by the 4 members *ex officio* and the above mentioned 6 elected members of the Committee acting together, such 22 members to be nominated or qualified as under—namely:

18 to be selected so far as possible on a territorial basis from among members nominated by the Local Medical Committees and Panel Committees formed in Great Britain under the Insurance Acts;

1 (being a member of the Staff of a Voluntary Hospital) to be nominated by the Hospitals Committee of the Association;

1 to be nominated by the Medical Women's Federation;

1 to be nominated by the Society of Medical Officers of Health;

1 to be nominated by the Poor Law Medical Officers' Association of England and Wales;

with power for the members appointed as above provided to co-opt as additional members such number (if any) of non-panel practitioners as shall be required to secure that 4 such practitioners shall be members of the Committee.

Dr. BRACKENBURY said that the essential thing they wanted to preserve on the Insurance Acts Committee was an effective and organic connexion with the British Medical Association, and at the same time to allow a larger direct representation upon the Committee of the Local Medical and Panel Committees of the country. These statutory bodies, which represented insurance practice, not only could not be ignored, but the Association had no wish to ignore them. The present proposal, arising out of various resolutions of the Panel Conference last October, emphasized that point. The representatives of the Local Medical and Panel Committees under the new arrangement would be in a distinct majority instead of a minority on the Insurance Acts Committee. The proposition had been met by two opposite amendments on the agenda—one by Brighton, pleading that nothing ought to be done, and the other by Sunderland, that they ought to go further and practically abolish the influence of the Association on the Committee altogether. The Council's recommendation was a reasonable compromise. The Representative Body would elect six members of the Committee instead of twelve as hitherto, while eighteen members would be nominated by the Local Medical and Panel Committees. It would be a disaster if the Panel Committees were to set up an entirely independent body to represent them centrally.

Major GORDON DILL (Brighton) moved without comment an amendment proclaiming it unnecessary and undesirable further to extend the nominations to the Insurance Acts Committee by Panel Committees, and at the same time affirming the desirability of adding to this body representatives of other sections of the medical profession from time to time.

Major FOTHERGILL, in supporting this amendment, dealt with the history of this subject, and argued that the Association had already gone as far in the way of concession as it ought to go. The name and finance of the Association were used in the Insurance Acts Committee, while yet there was a movement in a slow and insidious way to oust the Association element altogether. Of course, the Association wanted the co-operation of the committees, but there was no guarantee that even now the committees would be satisfied.

Dr. F. REES (Wigan) supported Dr. Brackenbury, and thought that the non-extremists in the Panel Committee membership would accept the Council's scheme as a reasonable compromise.

Dr. J. W. BONE (Bedford) also supported the recommendation of the Council. He believed that the Panel Committees were steadily accumulating funds, and if they did not receive such increased representation as was suggested, they would shortly take power to break away from the Association by setting up a central body of their own.

The Brighton amendment was lost by a large majority, and the amendment by Sunderland, to allot twenty-four nominations to the Local Medical and Panel Committees, was moved formally by the CHAIRMAN, in the absence of the Representative, and lost also.

Dr. Brackenbury's motion was then carried, as were further motions prescribing the rules of election of the six members elected by the Representatives, and authorizing the continuance in office of the members of the Committee elected for 1917-18 on the nomination of the Local Medical and Panel Committees until such time as the eighteen new direct representatives from the committees could be elected.

#### ELECTION RETURNS.

At the conclusion of the business on Friday, July 26th, the MEDICAL SECRETARY read the results of the various elections as follows:

Chairman of Representative Meetings: Dr. T. W. H. GARSTANG.

Deputy Chairman of Representative Meetings: Major W. J. GIBBER.

##### Members of Council elected by Grouped Representatives—19.

Major A. C. FARQUHARSON, North of England, North Lancashire and South Westmorland, and Yorkshire Branches.

Dr. I. W. JOHNSON, Lancashire and Cheshire Branch.

Lieut.-Colonel D. G. THOMSON, East York and North Lincoln, Midland, Cambridge and Huntingdon, East Anglian, and South Midland Branches.

Dr. H. C. MACFIE, Birmingham, Staffordshire, North Wales, Shropshire and Mid-Wales, and South Wales and Monmouthshire Branches.

Mr. N. BISHOP HARMAN, Metropolitan Counties, Inner Group.

Dr. R. LANGDON-DOWN, Metropolitan Counties, Outer Group.

Dr. W. JOHNSON SMYTH, Bath and Bristol, Gloucestershire, West Somerset, Worcestershire and Herefordshire, Dorset and West Hants, South-Western, and Wiltshire Branches.

Major E. R. FOTHERGILL, Oxford and Reading, Surrey, Southern, Sussex, and Kent Branches.

Major G. F. CHRISTIE, Aberdeen, Perth, Northern Counties, Edinburgh, Dundee, and Fife Branches.

Dr. C. E. ROBERTSON, Glasgow and West of Scotland, Border Counties, and Stirling Branches.

Dr. J. MILLS, Connaught, Leinster, and South-Eastern of Ireland Branches.

Dr. J. S. DARLING, Munster and Ulster Branches.

##### Members of Council elected by Representative Body under By-law 36(a).

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

Dr. E. J. DONVILLE.

Major ALBERT LUCAS.

#### ANNUAL GENERAL MEETING.

The eighty-sixth Annual General Meeting of the British Medical Association was held in the Connaught Rooms, Great Queen Street, London, on July 27th. Sir T. CLIFFORD ALBUTT, K.C.B., F.R.S., President of the Association, was in the chair.

The minutes of the last Annual General Meeting were confirmed, and Messrs. Price, Waterhouse, and Co. were reappointed auditors.

#### AWARD OF STEWART PRIZE.

Sir CLIFFORD ALBUTT, the President, said that the objects of the Stewart Fund were in the main to encourage researches into the origin and spread of epidemic disease. After a very careful consideration, in which he had the honour of taking part, it was decided that the most prominent and excellent work of the last year was the research by Major (as he then was) Robert McCarrison, I.M.S., into the physiology and pathology of the thyroid gland and the parathyroid glands and the light he had thrown on the epidemiology of goitre. Sir Clifford Albutt said that he had himself for many years been collecting materials on Graves's disease and goitre with a vague idea



at some time of producing something very much less than such a treatise as had come from Lieut.-Colonel McCarrison; therefore he was not wholly unfit to pronounce with others a judgement upon this work. Those who had read the book would realize the great importance of the researches and their far-reaching value to public and clinical medicine. The development of research, of which this was so admirable a specimen, showed the encouragement now being given to research in all the services, among others the Indian Medical Service.

In Colonel McCarrison's absence in India the prize was received on his behalf by Major-General Sir Havelock Charles, G.C.V.O., I.M.S., Medical Adviser to the Secretary of State for India.

SIR HAVELOCK CHARLES said that it gave him very great pleasure to receive this Stewart Prize on behalf of his brother officer, Colonel McCarrison. The prize, in his opinion, was thrice honourable. It honoured its founder, in that it encouraged research, which was what he desired; the British Medical Association was also honoured, in that that body had been chosen as the judge of merit; and it honoured the recipient in that his labours for the welfare of mankind had been crowned with honourable recognition. Very few could go through this world amongst its many troubles unattacked by criticism, and few could go through the world without a pat of sympathy on the back. The British Medical Association that day had given a pat of sympathy on the back of Colonel McCarrison.

I first met him (Sir Havelock Charles continued) in Egypt in 1916 when I was inspecting hospitals there. He was then registrar of a hospital in Alexandria that had stepped in in a crisis and had saved that crisis; in that hospital Mrs. McCarrison was in full charge of the linen, blankets, medical stores, and "comforts." I was charmed with the neatness, orderliness, and cleanliness. I am pleased to say that Mrs. McCarrison now carries the King's medal for her work in Egypt. (Applause.) Major McCarrison, as he then was, fulfilled his part in that hospital with such merit that he was made a Brevet Lieutenant-Colonel. It was a high honour, Sir, to be made a brevet for work in the field. This shows that Colonel McCarrison, who was distinguished in and had imagination for research, had also practical ability in time of need. Colonel McCarrison began this research work in a valley near those mountains known as Hindu Kush, which means "the mountains that kill the Hindu" ("kushtan," to kill), at the north-west corner of the Himalayas. It was his leisure time that he occupied in this research; he carried on his routine duties also. Helping him in this research was Mrs. McCarrison, and, without any derogation to McCarrison, it can be said that he owes a great deal to the help he has received from his wife. Colonel McCarrison is an officer that any service can be proud of, and he has, and merits, the esteem of his brother officers.

#### *The Indian Medical Service.*

Sir Havelock Charles then turned to another subject. I desire, he said, to thank you in my own name and in that of my service—to thank this great body of medical men, the British Medical Association, especially its Naval and Military Committee and its able chairman, Colonel Elliot, I.M.S.—for the continuous interest they have manifested in my service, and for the able manner in which on a recent occasion they approached the Secretary of State for India. I have the honour to be Medical Adviser to the Secretary of State for India. I know personally that he wishes this Association nothing but well. Your deputation will bear me out in saying that we are happy in having in our Secretary of State a man of an open mind and with a breadth of thought to appreciate the relationship of medicine to modern government. That, I think, Sir, is a very great thing. There are many members of governments who do not appreciate this relationship. There may be room for reform in medicine; there is certainly often a necessity for reform in government. I give you a message from the Secretary of State to-day. He wants the best men you can give him, and he on his side promises that the labourer will get a worthy hire, and have opportunities for clinical work and research in a country where the possibilities of these are unsurpassed. For such as go there a career full of interest and a position not without honour will await them. The service is not dead yet. Mr. Montagu promises that, as far as in him as Secretary of State for India lies, the

Indian Medical Service will present as good if not a better career in the future than it has ever done in the past. The Secretary of State for India, it is true, may change, but this personal promise of the present Secretary of State will remain on record. The British Medical Association, with its powerful *JOURNAL*, and through its able Editor, has been, and I trust ever will be, an ever-present help in time of trouble for the Indian Medical Service. Your Editor's knowledge of the service conditions is vast; his experience of officers in the service is great, his sympathy is wide, his ear has often heard tales of woe and of the fardels that disgruntled officers of the service bear. I have never before had the opportunity of telling an editor in public what I think of him. (Laughter.) But I thank him both on behalf of myself and my service. He has done us well.

Lastly, Sir, partly as representing my service, I desire possibly to disabuse this meeting of the opinion that might have arisen from some statements that have been made with regard to the present condition of research in India. There was a time when proper laboratories did not exist. There was a time, just as in London, when the surgeon proceeded to the operating theatre clothed in a bloody frock-coat. I have seen it in London, for I go back so far, and I saw it in India. It no longer exists. Laboratories at that time there were none. In the year 1899 this British Medical Association held a meeting at Portsmouth. I was at that time in India, but a paper of mine was read at that meeting, and I will read part of the conclusion to show what I was driving at:

I think it will be admitted that the money Government has spent upon the anatomical buildings in Lahore and Calcutta will be in the end amply repaid, not only by the influence for good that a proper course of practical anatomy always has on students, but will help, by example, in furthering the building of laboratories and museums for the various branches of medical study, as the benefits derived in the anatomical side become manifest even to those who will not see.

I had said earlier in that same paper:

It has been my lot on two occasions to have to combat open opposition and veiled obstruction, to have to upset the senile argument that "men have got on well under the old system, why change?" to have to force the hand of Government, and, overcoming the inertia of officialism, compel attention to the disgraceful condition of the accommodation for anatomical teaching.

I thought I was safe in India when this was said so far away. I was not safe in India. From a high authority I received a letter stating that he had been debating in his mind whether I should not be held up for censure to the Government of India. I said in reply that as long as I possessed the confidence and affection of my patients in hospital and my students, it was a matter of indifference to me what censure the Government of India should pass upon me. (Applause.) The egg was then made to stand on end, and much of the water of research has flowed under the bridge of opportunity since those days. My former colleague Sir Pardey Lukis, when Director-General of the service—his death has been a sad loss—was the means of establishing the Indian Research Association, together with its *Journal*. Both of these are well endowed by the Government of India at the present day. The only difficulty since its establishment has been in obtaining a sufficient number of scientific workers of a suitable standard. Here is a field, the harvest is ready, and the money is there; we want the labourers. There are now—in the year 1899 there were not—research laboratories at Bombay, Kasauli, Madras, and Rangoon, schools of tropical medicine at Calcutta and Bombay (these schools, of course, are closed at the present time, when the men forming their staff are at the war, but the moment the war is over they will be reopened), Pasteur institutes at Kasauli, Shillong, and Coonoor, and a malarial bureau at Kasauli. And all these institutes are thoroughly equipped with special facilities for post-graduate work in medical research. But previous to all this, India was not devoid of workers in medical research. I almost feel, in the language of Jesus Son of Sirach, "Come, let us talk of great men"—of the work of Semple on rabies, of Acton and Knowles on the anti-venenes, of Mackie on relapsing fever, of Donovan on kala-azar, of Glen Liston and Lamb on plague, of Rogers on dysentery and liver abscess, of Greig on cholera, of McCarrison on goitre. Did time permit I could prove that not only is India a land for research, but that the work done is deserving of the thanks of the Government



of India, and what is more, of the respect of the medical profession in this country.

The CHAIRMAN OF COUNCIL, in expressing the thanks of the meeting to Sir Havelock Charles, regretted the absence on unavoidable business of Colonel Elliot, chairman of the Naval and Military Committee. He said that they knew in Ireland what it was to have a Charles on their side, and upon that useful ally the British Medical Association could congratulate itself.

The EDITOR, who was called upon, said that the great interest he had always felt in the welfare of the Indian Medical Service only partially justified the too flattering references to the little he had been able to do. Dr. Dawson Williams went on to observe that the character of the important official position now held by Sir Havelock Charles was worthy to be noted by the meeting. The predecessors of Sir Havelock Charles at the India Office had been, not the medical advisers of the Secretary of State, but chairmen of the Medical Board which was concerned chiefly with invaliding. As the importance of medical considerations to good government became better appreciated that position had been changed. Mr. Austen Chamberlain took a long step forward when he appointed a Medical Adviser to the Secretary of State for India charged with the duty of advising him on all matters affecting the health of the people of India, and with the right to make representations direct to the Secretary of State. Sir Havelock Charles had now been relieved of certain other routine duties, and he was at present in a position towards the Secretary of State for India analogous to that which in the future some member of the profession must hold towards the coming Minister of Health.

The thanks of the meeting to Sir Havelock Charles were conveyed by acclamation.

#### THE PRESIDENTSHIP.

The CHAIRMAN OF REPRESENTATIVE MEETINGS reported the re-election of Sir Clifford Allbutt as President for the ensuing year, and in doing so testified to the pleasure and pride of the Association in having Sir Clifford still in its chair. He was sure that Sir Clifford looked upon the Presidency of the Association as an honour, and every one of the members thoroughly believed that Sir Clifford highly honoured the Association in accepting the position. He was not an ornamental President merely, but one who took his part in the work of the committees and did everything in his power to further the Association's interests.

SIR CLIFFORD ALLBUTT, who was received with hearty acclamation, said that it was pleasant to him to receive such very kind expressions, and not less an honour to be appointed President year after year. He believed he would hold the record—certainly he held it up to the present—among all the Presidents of the Association for the number of his re-elections. He was painfully aware that during all this time he had been a sort of embryo President, but he might, perhaps, have the honour of regarding himself as a standing symbol of the hospitality which Cambridge would one day have to offer. On behalf of his University he could assure those present that, impoverished though Cambridge would be at the end of the war—he was not thinking merely of money, but of resources—nevertheless the spirit would be there to give the Association a most cordial reception when the opportunity arrived. (Applause.)

The business of the Annual General Meeting then concluded.

## Naval and Military Appointments.

#### ROYAL NAVAL MEDICAL SERVICE.

The following appointments are announced by the Admiralty: Fleet Surgeon G. G. Barrett to the *Temeraire*. Temporary Surgeons J. J. Keatley to Portsmouth Dockyard, C. R. T. Thompson to the *Impregnable*, G. Attwater to the *Albion*, C. E. Hetherington and R. H. Reece to Haslar Hospital, H. V. Edwards and A. S. Green to Chatham Hospital, N. B. de M. Green-treet, C. E. Cobb, E. N. Corry, H. Morrison, and A. D. Wall to Plymouth Hospital, P. Southern to the *Caesar*. To be temporary Surgeons: H. D. Morse, W. J. McClintock.

#### ROYAL NAVAL VOLUNTEER RESERVE.

To be Surgeon: W. A. Dymond. To be Surgeon Probationers: A. S. Bradlaw, J. O. Green, F. C. Madden, D. C. Sullivan, M. J. Heney, F. E. Jones, L. J. Walters, R. W. Stephens, G. L. Chambers, J. C. R. Edwards.

#### ARMY MEDICAL SERVICE.

Major-General (temporary) Lieut. General C. H. Bartschell, C.B., C.M.G., is appointed an Honorary Surgeon to the King, vice Lieut. General Sir A. T. Sloggett, K.C.B., K.C.M.G., K.C.V.O., retired pay.

Temporary Colonel Sir Thomas Crisp English, K.C.M.G. (Captain R.A.M.C.T.F.) relinquishes his temporary commission on reposting, and is granted the honorary rank of Colonel.

#### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonels to be acting Colonels:—Whilst employed as Assistant Directors of Medical Services, or Divisions: A. M. MacLachlan, FitzGerald G. FitzGerald, D.S.O. Whilst employed as Assistant Inspectors General of Medical Services, British Armies in France: W. R. Blackwell.

To be acting Lieut.-Colonels whilst in command of a Medical Unit: Captain (acting Major) M. O. Wilson, from January 24th to March 23rd, Major J. M. H. Conway, D.S.O., Major A. K. H. Reed.

Lieut.-Colonel E. B. Knox relinquishes the temporary rank of Colonel on reposting.

Majors relinquish the acting rank of Lieut.-Colonel on reposting: H. B. Kelly, D.S.O., C. W. O'Brien, R. F. M. Fawcett, D.S.O.

Officers relinquish the acting rank of Major on reposting: Captain F. G. A. Smyth; temporary Captains S. J. L. Laidman, C. G. Sutherland, M.C., E. R. D. Mazonochie, R. M. Handfield-Jones, H. Upcott, E. Biddle, M.C.

Captains (acting Lieut.-Colonels) to be Majors: G. H. Stevenson, D.S.O., W. H. Forsyth, E. B. Lathbury, C. Scaife, E. D. Caddell, M.C., W. E. C. Lunn, M.C., F. L. Bradish, D.S.O., W. J. E. Bell, D.S.O., C. W. Bowle, W. I. Thompson, D.S.O., E. C. Phelan, D.S.O., M.C., J. J. O'Keefe, M.C., E. J. Kavanagh, D.S.O., M.C., O. C. P. Cooke.

Captains to be Majors: A. C. Amy, A. H. Heslop, D.S.O., W. Mitchell, E. J. Elliot, E. Gibson, J. R. Foster, A. M. Bennett, G. P. A. Bracken, H. L. Howell, M.C., W. F. N. Loughnan, M.C., A. H. Jacob. Brevet Majors R. W. D. Leslie, D. M. Corbett, and J. A. Bennett. Brevet Major (acting Lieut.-Colonel) R. Johnson, D.S.O. Acting Majors T. W. Browne and C. H. Denyer, M.C. Temporary Major D. F. MacCarthy.

To be acting Majors: Captains A. C. Jebb, C. Kelly, M.C., C. C. Jones (from January 4th to May 16th), A. R. Wright, D.S.O., T. D. Inch, M.C., J. J. H. Beckett, T. L. Fraser. Temporary Captains: W. W. Wells, C. M. Kennedy, C. McE. Wilson, M.C., R. L. Scott, G. Richardson, W. H. Attlee, A. J. Blake, M.C., H. B. Walker, M.O., F. B. Brown, R. V. Dolbey, W. J. Pearson, M.C., R. H. Lucas, M.C., J. S. Joly, A. E. Rayner, L. Leslie, H. J. Leigh, H. J. Milligan, M.C., M. Donaldson. Temporary Lieutenant P. Murphy.

Temporary Captain James B. Robertson, M.B., is dismissed the service by sentence of a general court-martial, June 25th, 1918.

The notification in the *London Gazette* of January 11th, 1918, regarding temporary Captain J. R. Currie is cancelled.

Temporary Lieutenants to be temporary Captains: F. Penny, N. B. Walker, O. Marshall, H. MacKenzie, D. MacKinnon, A. P. Nicolle, C. E. A. Goddard, B. V. Ward, J. H. Clatworthy, H. C. Maitson, W. M. McDonald, J. Jenkins, J. A. Valentine, H. Daw, J. W. Trevan, J. B. Trench, W. B. Blandy, R. Jamison, T. E. Banister, A. B. Robertson, G. W. Stephens, G. W. Pone, G. C. F. Roe, J. P. Freeman, C. G. G. Winter, D. McGregor, J. R. Watson, C. Bernard, W. E. Procuency, R. R. H. Wonnacott, H. H. Stiff, C. Visger, J. B. Fearn, C. W. Freeman, R. R. Wade, H. C. Martin, E. D. A. McCrea.

To be temporary honorary Captains: Temporary honorary Lieutenant J. F. Cooper, J. Brereton-Barry, late temporary Captain R.A.M.C., whilst employed at the Welsh Hospital, Netley. W. R. D. Dalglish, late temporary Lieutenant, is granted the honorary rank of Lieutenant.

#### ROYAL AIR FORCE.

##### MEDICAL BRANCH.

Granted temporary commissions as Captains: L. S. Hooper (temporary Captain R.A.M.C., and to be temporary Major whilst specially employed), A. A. Wilkinson, R. E. V. Hale, T. H. James.

Lieutenant D. Pennington to be Captain. Granted temporary commissions as Lieutenants: C. Duggan, A. St. L. Hennessy, E. H. L. Le Cluzo, O. S. Martin, O. P. Turner, C. M. John, K. Batten, G. Hughes, H. T. Rymer, J. Valerie, J. P. Wells, J. P. Hosford.

#### EXCHANGE.

REGIMENTAL MEDICAL OFFICER, at present stationed in Northern Command, is desirous of exchanging to the London District. Any one wishing to exchange please apply to No. 2788, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

## APPOINTMENTS.

CARLILL, Hilfred, M.A., M.D. Cantab., M.R.C.P. Lond., Assistant Physician to the Westminster Hospital.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—The following appointments have been made.—House-Surgeons: K. S. Laid, L.M. and S. Bombay, and H. Khara, M.B., B.S. Resident Surgical Officer: S. N. Kaul, M.B., Ch.B. Edin., vice V. D. Nimbkar, F.R.C.S., temp. I.M.S.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.

#### MARRIAGES.

BURNHAM—PATERSON.—At the Parish Church, Langholm, on July 23rd, by the Rev. James Buchanan, assisted by the Rev. David Preston, B.D., Cecil Burnham, M.B., Ch.B., F.R.C.S. Edin., temporary Major R.A.M.C., Italian Expeditionary Force, second son of Henry Burnham, 11, Blakel Place, Edinburgh, to Marion Paterson, A.R.R.C., third daughter of the late J. W. J. Paterson, Terrona, and Mrs. Paterson, Eskbank, Langholm.

SHANNON—KERR.—On July 17th, at St. Andrew's Church, Wells Street, London, by the Rev. Walsingham Kerr, C.F., Captain F. Shannon, R.A.M.C., of Hounsey, London, N., youngest son of the late Thomas Shannon, of Chichester Park, Belfast, to Anne Marjell Shannon Kerr, youngest daughter of the late Rev. R. S. Kerr, Rector of Howth, Dublin, and grand daughter of the late G. W. Shannon, of 12, Leeson Park, Dublin.

SHATTOCK—MACKENZIE.—On July 27th, at St. Anselm's, Kingsway, Clement Edward Shattock, M.D., M.S., F.R.C.S. of Wimbledon, to Fede Margaret Mackenzie, M.B., B.S., of Genoa, Italy.

WHITE—LAMB.—On July 24, at Holy Innocents' Church, Fallowfield, Manchester, Charles Powell White, M.A., M.D., F.R.C.S., to Lettice Mary, second daughter of Professor Horace Lamb, D.Sc., F.R.S., of the University of Manchester.



## BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 10TH, 1918.

## CONTENTS.

	PAGE		PAGE
<b>ANNUAL REPRESENTATIVE MEETING.</b>		<b>OVERSEAS BRANCHES</b> ...	29
<b>MEDICO-POLITICAL COMMITTEE</b> ...	25	<b>THE MEDICAL PROFESSION AND THE FRIENDLY SOCIETIES OF AUSTRALIA</b> ...	29
CERTIFICATION OF WOMEN MUNITION WORKERS ...	25	<b>MEDICAL ETHICS</b> ...	30
FEES OF MEDICAL REFEREES FOR MINISTRY OF PENSIONS ...	25	<b>INQUIRY INTO COMPLAINTS</b> ...	30
VENEREAL DISEASE ...	25	<b>POSITION OF PRACTITIONERS LEARNING THE PATIENCE OF OTHER PRACTITIONERS</b> ...	30
INFANT CONSULTATION CENTRES ...	25	<b>HOSPITALS COMMITTEE</b> ...	30
NOTIFICATION OF INFECTIOUS DISEASE ...	25	<b>PAYMENT FOR TREATMENT OF DISCHARGED DISABLED SAILORS AND SOLDIERS AT VOLUNTARY HOSPITALS</b> ...	30
POSTAL MEDICAL OFFICERS ...	26		
<b>NAVAL AND MILITARY</b> ...	26		
<b>MINISTRY OF HEALTH</b> ...	26		
<b>NATIONAL INSURANCE</b> ...	28		
CENTRAL INSURANCE DEFENCE FUND ...	28		
PANEL PRACTICES OF WOMEN ON MILITARY SERVICE ...	28		
COST OF DRUGS: CHAIRMAN'S PROTEST ...	29		
DEPENDANTS OF INSURED PERSONS ...	29		
<b>ASSOCIATION ORGANIZATION</b> ...	29		
ELECTION OF MEMBERS ...	29		
STUDENT PROBATIONARY MEMBERS ...	29		
		<b>ASSOCIATION NOTICES</b> ...	31
		<b>NAVAL AND MILITARY APPOINTMENTS</b> ...	31
		<b>BIRTHS, MARRIAGES, AND DEATHS</b> ...	32
		<b>DIARY OF THE ASSOCIATION</b> ...	32

## EIGHTY-SIXTH ANNUAL MEETING

OF THE

## British Medical Association.

LONDON, 1918.

## ANNUAL REPRESENTATIVE MEETING.

MR. E. B. TURNER, F.R.C.S. (Chairman of Representative Meetings), in the Chair.

(Continued from p. 24.)

## MEDICO-POLITICAL COMMITTEE.

## CERTIFICATION OF WOMEN MUNITION WORKERS.

DR. T. W. H. GARSTANG (Chairman of the Medico-Political Committee) drew attention to the paragraphs dealing with medical certificates for women seeking employment on munition work. Members were urged not to furnish the elaborate reports which apparently were still being required in some places for any lower fee than that declared by the Representative Body to be the minimum—namely, five shillings. He moved that it be an instruction to the Council to take all necessary steps to give practical effect to that advice, and recommended that a tight be put up on this point if necessary. The Council, at the suggestion of the Ministry of Munitions, had drafted a simple form of certificate which the profession would be prepared to furnish on the basis of the half-crown fee. That form of certificate had not been accepted by the Ministry, and the old arrangement was still being pursued. More recently a deputation from the Association and the Medical Women's Federation had waited on Mr. Bridgeman, M.P., and in view of the representations which were going forward members were urged to take the action he had indicated at the beginning of his remarks.

DR. J. A. MACDONALD seconded the instruction to the Council, and this was agreed to.

## FEES OF MEDICAL REFEREES FOR MINISTRY OF PENSIONS.

DR. F. REES (Wigan) fathered an amendment which stood in the name of Sunderland affirming that the fee of a medical referee for the examination of discharged soldiers should be not less than 10s. 6d. It was not the case that the medical referee never had to go to the home of the person who was to be examined; he had to go occasionally. He estimated that the fee of 10s. 6d. (for filling up Form A.P.) only applied to 1 per cent. of the total number of cases examined; in the other cases the fee was 5s. The Local Pensions Committees depended absolutely upon the medical decisions, and so did the man himself, in the granting or withholding of a pension. Form T.R. 13 showed the amount of information required; it covered extent of incapacity, kind of treatment advisable, desirability or

otherwise of the man going to hospital, and observations on his general condition.

MR. BISHOP HARMAN (Marylebone) said that the original form of certificate produced on the occasion of their deputation to the Ministry of Pensions was very simple, stating whether or not a man was suffering from a war injury, and they were informed that the man would have his papers with him, showing the circumstances under which he was discharged. The fee for that was 5s., but it was evident that the Ministry was feeling its way, and was placing increasing burdens on people who were willing.

DR. F. A. L'E. BURGESS (Birmingham) found that in practice there was very little difficulty in dealing with the forms. A good many cases could be cleared up each in a few minutes; others, of course, necessitated rather prolonged examination.

DR. C. E. S. FLEMMING (Salisbury) said that in his district the medical referee was not expected to leave his house to undertake an examination, except in very special circumstances—for example, to visit a man who could not travel. The 5s. fee was a flat rate. In many cases it was a ridiculous figure for the work that had to be done. It was too early for the Association to give a definite ruling on the matter; it would be better to wait another year and in the meantime make systematic inquiry. The form of certificate was not fixed; each pensions committee had the right to make its own, and generally did so. Some were simple, others elaborate, but the form of certificate was not so material as the nature of the answers which had to be given. One question might involve a great deal more inquiry than half a dozen. Frequently when the medical referee or the local pensions committee asked for an opinion from the ordinary medical attendant there was no system by which that attendant could be paid. He suggested that the matter should be left to the Council. This suggestion was accepted after the CHAIRMAN had pointed out that the Council might arrange another deputation to point out these local variations and the inadequacy of the fee.

## VENEREAL DISEASE.

THE CHAIRMAN, in drawing attention to the section of the report dealing with venereal diseases, said that both the Association and the National Council for Combating Venereal Diseases wished that the treatment of these diseases should be carried out as far as possible by the patient's own private practitioner, and that every case should not be handed over to the clinics. From reports which came in it appeared that many medical men were in the habit of sending their cases wholesale to the clinics. This was a shortsighted policy. On demobilization the amount of venereal disease would be great, and would not be confined purely to insured persons, but would affect their dependants and the non-insured, and if the practitioner as a matter of rule had turned over these cases



to the clinics he would find himself lacking in necessary experience. In some districts Newcastle was one the general practitioners were attending by rota at the venereal clinic and doing this work themselves. The Association and the National Council for Combating Venereal Diseases were working hand in hand to encourage general practitioners to qualify themselves to treat these diseases in the most proper way, and so to keep this most important branch of the profession in their own hands, where it ought to be.

#### INFANT CONSULTATION CENTRES.

Major ALBERT LUCAS (Birmingham) moved:

That in the opinion of this meeting infant consultation centres should be purely consultative in their functions and no treatment be administered.

He thought the Representative Body should express itself strongly with regard to these infant consultation centres which were growing up everywhere.

Dr. J. A. MACDONALD agreed from recent experience that it was advisable to keep a sharp eye on these centres.

Dr. H. B. BRACKENBURY asked where advice ended and treatment began. If it was advice to prescribe milk, did it become treatment to mix sodium citrate with the milk? If it did, where was the line to be drawn in drugs? What about an occasional dose of calomel? It could not be said that if these infant centres were to be conducted at all, advice should not be given.

Sir CLIFFORD ALBUTT said that step by step general practice was being eviscerated, and seeing that if there was to be a Ministry of Health it must be built upon a big foundation of general practice, it was important that such a foundation should be maintained.

Major LUCAS said that he had expected Dr. Brackenbury to support more strongly the interests of general practitioners. At present everything was passing out of the general practitioner's hands. He was not himself a general practitioner, but he had their interests at heart.

The motion was carried.

#### NOTIFICATIONS OF INFECTIOUS DISEASE.

On the motion of Dr. D. A. SHEAHAN (Portsmouth) the Council was instructed to demand of the Government the restoration of the fee for the notification of infectious diseases to the pre-war time amount.

#### POSTAL MEDICAL OFFICERS.

Dr. CRAWFORD TREASURE (Cardiff) said that the fees of the medical officers of the Post Office were less than under National Insurance, where the medical practitioner who dispensed for his patient got 9s. per head, whereas the postal medical officer got 8s. 6d. It was no longer true to say that the postal medical officer dealt with selected lives, for the good lives had been absorbed into the army, and those who remained were old men, the medically unfit, the discharged invalids, and women, who needed more attendance. The cost of drugs and appliances had enormously increased. All other workers in the Post Office had had a war bonus. He moved that the Council be instructed to take the necessary steps, after proper inquiry, to rectify the position.

Dr. GARSTANG replied that every one would sympathize with Dr. Treasure's appeal, but the British Medical Association had received only one complaint from the service. The Postal Medical Officers' Association had not approached the British Medical Association. Dr. C. H. PANTING (South West Essex) said that if complaints were not numerous they existed. The Postal Medical Officers' Association, he believed, had not met for two or three years. Dr. F. A. L'E. BURGESS (Birmingham) gave a qualified support to the motion, and after Dr. C. P. LANKESTER (Guildford), and Dr. J. PATTON (Gateshead) had spoken in its favour, it was carried in the following form:

That it be referred to the Council to consider and take action concerning the question of the remuneration of postal medical officers.

#### NAVAL AND MILITARY.

Lieut.-Colonel R. H. ELLIOT, Chairman of the Naval and Military Committee, in moving the Report of the Council under that heading, referred first to the position of Territorial officers. They went into military work before the war and prepared for the emergency, but they had been treated with great injustice. They were at a disadvantage

as compared with men who came in after the war began. The position taken up by the War Office was that the Territorial officers had made a contract and must abide by it. Yet it seemed obvious that if it was necessary to offer certain terms to new men after the outbreak of war, those terms ought to apply equally to the men employed before the war. It was urged that at least the gratuity of the Territorial officers should be increased so that they should be in no worse position when demobilized than others, but to this a blank refusal was received. The Committee would keep steadily to its point, although for the moment it must act on the advice of those who had loyally backed it up and wait a little before making further definite protest. Touching next upon the question of the Indian Medical Service, Colonel Elliot said that the Secretary of State for India was very sympathetic to the strong deputation which waited on him on June 27th, but he was careful to tell it that he spoke only for himself. In the circumstances the only possible attitude was one of watchful waiting. Secretaries of State might promise and find themselves unable to perform; apart from that, Secretaries of State might change. But he was sure that the present Secretary of State was willing to do a great deal if he could.

In reply to a suggestion that an effort should be made to get the gratuity payable to temporary officers R.A.M.C. paid yearly as in the past, and not retained until the end of the war, as under the new arrangement, Dr. VERRALL stated that the Central Medical War Committee already had the question in hand.

#### MINISTRY OF HEALTH.

The consideration of this subject was opened by way of a rider from Stockport, Macclesfield, and East Cheshire and Hyde:

That this Representative Meeting does not consider the present time suitable for inaugurating extensive changes in connexion with the practice of medicine, the general body of medical practitioners being too busy with war work or actually on military service to give the matter that mature and careful consideration which so far-reaching a scheme necessitates or requires. The meeting strongly deprecates an attempt to rush an ill-considered scheme forward at this time.

Dr. J. B. HUGHES (Hyde and Stockport) said his constituency felt that the first duty of the Government was to win the war, after which there would be plenty of opportunities for professional reconstruction.

Dr. J. A. MACDONALD said that the amendment expressed the position originally taken up by the Association, but events had led to a modification. Even the Government had had the matter taken out of its hands. There was a very strong public opinion that it was time the Ministry of Health was introduced. The Association must be prepared with its scheme to meet the schemes that would be produced. A strong committee of the approved societies drafted a scheme and submitted it to the Government, who referred it to the Minister of Reconstruction, who asked representatives of the Association to meet him.

The resolution was lost by a very large majority.

Dr. C. BUTTAR (Kensington) brought forward three propositions:

- That the British Medical Association, impressed by the importance, in view of impending changes, of securing the unity of the profession, requests the Standing Committee set up by the Royal College of Physicians of London and the Royal College of Surgeons of England to take the lead, first, in rallying the various sections of the profession to the support of a common policy in all matters of reconstruction, and secondly, in finding the best means of satisfying the general desire for such a unity of policy and of giving it organized expression.
- That ten members of the British Medical Association be appointed who shall select an agreed number of members to serve on a joint committee if and when formed.
- That the Scottish and Irish Committees be authorized to make a similar request to the Royal Colleges in those countries respectively.

Dr. Buttard said that while the delay in producing the Ministry of Health Bill was largely due to the obstructiveness of certain Government departments, it was also true that the Government was being hard pressed by the advocates of schemes dealing with reconstruction, and their pressure might in the end prevail. It was even possible that before the recess the bill would be produced in the House of Commons. This was, then, a matter of urgent importance. All would agree that these questions of recon-



struction were national and not sectional concerns, and of vital interest to the medical profession. Yet was there at present any committee that could be said to represent a united medical profession? There were different bodies dealing with the problem—their own Association, the joint committee of the Colleges of Physicians and Surgeons, and a committee appointed by the Royal Society of Medicine—but he had no evidence that there was any communication between these three bodies; they were all acting independently, and they did not appear to have any common policy. There ought to be one body competent to express to the Government and to Parliament the views of all sections of the profession, and in forming such a body he suggested that the profession should avail itself of the prestige which attached to the Royal Colleges. The Government often listened to the wisdom of these two bodies, and, possibly owing to their prestige, sometimes attached more importance to their decisions than it did to those of a more democratic organization. Would any body really be representative of all sections of the profession which did not include the Royal Colleges, not only of England, but of Scotland and Ireland?

Major W. McADAM ECCLES (Marylebone), in seconding, said that, as a kind of *liaison* officer between the Representative Meeting and the Royal College of Surgeons of England, he believed this to be one of the most important motions before the Representative Meeting this year. As a profession, they had always been a little behind the times when any important matter had arisen, and if this was not to be the case now that the Ministry of Health was bound to come it was necessary that some such body as Dr. Buttar had outlined should be in existence, namely, a body so strong and important that the Government might actually have the kindness to consult it. There was an example of such a body in the Central Medical War Committee, which had been not only consulted by the Government but converted by the Government into a statutory tribunal. They wanted for this purpose another body of similar character to which the Government might come for a definite policy so far as the profession was concerned, and a body sufficiently strong to approach the Government during the passage of the bill through the Houses and inform whatever Minister might be in charge of that bill of the definite and united policy of the profession.

Dr. H. B. BRACKENBURY hoped that the meeting would not adopt the proposition in the form in which it had been proposed and seconded. If it did it would not show a proper appreciation of the work of the Association or of the position of the question at the present moment. Last year they passed a resolution approving of a Ministry of Health. The Council, on the basis of the scheme, which was generally approved, had received and considered amendments from many Divisions and from many sources. It had not happened to meet representatives of the Royal Colleges of Physicians and Surgeons as such, but it had met members of the councils of those bodies; it had drawn up a scheme as it was authorized to do, and had presented that scheme so far as it went as the scheme of the Association to the Government. That scheme stood as being at the present moment the scheme of the Association. There was no question of going into the matter *de novo*; their scheme had already been recognized by the Government and by the public, and had been published in a pamphlet. Whatever they did in unison with others, let them recognize that they had already gone so far, and that the Association had already been consulted by the Government as voicing the opinion of the profession. If one body was to be chosen for leadership, the British Medical Association was far more competent than either or both of the Colleges. They did not intend to ask the Royal Colleges to take the lead henceforth, though he hoped that, with the existing scheme as a jumping-off point, there would be some co-operation between the special committee of the Association and the Colleges, and any other interested bodies.

Mr. BISHOP HARMAN (Marylebone) moved as an amendment:

That the Representative Meeting, in approving the action of the Council in formulating a scheme for the establishment of a Ministry of Health, authorizes the Council to press upon the Government the formation of such a Ministry, and that the Council be instructed to seek the co-operation of such other medical bodies or corporations as shall interest themselves in the matter in securing this effect.

The Colleges, he said, were in a position of privilege, and had the tradition of centuries behind them, but he felt grievously hurt by the implication in the original motion that all the time and labour devoted to the scheme of the Association were thrown away.

Major FOTHERGILL, in seconding the amendment, expressed the opinion that the Colleges would have done nothing if they had not heard that the British Medical Association was doing something. They of the Association did not want to assert that they had all the brains and all the influence, but he was certain they represented the general practitioners, and the Colleges did not. If they adopted any resolution on the subject it should be in general terms.

Dr. F. L. POCHIN (Oldham) said that, whatever they might think about the establishment of a Ministry of Health, all would agree that the proposal needed very careful watching. The Minister would be a politician, and as such would not be content to see the general practice of this country entirely outside the range of his department, but would endeavour to create something like a State service. In order to watch the Ministry of Health it would be necessary to set up a very strong committee, and it would be a misfortune to allow any jealousy to stand in the way of making this committee thoroughly effective. He would strongly encourage anything tending to the unity of the profession, and Dr. Buttar's resolution was a step in that direction.

Dr. J. STEVENS (Edinburgh) said that the Colleges of Physicians and Surgeons in Edinburgh and the Faculty of Physicians and Surgeons in Glasgow had taken up this subject more than a year ago and had issued statements. In order to achieve the unity of the profession the Colleges must be got to go along with them, and the whole profession in its every aspect be thoroughly represented.

Dr. E. H. WILLOCK (Croydon) asked the meeting to consider the value the Colleges had in the eyes of the Government. If the Government was prepared to attach any weight to the opinion of the Colleges in this matter, then the profession must do its best to co-operate wholeheartedly with the Colleges. Public opinion in the matter of a Ministry of Health was very solid, firm, and progressive. The revelations as to national physique forthcoming from the recruiting medical boards had driven home the necessity of making sure that the neglect which had victimized the present generation should not be bequeathed to the next.

Dr. J. A. MACDONALD supported the amendment. The position of the Colleges was the result of their long existence and their admirable work on behalf of education; that of the British Medical Association was due to the work it had done for the benefit of the people and of the medical profession, and of the two bodies it was the Association which had the right to take the initiative in the matter. Let the Colleges be given as cordial an invitation as possible, but the lead should be kept in the hands of the Council if the thing was to be effective.

The CHAIRMAN said it was essential that they should go as a united profession to the Government. When they met the Minister of Reconstruction in conference they pointed out one particular respect in which the draft Bill should be altered, but were unable to produce any impression. If the Association could combine with the two Colleges the representations would be made with added force and prestige. The matter required delicate management, but if a united profession were not secured it would be a shuttlecock between the battledores of conflicting parties.

The amendment was carried, and became the substantive motion.

Major GORDON DILL (Brighton), as a member of one of the committees studying the future of the medical profession, said that the question of asking the British Medical Association to be represented was raised, and one thing that stood in the way was that the Association was already committed to a definite policy. Without criticizing the scheme which the Council had devised at the cost of so much labour and trouble, was it wise to force upon the profession and public a detailed scheme at the present moment? If the Association tied itself to this or any scheme, it put itself outside the deliberations which were now going forward in various bodies. The reasonable thing was to ask the Committee which had already done such good work to consider the scheme *ab initio*, and then



invite the co-operation of other bodies. The two main objects were to maintain at the highest pitch the health of the people and the standard of efficiency of the profession.

Dr. G. E. HASLIP (Westminster) insisted that the scheme of the Association was not cut and dried, but was quite open to modification. The Ministry of Health should be so formed as not to be a political job. The medical profession should practically hold the reins.

Dr. E. O. PRICE (N. Carnarvon) said that the proposed co-operation was not a formal one for the sake of appearance, but a real co-operation, in which the Colleges would add their ideas and influence to those of the Association in order to present to the Government a feasible scheme.

Sir BERTRAND DAWSON (Council) said that great changes were coming over the profession as a result of the war. Any one who had been out in France could not fail to have been struck with the changes that were being wrought in the minds of the men on service. Numbers of them had for the first time been able to do work which they felt did them credit. They realized that the present organization of the profession did not provide them with the means of doing the best work of which they were capable. These men were coming back a very real force. Changes of a fundamental character were being envisaged, and the profession was never going to be the same again. The forces at the back of this change had been in existence for a very long time; the war had only accentuated them—it had shortened the latent period. All the profession had to decide was whether it should sit on the box of the coach or be dragged at the tailboard. If it was to play an effective part in these big changes it must be adequately prepared, and anybody who had studied the question at all was aware of the enormous difficulties involved in it. They could not be too immediate in bringing together as far as possible a united profession. The public outside did not regard the profession as united; it looked upon the profession as inchoate, not organized. While it was perfectly true that the Association was the biggest expression of organization within the profession, and had been more public-spirited than any other medical body, it had not succeeded in uniting the profession. Something must yet be done to achieve unity; some sort of machinery which would speak for all must be evolved. The Association, big as it was, did not represent the profession. It had to go a step further, and any step which secured that end was all that he cared for. The scheme of the Association was not a cut-and-dried scheme at all. A concrete scheme was necessary as a basis for discussion, but it was very necessary to recognize that a scheme at the present juncture was only a peg on which to hang discussion. They had to agree on the basic principles essential to any scheme. For instance, were they agreed that the best possible machinery for maintaining health and diagnosing and curing disease was to be at the disposal of every citizen? The Labour party had accepted that principle; personally, the speaker accepted it too, but the profession as a whole had not yet accepted it. The time was very urgent. He took it that no bill could possibly contain a scheme which should be set up by statute. All that any bill could do was to set up the organization at the centre to co-ordinate certain existing departments: How was the Minister to be advised? Was he going to have a council round him, and, if so, would it consist of a hotch-potch of insurance agents mixed up with a few doctors to make it respectable, or was he going to be advised by a body of selected medical men? Were they going to insist that just as the Admiralty and the War Office sought the skilled advice of sailors and soldiers, so the Ministry of Health, fighting the foe of disease, must have the advice on all medical and technical matters of a professional council? That was one of the basic things they had to decide.

Dr. W. M. CROFTON (Dublin) pointed out that in Ireland there was now a truly representative committee, the Irish Medical Committee, which had representatives not only of the British Medical Association, but of the universities and other bodies, and was so effective that it was always consulted by the Local Government Board, the body it had to deal with.

Ultimately the motion was carried after the inclusion of the words "the Royal Colleges" immediately before the reference to other medical bodies or corporations. After Dr. MACDONALD had quoted the recent action of the Board of Education with regard to the medical treatment of

school children as an instance of the departmental habit of drawing more and more power into its own hands, a further motion by Dr. HASLIP was carried, and copies directed to be sent to the Prime Minister and Sir George Cave, chairman of the Home Cabinet Committee, and to the Press:

That this Representative Meeting of the British Medical Association urges upon the Government the importance for the general welfare of the nation of immediately establishing a Ministry of Health upon a comprehensive basis, and provided with adequate expert medical and scientific advisers. This meeting trusts that the conflicting interests of Government departments may not be allowed to obstruct the early realization of this urgent reform.

A motion by Portsmouth, claiming for medical men under any system of national health legislation freedom from lay control, similar to that enjoyed by the clergy and the legal profession, was referred to the Council, as was also a scheme submitted by the Brighton Division for a medical service under a Ministry of Health.

## NATIONAL INSURANCE.

### CENTRAL INSURANCE DEFENCE FUND.

Dr. GARSTANG (Mid Cheshire) had a motion that the balance in hand of the Central Insurance Defence Fund should either be returned to the donors or a scheme for its utilization submitted to them for their approval; and Mr. WELBY FISHER (City of London) that measures should be taken by the Council to transfer this money to a Parliamentary Fund.

Dr. BRACKENBURY (Chairman of the Insurance Acts Committee) said that the Committee was at present acting on behalf of the Council as trustees for the fund, and had agreed that the money should be returned to the donors or transferred to a new trust, but it was felt that the terms of the new trust should be somewhat analogous to those of the old in order to meet the legitimate feeling of the donors that their money should not be devoted to totally different purposes such as the City proposed.

The City rider was lost, and that of Mid-Cheshire carried.

### INADEQUATE REMUNERATION OF INSURANCE PRACTITIONERS.

Dr. GARSTANG also submitted a motion for his constituency urging that all possible steps should be taken forthwith to organize the profession (a) to insist upon increased remuneration under the Insurance Act for next year, and, in the event of this not being granted, (b) to obtain a general resignation from the panels. He said that the definite issue was that the panel practitioners were underpaid.

Dr. BRACKENBURY considered that a decision to strike next year in the event of certain demands not being granted was a matter for the Conference of Local Medical and Panel Committees, and not for the Representative Body; the subject was considered by the Conference on April 11th last, when the representatives responded to a patriotic appeal from the Chancellor of the Exchequer and waived their claims for the time being.

The motion was lost.

### PANEL PRACTICES OF WOMEN ON MILITARY SERVICE.

Dr. D. LAWSON (Aberdeen) moved:

That the Insurance Commissioners be asked to secure by regulation or otherwise the same protection for the panel practices of women serving with the army and navy as is granted to men in the same position.

There were, he said, certain disparities between men and women practitioners in this connexion; while it was really only a part of a very much larger problem, it was justifiable to ask for this instalment of protection. He withdrew his motion, however, on Dr. BRACKENBURY stating that the Committee had already taken action, and had received a reply from the Commissioners to the effect that they were prepared to consider an alteration of the regulations to obviate this unfortunate result.

### MONEY PENALTIES FOR BREACH OF REGULATIONS.

Dr. W. SNODGRASS (Glasgow) related an instance in which an Insurance Committee had decided only to censure a practitioner who had committed a breach of the regulations, and not to fine him, with the result that the monetary penalty which he had incurred by his act was divided over the whole panel, each practitioner's share of



payment being accordingly diminished. If a penalty was inflicted it should be paid by the defaulter.

Dr. BRACKENBURY said that it was true that Insurance Committees were only empowered and not compelled to penalize the particular individual who had committed the breach of the regulations. There was undoubtedly a case to be put to the Commissioners, for it was clearly the intention of the regulations that the man who had committed the breach should suffer the penalty.

#### COST OF DRUGS: CHAIRMAN'S PROTEST

Dr. W. BRADBROOK moved the following resolution on behalf of the Buckinghamshire Division:

That considering the cost of drugs is so largely increased that the panel practitioner who dispenses for country patients is now doing so at a loss, this meeting requests the Council to represent to the Insurance Commissioners that the position is such that panel practitioners will have to decline to do any dispensing under the Act.

Dr. BRACKENBURY said that the difficulty of the Insurance Acts Committee was that the insurance practitioner who dispensed had even more control over his drug bill than the insurance practitioner who did not dispense, yet during the last few years the cost of drugs for the latter had been reduced 6d. per insured person. The general body of practitioners having reduced their drug expenses, how could it be maintained that some special arrangement ought to be made on behalf of the practitioners who dispensed?

The motion was not carried.

The CHAIRMAN (Mr. Turner) remarked, with regard to the finding of Mr. Smith Whitaker in Dr. Fisher's case, that it seemed to him a scandal and a disgrace that when a man put a matter up and insisted, as was his right, upon an authoritative answer he should be rated like a disobedient schoolboy for doing so. He was extremely disgusted when he read the decision on this matter. (Hear, hear.)

#### DEPENDANTS OF INSURED PERSONS.

Dr. J. WARE (Furness) moved:

That in the event of the extension of medical benefit to the dependants of insured persons, the Council be instructed to devise a scheme whereby those attending the doctor should subscribe a small amount on each occasion to a fund to be earmarked for the benefit of insured persons.

He said that a great many attendances were for trivial things, but occupied a large proportion of the practitioner's time. In one Scandinavian country—he thought Denmark—a scheme of the kind proposed had been set on foot and was working well. In reply to a question, he suggested that the money thus obtained should be used to form a nursing service for insured patients. Dr. JAMES PATTON (Gateshead) thought the scheme impracticable, and after some further discussion the motion was withdrawn.

#### ASSOCIATION ORGANIZATION.

Major RUSSELL COOMBE (Chairman of the Organization Committee) brought forward certain motions grouping the Home Branches for the election of twenty-four members of Council, and the Overseas Branches for seven members, for 1919-20 in the same way as for 1918-19, and leaving to the Council the grouping of constituencies for the election of twelve of its members. These were agreed to. Major Coombe drew attention to the very satisfactory fact that last year there was an increase of 1,889 in the membership as against a decrease the year before of 834—a difference of 2,723 on the turnover. The Organization Committee had spent £372 more than the year before. About £120 was spent on the production of the handbook, and the rest could be set off against the increase of membership.

#### ELECTION OF MEMBERS.

Dr. J. H. EWART (Eastbourne) moved an amendment to substitute in the by-law dealing with the election of members by Branches the word "Division" for "Branch."

Dr. J. A. MACDONALD said that it seemed to him that in the small area of a Division a man might be proposed for membership who had wounded the susceptibilities of a number of men in the locality and this might be sufficient to prevent his election, though he might be desirable on every ground. On the other hand, it was said that the local men would know a candidate better than men from a wider area. It was a case of which of two possible evils to avoid.

After some further discussion the amendment was rejected.

#### AUTOMATIC CESSATION OF MEMBERSHIP.

Dr. C. E. ROBERTSON moved, on behalf of Fife, that for the duration of the war the automatic removal from the register of members in accordance with By-law 13 should not be proceeded with. Major LUCAS pointed out that there was no difficulty in communicating with medical officers at the front, and that, furthermore, members of the Association serving abroad only paid 25s. a year instead of two guineas. Dr. J. PATTON maintained it would be a dangerous precedent to encourage laxity in the payment of subscriptions. The amendment was lost.

#### STUDENT PROBATIONARY MEMBERS.

Dr. S. CRAWSHAW (Ashton-under-Lyne) urged that the Association should organize the medical schools (students) into probationary divisions, with a membership fee of 10s. 6d., with right to the JOURNAL. It had been said that one-third of the panel practitioners were not members of the Association, and that was a grave matter. Some attempt should be made to familiarize students with the work of the Association; it would be educative and stimulating to them, and probably lead to their becoming full members of the Association as soon as qualified.

The meeting agreed to the principle of the motion, and it was referred to the Council for consideration and report.

#### OVERSEAS BRANCHES.

##### THE PROFESSION AND THE FRIENDLY SOCIETIES OF AUSTRALIA.

On the proposition of the CHAIRMAN OF COUNCIL the section of the Report under this heading was approved.

Lieut.-Colonel H. S. NEWLAND, D.S.O., who represents the Australian group of Branches on the Council, said that members would be interested to hear something of the dispute—not yet settled—between the Victorian Branch of the British Medical Association and the friendly societies of the State of Victoria. A few years prior to the outbreak of war the New South Wales Branch of the British Medical Association decided to improve the conditions of lodge practice. A model lodge agreement was drawn up under which, besides a considerable increase in the rate of payment, no member of a lodge with an annual income exceeding £208 if single, or £312 if married, was eligible for the medical benefits of the lodge. After considerable opposition on the part of the lodges, this model lodge agreement was adopted as the common form of agreement and signed by both parties. Only a few lodges in New South Wales stood out. With this example before them, the Victorian and South Australian Branches decided to do likewise, and just before the outbreak of war conferences were taking place between representatives of these Branches and the lodges. With the outbreak of war further action was deferred. The war not coming to the speedy conclusion expected, the Victorian Branch decided to reopen negotiations with the Victorian lodges. The lodges replied that the matter was closed until the end of the war. The Branch then drew up a form of agreement in which the minimum rate of payment per lodge member was fixed at 18s. per head, and in which the income limit prevailing in New South Wales was embodied. The lodges refused to accept the terms, and the Branch Council then announced that, failing acceptance by a certain date, the lodge surgeons throughout the state would terminate their appointments. The Victorian Government then intervened, and appointed Mr. Justice Moule to act as arbitrator in the dispute. Representatives of the parties met, and were asked by the judge if they would accept his award. The British medical representatives declined to do so, stating that they were not empowered to submit the proposed terms of lodge practice to arbitration. The Victorian Government then passed an Act called The Friendly Societies Act, in which such disputes were referred to a body composed of five representatives nominated by the medical practitioners of the State, five representatives of the lodge, and an independent chairman. When invited to nominate its representatives, the Victorian Branch declined to do so. Foiled in its plans, the Victorian Government's latest proposal was to appoint a Royal Commission to inquire into the whole matter. In the meantime the lodge surgeons had terminated their appointments and were attending their old lodge patients for private fees. This short history of the dispute showed what a well-organized medical profession, that knew what



it wanted, could obtain. There was not the slightest doubt that victory would rest with the Branch in Victoria. Colonel Newland thought the history of the dispute had a lesson for the Association in the home country. If the Association went in for a vigorous canvass and brought into its ranks those members of the profession who were still outside, and got in the medical students also, it could achieve its ends.

The CHAIRMAN said that Colonel Newland's statement had been extremely interesting, and showed what could be achieved by professional unity.

### MEDICAL ETHICS.

#### INQUIRY INTO COMPLAINTS.

Dr. J. H. EWART (Eastbourne) moved an amendment instructing the Council to amend No. 7 of the ethical rules of Divisions so as to give every member whose professional conduct was impugned the right to have his case investigated by the Ethical Committee of the Division, provided that no legal liability was incurred by the Association. The rule in question was framed some years ago with the object of restraining local officers of the Association from taking individual and unauthorized action. He and his constituents would be satisfied if the Central Ethical Committee had the means of properly investigating every case, but no committee could come to a proper decision on documentary evidence alone.

Ethical Rule 7 is as follows:

It shall be the duty of the honorary secretary of the Division, on receipt of a complaint regarding professional conduct, whether concerning a member of the Association or one who is not a member, immediately to refer the matter to the head office for advice and instructions, and to take no other action whatever in connexion with such complaint except on and in accordance with such advice and instructions as he may thus obtain from the head office, any provision otherwise contained in these rules notwithstanding.

NOTE.—*The Association will accept no responsibility whatever in connexion with any ethical matters not so referred or when the advice and instructions received from the head office are not carried out, or in connexion with which any action has been taken except under such advice and instruction.*

Dr. MILNER MOORE (Lewes and East Grinstead), in supporting the amendment, said that when the rule was altered some years ago it was hardly understood by the Divisions, and indeed had not been accepted by all of them.

Dr. M. G. BROS (Chairman of the Central Ethical Committee) said that he was instructed by his Committee strongly to oppose this amendment. The rule came into force four years ago, and the conditions which made it necessary still held good. It would be disastrous if the rule were altered in the sense suggested. He emphatically denied that any case was decided by the Central Ethical Committee on purely documentary evidence. The rules prevented the Committee from doing anything of the kind. The amendment was lost.

#### POSITION OF PRACTITIONERS EXAMINING THE PATIENTS OF OTHER PRACTITIONERS.

At present the rule which requires a medical inspector to give the medical attendant reasonable notice of his visit only applies (with certain specified exceptions) to cases in which the examination is made at the patient's house. The Council now reported against extending its application to all cases where the examination took place at the inspector's consulting-room or elsewhere, as suggested in a motion referred to the Council by the Representative Meeting last year.

Dr. A. O. HOLBECH (Worcester) moved an amendment that the rules with regard to examinations of patients by practitioners other than the patient's own practitioner should apply to all visits and examinations wherever they were held, thereby continuing the original policy of the Association. He failed to see how it could be right in one case to adopt a certain course of procedure and wrong in another case which only differed from the first in that the examination was held at a different place.

Major G. PARKER (Bristol), who seconded the amendment, said that the present position was practically a reversal of the policy of the Association. It was a most serious thing that when the Association had laid down a definite principle it should be possible for any man to evade the rule. Whether the patient was seen in his own bedroom or in the referee's consulting-room, the rule as to informing the medical attendant ought to hold good. The

Association had laid it down that this was not a matter of consultation. When the consultant was acting as referee he was not doing consultant work.

Dr. PATTON (Gateshead) said that in actual practice the whole matter was very much smaller and less troublesome than might be supposed; he moved that the meeting proceed to the next business, and this was agreed to.

### HOSPITALS COMMITTEE.

#### PAYMENT FOR TREATMENT OF DISCHARGED DISABLED SAILORS AND SOLDIERS AT VOLUNTARY HOSPITALS.

Dr. H. J. CAMPBELL (Chairman of the Hospitals Committee) moved:

That where it is possible, without detriment to the claims of the civil population, to give hospital treatment, either as in-patients or out-patients, to discharged sailors and soldiers for whom a public authority is liable, a charge should invariably be made which shall repay the hospital for the cost of working and maintenance, and that in addition two guineas per case treated, or alternatively a sum equal to 10 per cent. of the amount paid to the institution for working and maintenance expenses, should be put at the disposal of the medical staff.

He said that the Council, in making this recommendation, did not suggest that the rate proposed was adequate payment for the work done. What was adequate in one instance would not of necessity be adequate in another; experience only could show what would be adequate payment. The object aimed at in the Association's stand on this question was to secure recognition of the principle of payment for these State-aided patients, and this had now been accomplished.

Dr. F. REES (Wigan) said the position was unsatisfactory. The assertion of the principle of payment meant more than a mere acknowledgement of the services rendered by the staffs of the hospitals. If the State was paying the hospitals for these patients, a portion of such payment ought to go to the medical profession for the treatment of these cases. He knew of a hospital where, last year, a quarter of the total income was received from the Government. He sympathized with the Council, which had asked the Ministry of Pensions to do the right thing by giving an adequate and uniform payment to the doctors; but the Ministry could not be induced to do that, and got out of the difficulty by relying upon the weakness of the medical profession.

Dr. C. E. S. FLEMING asked whether the hospital which Dr. Rees had referred to as receiving a quarter of its income from the Government was concerned with the treatment of discharged disabled men or of wounded soldiers.

Dr. REES: Chiefly wounded soldiers.

Dr. T. SANSOME (Walsall) said that numbers of large hospitals were doing this work for nothing. Unless the whole of the hospital staffs of the country were going to stick together and force the policy of the Association the position would be very awkward.

Major McADAM ECKLES, speaking as one who was to a very large extent responsible for the final decision of the Ministry of Pensions in connexion with the payment for out-patient and in-patient treatment of discharged disabled sailors and soldiers, said that the first question which arose was whether any payment should be made at all, and the Association had insisted that it was not right for any patients who were in part or in whole provided for by the State, so far as their medical treatment and their maintenance was concerned, to be treated in the voluntary hospitals without payment. The next question was whether adequate payment could be made, both for their maintenance and treatment, if they were in-patients, and for their treatment only, if out-patients. The reply to that was that the Ministry of Pensions was willing to pay all the out-of-pocket expenses of the hospitals, both for out-patient and in-patient treatment, including maintenance. He immediately said that the Ministry of Pensions ought to pay something in addition to that, whereby there could be a recognition of the services of the medical officers of the hospitals. The answer given was that no adequate payment could be made for that, as, for instance, in the case of a surgeon in a hospital operating on five or ten cases of disabled men in one day, but that there should be a sum available over and above what was necessary for the treatment and maintenance, which could be allocated for this purpose. For the first time in the history of the profession, he believed, a Government department put that down in black and white, and thereby the Association secured its



object. Then came the question as to whether such payment should be made directly to the medical officers or to the lay authorities of the hospital. The reply to that was that it should be made to the lay authorities on the understanding that the lay authorities, if their staff so desired, should pay over a sum to the staff to disburse it in the manner they thought best. That was agreed to. In some cases the scheme had failed, owing to the refusal of the hospitals to receive any money for the treatment of these men. With the increasing number of discharged disabled men needing treatment, the matter required grave consideration. The resolution which had been moved by Dr. Campbell stated "that in addition two guineas per case treated . . . should be put at the disposal of the medical staff." He took it that this meant a payment by the institution; it read as though it meant payment by the public authority. The sum of two guineas per case treated sounded to the lay mind rather high for an out-patient. A sum equal to 10 per cent. of all the sums received by the institution would work out quite fairly, and then it was for the medical staff of the hospital to decide what they would do with the money.

Dr. F. L. POCHIN said that at the Oldham Royal Infirmary the staff had calculated that the payment of 10 per cent. would mean that a surgeon might do a major operation and attend the man for a week for about three shillings; or, taking an out-patient case, the officer in charge of the electrical department would be supervising a long and tedious treatment for about 2½d. a time. The staff decided to adopt the two-guinea payment. He wrote to the Oldham Pensions Committee saying that the staff would be glad to treat these cases, but that the fee would be two guineas, and he received a reply that the committee was perfectly willing that this sum should be paid. The same thing happened with the Pensions Committee of the West Riding of Yorkshire. But it was not very long before both these pensions committees wrote that they had been severely rebuked by the Ministry of Pensions for doing this. The staff was now doing the work gratuitously rather than accept the meagre sum available.

Major ALBERT LUCAS said that one or two speakers had misapprehended the position. The treatment of men for whom the army was still responsible was in quite a different category from the question they were discussing. In Birmingham practically the whole staff of one big hospital were paid members of the R.A.M.C., and therefore it would be out of the question for them to receive payment for attendance on men who were still soldiers. With regard to discharged sailors and soldiers, his own hospital had set aside a certain number of beds, and the Ministry of Pensions had agreed to pay the maximum sum of seven shillings a day for each occupied bed. Last year practically the whole of this amount of seven shillings was spent on maintenance; the sum which the medical staff would have received was negligible. In his view the resolution could not be carried out unless the Ministry of Pensions could be got to devote a larger sum. The Ministry had stated definitely that the maximum sum was seven shillings a day.

Dr. H. B. BRACKENBURY thought it had been agreed with the Ministry of Pensions that the payment had better be made, as between the Government department and other authorities, to the governing bodies of the hospitals, but Major ECCLES had said that a certain portion of that sum should be handed over by the hospital authorities to the medical staff if the staff asked for it. It was part of the essential arrangements that the money should first of all be paid over by the hospital authorities to the staff as their property for them to do what they liked with. It was understood that this arrangement had been agreed to, not merely on behalf of the Ministry of Pensions, but by the British Hospitals Association. It was important to induce hospital staffs throughout the country to adopt the principle, and it was even more important for the staffs of the big hospitals to comply with that arrangement than for the staffs of the smaller hospitals.

Major ECCLES said, in reply, that the position of the Ministry of Pensions was that it would pay over the sum, but that it could not force the lay authorities of the hospitals to pay it over to the staff, nor the staff to demand it from the lay authorities. That must be a matter of arrangement between them.

Major G. PARKER (Bristol) said that at Bristol it had

been insisted that payment should be made to every member of the staff.

Dr. CAMPBELL, replying on the discussion, said that when the arrangement was made the Pensions Minister agreed that in addition to the sufficient payment for the cost of maintenance there should be an added sum understood to be given for the medical services rendered; in other words, the Pensions Minister agreed to recoup the hospitals for their outlay, and to add to that a sum for the medical officers. They had at last got a Government department to agree that in the voluntary hospitals those who gave their services to the State should receive recognition.

The recommendation of the Council was carried.

(To be continued.)

## Association Notices.

### CHANGE OF AREA.

#### Torquay and Exeter Divisions.

THE following change has been made in accordance with the Articles and By-laws, and takes effect from the date of publication of this notice:

That the Parish of Moreton Hampstead be transferred from the area of the Torquay Division of the South-Western Branch to that of the Exeter Division of the same Branch.

Representation in Representative Body.—Unaffected.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**NORTH OF ENGLAND BRANCH.**—Dr. James Don, Honorary Secretary and Treasurer (1, Grove Street, Newcastle-on-Tyne), gives notice that the annual meeting of the Branch will be held at the Medical Committee Rooms, 23, Ridley Place, Newcastle-on-Tyne, on Thursday, August 29th, at 3.30 p.m.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

THE following appointments and promotions are announced by the Admiralty: Staff Surgeon R. M. Russell to Haslar Hospital. Surgeons (Res.) to rank as Staff Surgeons: Res.: J. P. Barry, C. F. Bainbridge, S. N. McBean. Temporary Surgeons: E. L. Cawell-Smith to Portland Hospital; G. Buchanan and W. T. Benson to Chatham Hospital; H. L. P. Penderne to the *Crescent*; C. Y. Peebles to the *Indus*; R. R. Kerr to Haulbowline Hospital and Yard; E. A. Crook to the *Excellent*; H. O. Long and S. Acheson to Haslar Hospital; W. E. M. Wardill to Plymouth Hospital. To be temporary Surgeon: A. D. Symons.

### ARMY MEDICAL SERVICE.

Colonel J. Meek to be retained on the active list under the provisions of Articles 120 and 522 Royal Warrant for Pay and Promotion, and to be supernumerary.

To be temporary Colonels whilst specially employed: Captain (Brevet Major) C. H. S. Frankau, R.A.M.C.(F.F.), temporary Major C. H. Miller.

### ROYAL ARMY MEDICAL CORPS.

To be acting Majors: Captain (Brevet Major) D. M. Corbett; Captains H. D. Lane, M.C., M. J. Williamson, M.C., N. V. Loshian, M.C., R. E. Barnsley, M.C., A. S. Cane, W. F. Christie, J. J. D. Roche; temporary Captains E. G. C. Price, A. Randle, M.C. (from June 4th to 23rd, 1918), S. B. B. Campbell, H. S. Davidson, H. Emerson, P. N. Vellacott, S. F. McDonald (from April 3rd to 10th, 1918), H. H. White, R. W. S. Christmas, D. Gillespie, W. F. Neil, J. D. Gunn, E. Burstall; Lieutenant (temporary Captain) R. A. Mansell.

Captains to be temporary Majors.—Whilst specially employed: H. E. Rawlence, R. O. H. Jones, M.C., C. R. Wills. Whilst commanding troops on a hospital ship: J. G. Heath.

T. P. Greenwood to be temporary Captain whilst serving at Notts County War Hospital.

Lieutenants to be Captains: R. P. Cormack, D. W. Beamish, M.C. To be temporary Lieutenant-Colonels: S. J. Jones (whilst serving at the Notts County War Hospital), temporary Major (honorary Lieut.-Colonel) W. I. de C. Wheeler, temporary Major A. M. Paterson.

Major A. D. O'Carroll, D.S.O., relinquishes the acting rank of Lieut.-Colonel on reposting.

To be acting Lieut.-Colonels:—While in command of medical units: Majors C. T. Edmunds and H. G. Sherron, Captain (acting Major) E. Percival, D.S.O., M.C., Captain A. C. Hammond-Searle, M.C. While specially employed: Temporary Major H. W. M. Tims.

Relinquish the acting rank of Major on reposting: Captain (Brevet Major) R. W. D. Leslie, Captain A. S. Cane, Lieut. (temporary Captain) R. Stowers.

Officers relinquish their commissions: Temporary Major J. W. Struthers; temporary Captains R. C. Muir, W. Sowerby, W. Enraght, P. J. Lydon, G. Fehrsen, D. E. S. Wishart, A. H. B. Pearce, L. V. Rosten, W. Harvey, S. R. Hunter, J. R. M. MacKenzie, M.C., T. M. Thompson, T. Sheehan, W. J. P. Lili, L. D. I. Graham, P. A. Dykes, H. F. Holmden, J. D. W. Beavis, M. Cohen, F. B. Gurd; and J. W. Gill and J. T. W. Stewart on account of ill health contracted on active service, and are granted the honorary rank of Captain; temporary honorary Captain A. T. Paterson, of St. John Ambulance Brigade Hospital; temporary Lieutenants S. J. Kerfoot, G. Birch, R. E. V. Hale, W. Taylor, R. Larkin, C. J. Neilan, R. G. Williams, W. J. Lord, W. Chapman, H. M. Thompson, J. K. Milligan, R. A. McCrea, A. B. Soady, H. A. Evans, B. S. Johnson, W. S. Alderson, H. W. Elwell, F. G. Power.

### ROYAL AIR FORCE.

#### MEDICAL BRANCH.

Granted temporary commissions: As Captains—J. A. Giles. As Lieutenants—J. D. George, G. W. J. Bousfield.



## SPECIAL RESERVE OF OFFICERS.

## ROYAL ARMY MEDICAL CORPS.

Captains relinquish the acting rank of Lieut.-Colonel and revert to the acting rank of Major on reposting: G. P. Kidd, W. Barclay, M.C. Captains relinquish the acting rank of Major on reposting: P. J. Gifford, M.C., J. M. Darling, D.S.O., W. F. McLean, H. H. Brown. Captains to be acting Majors: W. W. Wagstaffe, J. W. Gray, G. G. Alderson from January 4th to March 10th, H. C. Cook, R. L. Horton, L. W. C. Stirling, M.C. Captains L. R. Browne and N. H. Linzee relinquish their commissions on account of ill health contracted on active service, and are granted the honorary rank of Captain. Captain R. A. Peters, M.C., is seconded for service under the Ministry of Munitions. To Lieutenants: J. C. McGregor and J. K. T. Mills from St. Andrews University Contingent (O.T.C.), B. G. Deery.

## OVERSEAS CONTINGENTS.

## CANADIAN ARMY MEDICAL CORPS.

To be acting Lieut.-Colonels while specially employed: Temporary Major C. Hunter and temporary Captains S. K. Harrison and D. A. L. Graham. Temporary Captain H. W. Wookey to be temporary Major. Temporary Captains to be acting Majors while specially employed: A. B. Schinbein, J. E. Campbell, A. Blais, H. O. Boyd.

## TERRITORIAL FORCE.

## ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel (temporary Colonel) P. C. Burgess relinquishes his temporary rank on vacating the appointment of Assistant Director of Medical Services.

Major (acting Lieut.-Colonel) G. A. Tromp relinquishes his acting rank on ceasing to command a field ambulance.

Majors to be acting Lieut.-Colonels—Whilst specially employed: H. C. Donald, R. T. Turner. Whilst commanding a field ambulance: T. A. Barron, D.S.O., J. O. Summerhayes, D.S.O. Major R. C. Clements is seconded.

Captains to be Majors: (Temporary Major) A. A. Martin, D. P. M. Farquharson.

Captain J. M. Milne, M.C., to be Deputy Assistant Director of Medical Services, and to be acting Major whilst so employed.

Captain H. N. Barnett to be acting Lieut.-Colonel whilst specially employed.

Captains to be acting Majors whilst specially employed: T. B. McKee, A. E. Ironside, M.C., H. C. C. Hackney, F. Clayton, G. Stevenson, T. C. Clarke, M.C., H. Paterson, R. E. T. Tatlow, P. C. P. Ingram, and G. L. Chene, H. Burrows, and J. M. Whyte, who remain seconded, W. B. Keith, A. Oliver.

Captains H. H. Rayner and J. A. C. Macewen are restored to the establishment.

Officers relinquishing temporary or acting rank: Major (temporary Lieut.-Colonel) M. Dunning, D.S.O. (on ceasing to command a field ambulance). Captain (temporary Major) J. Hamilton (on ceasing to be specially employed). Captains (acting Majors) F. Ward, A. C. Alport, J. M. Pheas, F. Wigglesworth, and W. A. Brechin, M.C. (on ceasing to be specially employed). A. Ramshottom (on vacating an appointment as Deputy Assistant Director of Medical Services, and is restored to the establishment).

Captain F. W. Squair from T.F.R. to be Captain, with precedence as from November 17th, 1910.

Lieutenants to be Captains: R. T. Pearl, J. Waterston, K. S. Beken, (temporary Captain) J. P. Kinloch.

## VOLUNTEER FORCE.

Durham Medical Volunteer Corps.—Captain W. G. Thompson (late R.A.M.C.) to be temp. Captain.

Kent Medical Volunteer Corps.—F. E. Hill to be temp. Lieutenant. Kent R.A.M.C.(F).—Temp. Captain C. E. Etheridge resigns his commission.

City of London Vol. Rgt., 2nd Batt.—Medical Officer and temp. Captain A. R. H. Oakley resigns his commission.

County of London Vol. Rgt., 19th Batt.—Medical Officer and temp. Captain S. A. S. Kennedy resigns his commission.

Norfolk Medical Volunteer Corps.—To be temp. Major: J. E. Linnell. To be temp. Captains: L. H. B. Mills, F. Preston, A. Crook, L. T. McIntock, C. B. Smith, W. J. E. Sumpter. To be temp. Lieutenant: F. J. Emus.

Suffolk Medical Volunteer Corps.—M. H. Hannigan (late Lieutenant 2nd Vol. Batt. Suffolk Rgt.), to be temp. Captain. (Substituted for notice in the London Gazette, June 23rd.)

Suffolk R.A.M.C.(F).—To be temp. Captain: O. A. Clark, M.B.E. To be temp. Lieutenants: E. A. Oxon, J. Webb, J. Pawsey.

East Yorkshire R.A.M.C.(F).—E. B. Bailey to be temp. Lieutenant.

The following appointments to the various Medical Volunteer Corps have been notified. The date of precedence of the appointments is indicated in parentheses:

Selkirkshire.—To be temp. Captain: Medical Officer and temp. Captain J. S. Muir (March 15th, 1917, from 1st Batt. Selkirkshire Vol. Rgt.)

Shropshire.—To be temp. Captains: Medical Officer and temp. Captains I. McCall, November 8th, 1917, F. K. Pigott, March 19th, 1918, from 1st and 2nd Batts. respectively Shropshire Vol. Rgt.

Somersetshire.—To be temp. Captain: Medical Officer and temp. Captain H. C. Barstow (May 5th, 1917, from 1st Batt. Somersetshire Vol. Rgt.)

To be temp. Lieutenant: Medical Officer and temp. Lieutenant J. M. H. Munro (January 30th, 1917, from 2nd Batt. Somersetshire Vol. Rgt.)

Staffordshire.—To be temp. Lieutenants: Medical Officers and temp. Lieutenants W. R. Somerset (February 24th, 1917, W. T. Shells (August 15th, 1917, G. M. Fox (August 24th, 1917, from 4th, 1st, and 3rd Batts. respectively Staffordshire Vol. Rgt.)

Suffolk.—To be temp. Captain: Medical Officer and temp. Captain A. F. Pringle (January 5th, 1917, from 1st Batt. Suffolk Vol. Rgt.)

To be temp. Lieutenants: Medical Officers and temp. Lieutenants O. R. M. Wood (March 15th, 1917, C. W. Biden (August 15th, 1917, T. H. Goodman (September 28th, 1917, from 2nd, 6th, and 5th Batts. respectively Suffolk Vol. Rgt., R. Rendal (April 11th, 1918, from Suffolk Motor Vol. Corps.

Surrey.—To be temp. Captains: Medical Officers and temp. Captains R. M. Hase (February 23rd, 1917, H. S. Stone (March 5th, 1917, A. S. Taylor (March 21st, 1917, G. M. Wilcockson (October 11th, 1917, H. W. Phillips (October 16th, 1917, from 12th, 4th, 2nd, 5th, and 1st Batts. respectively Surrey Vol. Rgt. To be temp. Lieutenants: Medical Officers and temp. Lieutenants G. Duffus (February 16th, 1917, L. C.

Burrell (September 8th, 1917), C. H. McComas (December 11th, 1917, from 7th, 8th, and 10th Batts. respectively Surrey Vol. Rgt.)

Sussex.—To be temp. Lieutenants: Medical Officers and temp. Lieutenants W. Conway-Cooke (February 10th, 1917, S. P. Matthews (February 13th, 1917, E. H. Sweet (April 24th, 1917, W. E. Grandy (April 28th, 1917, and R. F. H. Newton (September 10th, 1917, from 9th, 8th, 6th, 4th, and 7th Batts. respectively Sussex Vol. Rgt.)

Warwickshire.—To be temp. Captain: Medical Officer and temp. Captain A. T. Holdsworth (April 4th, 1917, from 1st Batt. Warwickshire Vol. Rgt. To be temp. Lieutenants: Medical Officers and temp. Lieutenants H. H. H. Addenbrooke (April 28th, 1917, M. H. C. Atkinson (June 28th, 1917, J. Frew (April 17th, 1918, from 3rd, 2nd, and 5th Batts. respectively Warwickshire Vol. Rgt.)

Westmorland.—To be temp. Captain: Medical Officer and temp. Captain G. W. Brumwell (April 6th, 1917, from 1st Batt. Westmorland Vol. Rgt.)

Wiltshire.—To be temp. Lieutenant: Medical Officer and temp. Lieutenant W. T. Briscoe (January 19th, 1917, from 1st Batt. Wiltshire Vol. Rgt.)

Worcestershire.—To be temp. Captains: Medical Officers and temp. Captains H. E. Dixey (February 21st, 1917, E. H. Alton (July 16th, 1917, H. Smith (March 22nd, 1918, from 2nd, 3rd, and 1st Batts. respectively Worcestershire Vol. Rgt.)

East Yorkshire.—To be temp. Captain: Medical Officer and temp. Captain E. W. Archer (August 11th, 1917, from 2/3rd Batt. East Yorkshire Vol. Rgt. To be temp. Lieutenants: Medical Officer and temp. Lieutenant H. Wades (February 12th, 1918, from 1st Batt. East Yorkshire Vol. Rgt.)

North Riding.—To be temp. Captain: Medical Officer and temp. Captain R. Cull (February 23rd, 1917, from 4th Batt. North Riding Vol. Rgt. To be temp. Lieutenants: Medical Officers and temp. Lieutenants R. H. F. Bostock (October 1st, 1917, J. C. L. W. Adams (January 4th, 1918, J. Murray (February 1st, 1918, from 2nd, 2/3rd, and 2/1st Batts. respectively North Riding Vol. Rgt.)

West Riding.—To be temp. Captains: Medical Officers and temp. Captains P. Macdonald (July 11th, 1917, E. Ellis (September 5th, 1917, J. H. Rowe (November 10th, 1917, from 22nd, 8th, and 21st Batts. West Riding Vol. Rgt.; C. L. Pattison (March 30th, 1918, P. Rattra (March 9th, 1918, H. W. Whiteley (March 9th, 1917, and J. D. Evans (April 3rd, 1918, from Nos. 5, 1, 2, and 4 Groups West Riding Motor Vol. Corps. To be temp. Lieutenants: Medical Officers and temp. Lieutenants W. Hirs (August 4th, 1917, J. Barclay (January 3rd, 1918, T. A. Caley (January 25th, 1918, G. H. Menzies (March 17th, 1918, J. P. O'Connell (March 17th, 1918), and T. Johnstone (April 24th, 1918, from 7th, 5th, 19th, 16th, 6th, and 20th Batts. respectively West Riding Vol. Rgt.)

## COLONIAL MEDICAL SERVICE.

## WEST AFRICAN MEDICAL STAFF.

The following changes are notified by the Colonial Office: *Transfers and Promotions*.—A. E. Horn to be Provincial Medical Officer, (Nigeria, Northern Provinces); R. O. White, to be Senior Medical Officer, Gold Coast; H. R. Ellis, to be Senior Medical Officer (Nigeria, Southern Provinces).

*Deaths*.—In addition to Drs. H. L. Burgess and J. E. L. Johnston, whose deaths by drowning have already been announced, Drs. A. S. T. Swann (Nigeria, Northern Province), and K. Mosen (Gold Coast) lost their lives in the sinking of the ships *Adagio* and *Onyon* respectively.

*Transfers*.—J. S. Pearson, from Gold Coast to Sierra Leone; E. F. Ward, from Sierra Leone to Gambia; R. F. Williams, from Nigeria (Northern Provinces) to Gold Coast.

*Retirements*.—B. G. Ball, E. Rabazon, G. de P. D'Amico, and P. Mugliston (Gold Coast), D. Burrows (Sierra Leone), C. T. Costello (Nigeria, Northern Province), A. W. S. Smythe (Nigeria, Southern Province).

F. C. V. Thompson has returned to staff from temporary employment as Lieutenant R.A.M.C.

J. R. C. Stephens has been appointed to be Temporary Medical Officer, Nigeria.

J. S. Pearson (Sierra Leone) has been given a temporary commission in the R.A.M.C.

The following have returned from temporary employment in the R.A.M.C.: B. J. Courtney (Nigeria), C. L. Ivers (Gold Coast), R. F. Williams, M.C. (Gold Coast).

The following are employed on military duties in East Africa: P. W. Black, B. T. Courtney, W. J. Martin, Clark, G. Wilson, Nigral, J. M. O'Brien, W. A. Ryan, W. M. Wade, R. F. Williams, M.C. (Gold Coast), E. H. Mayhew (Sierra Leone).

C. L. Ivers (Gold Coast) has been temporarily lent for service under the Provisional Civil Administration, German East Africa.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.

## BIRTHS.

BIDEN.—At Ardvarich, Callander, Perthshire, on the 4th inst., to the wife of Captain W. Mervyn Biden, M.C., R.A.M.C.(S.R.), British Expeditionary Force, baby, a son.

HAWTHORNE.—On August 4th, at Walkley Nursing Home, Cambridge Road, Linthorpe, Middlesbrough, the wife of Captain E. S. Hawthorne, R.A.M.C., Carrowcroft, Romaldkirk, Darlington, of a daughter.

HILTON JONES.—On July 24th, at Penarth, Harlech, North Wales, Olwen nee Davies Bryant, the wife of Major R. O. Hilton Jones, M.C., R.A.M.C., of a son. (African papers please copy.)

## DEATH.

ROBINSON.—On July 31st, Henry Betham Robinson, M.D., M.S., F.R.C.S., Major R.A.M.C.(T.), Surgeon to St. Thomas's Hospital, of 1, Upper Wimpole Street, W., aged 57 years.

## DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
	AUGUST.
16 Fri.	London: Ministry of Health Committee, 2.30 p.m.
29 Thur.	North of England Branch, Annual Meeting, Newcastle-on-Tyne, 3.30 p.m.



# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 17TH, 1918.

## CONTENTS.

	PAGE		PAGE
<b>ANNUAL REPRESENTATIVE MEETING.</b>			
MEDICO-POLITICAL COMMITTEE ...	34	CURRENT NOTES:	
THE EDUCATION BILL ...	34	THE PARLIAMENTARY SESSION ...	33
PURCHASE OF MEDICAL PRACTICES BY UNQUALIFIED PERSONS ...	34	WAR EMERGENCY FUND, ROYAL MEDICAL BENEVOLENT FUND ...	34
PUBLIC HEALTH AND POOR LAW ...	34	ASSOCIATION NOTICES: BRANCH AND DIVISION MEETINGS TO BE HELD ...	35
SCIENTIFIC WORK ...	35	NAVAL AND MILITARY APPOINTMENTS ...	35
SCOTTISH COMMITTEE ...	35	APPOINTMENTS ...	36
IRISH COMMITTEE ...	35	BIRTHS, MARRIAGES, AND DEATHS ...	36
VOTES OF THANKS ...	35	DIARY OF THE ASSOCIATION ...	36

### British Medical Association.

#### CURRENT NOTES.

##### The Parliamentary Session.

THE parliamentary session was adjourned on August 8th until October 15th, and whether or not there be a dissolution in the late autumn, it is most probable that members will come together again, if only to pass another vote of credit for the war. But beyond this vote no business of great importance has been left over. The Scottish Education Bill could be revived in a new Parliament; the Criminal Law Amendment Bill was taken up from last session, and might suffer a similar experience again.

The report of the Luxury Duty Committee, issued on August 13th, raises a great many points, many of which are likely to excite much public opposition, and whatever decision may be taken it is doubtful whether the duty can yield any result this year. It may be noted incidentally that the Committee recommends that among the things which should be exempted are "medical, surgical, and dental requirements and appliances, and scientific instruments and apparatus." This regulation, it is stated, is intended specially to exempt such articles as surgical knives, surgical boots, invalid chairs, dental chairs, and astronomical telescopes, which might otherwise be taxed under the headings of cutlery, boots, chairs, etc. Articles purchased by or for presentation to public museums, art galleries, or libraries, are also exempted.

There is again talk of a Home Rule Bill, but it is thought that even if introduced it would not go beyond a second reading debate, and would not be allowed to interfere with the dissolution of the present Parliament. However this may be, the views of the Cabinet as to the date of the General Election must be largely governed by the condition of the Register and the state of the war. Just before the adjournment the President of the Local Government Board made a statement as to the difficulties in the completion of the electoral lists, and in carrying through arrangements for voting by post and by proxy. The distribution of election addresses to the soldiers in France and Belgium, and the postal vote from the same wide area threaten to disturb the ordinary services most seriously for a day or two. Apparently it would take up all the resources of the Record Office, and those of the Post Office for the Channel service. These considerations have to be weighed by the Cabinet. The prevalent impression is that there will be a dissolution in December or January, but it might come much earlier as a surprise, or be indefinitely postponed.

As to the legislation passed in the session, the features of the several bills placed on the statute book are now generally familiar. The Military Service Bill became

necessary from the circumstances of the war. Sir Auckland Geddes had some reason to complain because the public failed to appreciate that the extension of the military age was part of a balanced scheme for clean cuts of younger men, and for combing out younger men, which otherwise would have been difficult. The original announcements as to grading proved open to serious misapprehension, but eventually this matter was put right, so that it should be clear, and should be a definite undertaking to all recruits of the older age, that they should not be taken for the trenches, save in the gravest national emergency, to which every pledge must be conditional. It was, indeed, noteworthy that the medical profession accepted so willingly the raising of the military age, in their case, five years higher than that for men generally.

Evidence of the determination of the country to see the war through to a successful issue was shown in the smooth passage of the Finance Bill, with its heavy additional burdens of taxation. There was no opposition of any kind.

Further proof of the spirit induced by the war was to be found in the comparative ease with which Mr. Herbert Fisher carried the Education Bill through the Commons, after fruitless endeavours to the same end had been made by successive Ministers in previous sessions. Mr. Fisher had all the more authority because he is an educationalist of high repute, but even that strength would not have served him had he not acquired the parliamentary manner, with persuasiveness and tact. He possesses in a rare degree the quality of conciliation, and the House did not often divide on any of the amendments discussed. Compromise, generally of a small kind, carried the day. The Education Act has received the Royal Assent, but is not yet available in its final form. It may, however, be noted that an amendment made in the Lords as to the medical treatment of children in elementary schools was accepted in the Commons and was inserted as a new clause after Clause 24. It now reads as follows:

A local education authority shall not in exercise of the powers conferred upon them by paragraph (b) of subsection (1) of section thirteen of the Education (Administrative Provisions) Act, 1907, or by this Act, establish a general domiciliary service of treatment by medical practitioners for children or young persons, and in making arrangements for the treatment of children and young persons a local education authority shall consider how far they can avail themselves of the services of private medical practitioners.

This would appear to be in accord with the representations made by the British Medical Association. It is stated that the Board of Education has decided that the date of the passing of the Act is to be the "appointed day" for the coming into force of certain sections of the Act. Among these are Section 13, dealing with medical inspection of schools and educational institutions, with the exception of that part which imposes a duty on local education authorities; Section 19, as to nursery schools; Section 21, relating to powers for the education of children



in exceptional circumstances; Section 23, giving power to aid research; Section 25, as to medical treatment; and Section 30, as to closing of schools.

Of the minor measures mention may be made of the small Maternity Act, which at one time was threatened with formidable opposition, on the ground that if it became law it might, by meeting one need, tend to postpone the introduction of a Ministry of Health Bill; but assurances were given by the Government that its passage would not prejudice the larger question, and Viscount Peel, in the House of Lords on July 17th, said, on behalf of the Government, that he would not resist a resolution calling on the Government to bring forward a Ministry of Health Bill "at an early date," provided that the phrase were given "very large and liberal interpretation."

#### War Emergency Fund of the Royal Medical Benevolent Fund.

The following further subscriptions have been received from Divisions of the British Medical Association in response to the recent appeal, and have been passed on to the Treasurer of the War Emergency Fund. The names of individual subscribers are published monthly in the advertisement pages of the JOURNAL.

£ s. d.

Canterbury and Faversham Division, per Dr. Neil Robson,			
Honorary Secretary ... ..	1	1	0
Ashton-under-Lyne Division, per Dr. Mamourian,			
Honorary Secretary ... ..	51	9	0

### EIGHTY-SIXTH ANNUAL MEETING

OF THE

## British Medical Association.

LONDON, 1918.

### ANNUAL REPRESENTATIVE MEETING.

MR. E. B. TURNER, F.R.C.S. (Chairman of Representative Meetings), in the Chair.

(Concluded from p. 31.)

#### MEDICO-POLITICAL COMMITTEE.

##### THE EDUCATION BILL.

DR. H. B. BRACKENBURY said that, having failed to get the clause as to medical treatment deleted from the Education Bill, certain alternative amendments were put down by Sir Watson Cheyne, and although they were not accepted in the form in which they were drafted, a proviso had been added to Clause xviii of the bill. That clause empowered the authorities for higher education to give medical treatment to all children and young persons up to the age of 18 in schools or educational institutions; the proviso was to the effect that the local education authority was not to establish a general domiciliary service, and should consider how far it could avail itself of the services of private medical practitioners. The proviso was important, and with it they had to be content. Further, on the Report stage a subsection had been inserted in Clause ii which made the undertaking of medical treatment for elementary school children compulsory on all elementary education authorities. That was a very serious position for the medical profession. As long as the duty upon a local education authority was optional it was possible for the medical profession in a locality to use its influence against that option being exercised, but now, from a day to be appointed hereafter, it would be compulsory, as far as elementary education was concerned, for medical treatment to be provided for all school children. He thought it essential that the proviso to Clause xviii should be applied to the elementary schools as well as to the higher educational institutions.

DR. H. F. OLDHAM (Lancaster) asked whether the Council had taken steps to co-ordinate this work, so that it might be carried on throughout the country on approved lines, or would the administrative rules of the new Act lay down for the guidance of education authorities the methods by which this should be done?

DR. BRACKENBURY said that it had been represented to the Board of Education that the appointed day should not be earlier than one year after the termination of the war, because it was not fair that men who were away should be debarred from having a part in the arrangements. An assurance was received that as far as the medical depart-

ment was concerned this was likely to be done. The local authority would be required to submit a scheme for the approval of the Board of Education, and the medical department had given an assurance that schemes would not be approved unless they were formulated on the lines he had indicated.

A motion by Dr. OLDHAM requesting the Council to ask the Board of Education to formulate with them a model scheme for the guidance of education authorities in the establishment of school treatment centres was agreed to.

#### PURCHASE OF MEDICAL PRACTICES BY UNQUALIFIED PERSONS.

Dr. J. PATTON (Gateshead) moved:

That in the opinion of this meeting existing laws should be amended so that it should no longer be lawful or possible for any unregistered and unqualified person to purchase a medical practice, so that profit should be derived by the unqualified holder of the practice, or that any qualified and registered practitioner should be allowed to work such practice, always excepting a genuine death vacancy, where the practice is being carried on as a temporary measure for the benefit of the deceased practitioner's representatives.

Dr. Patton said that until the panel system was inaugurated it might well have been out of the question for an unqualified person to buy and control a practice, because he would not have any guarantee that the locumtenent would be able to maintain it. The panel system had altered all that. He related the circumstances of a case in point of recent occurrence.

The SOLICITOR said that the law did not inhibit an unqualified person from buying a practice, although, of course, if he acted in it in any way himself as if he held a medical qualification he brought himself within the penal provisions of Section XL of the Medical Act, 1858. The gist of the matter lay in the assistance a man could obtain from within the profession itself. If he could not get anybody within the profession to work the practice it was of no use for him to buy. If he could, that was a state of matters that ought to engage the attention of the General Medical Council. The best test would be to submit the whole of the facts to the General Medical Council, and let that body decide whether a practitioner who practised under such circumstances that a layman secured the profit was or was not guilty of infamous conduct in a professional respect. In his view, there was little hope of getting any legislation passed which would prohibit a lay person from purchasing a practice, but the profession could make such a purchase entirely valueless to a layman. Asked whether such a case could not be dealt with by the Insurance Commissioners, the SOLICITOR said that it might, but the regulation would have to be framed in some clearly defined form that could be understood. (Laughter.) He rather doubted whether an Insurance Committee would accept the obligation of having to investigate whether or not a person whose name was put upon the panel was really the owner of the practice. He could not, of course, read the minds of the Insurance Commission, but if a representation was made to them that this matter was one of professional scandal, and of a far-reaching character, they would probably do what they could to assist.

DR. VERRALL said that as a member of the General Medical Council he felt that it ought to have the whole circumstances before it at the November session. The motion was unanimously referred to the Council of the Association to take such immediate action as might be deemed necessary.

#### PUBLIC HEALTH AND POOR LAW.

DR. E. J. DOMVILLE (Chairman of the Public Health Committee) moved the approval of the Report of the Council under that heading, and congratulated those concerned on the bringing about of a reform long overdue—namely, the securing of uniformity in the form for the notification of infectious disease. Two cardinal points would be pressed upon the Government when a suitable opportunity arose: the first that such notifications should be post free, and the second the restoration of the old fee of 2s. 6d. instead of 1s.

DR. A. W. MILLER (City of London) called attention to the issue of an instruction by the Metropolitan Asylums Board to medical officers that certain infectious cases, such as mild scarlet fever and some forms of diphtheria, might



be kept at home. Instead of restricting hospital accommodation for these cases, temporary hospitals ought to be provided. The policy foreshadowed by the Board was a retrograde and dangerous step. Dr. DOMVILLE agreed that to say that these cases should not be isolated was a most dangerous doctrine, and it was resolved to refer the matter to the Council.

### SCIENTIFIC WORK.

Sir CLIFFORD ALLBUTT (Chairman of the Science Committee) said that though, owing to existing difficulties, the direct pursuit of general research had been very much curtailed, a great deal of special research stimulated by the war had taken place.

Arising out of a reference in the report to the assistance given at the central office to officers of the Dominions and American forces, Dr. D. A. SHEAHAN (Portsmouth) moved a rider:

That, in view of the large influx of American and overseas medical officers to England, the Council consider whether these officers may obtain temporary membership of the Association or any other kind of hospitality which may be practicable.

He suggested that these officers might be granted honorary membership of the Association for the time being. He said that one of the American base hospitals was in Portsmouth, and the Portsmouth Corporation in various ways had made the visitors welcome, while the local members of the profession had offered their American colleagues such hospitality personally as was possible.

Dr. J. A. MACDONALD said that the desire of all was to give these officers as large a welcome as possible. The Association had provision for complimentary members and associate members, who could be elected by Branches, and for honorary members, who were elected centrally. The question was, under the by-laws, whether it was necessary to indicate by name every honorary member they made. If the Solicitor found that they could make honorary members *en bloc*, effect might be given to the proposition. He accepted the rider in the sense that the matter was thereby referred to the Council. The Library of the Association had been thrown open to these officers, and the officials had given them whatever information and assistance they could.

The rider was referred to the Council.

### SCOTTISH COMMITTEE.

Dr. J. R. DREVER, in the absence through illness of Dr. John Adams (Chairman of the Scottish Committee) dealt at length with what had been hitherto the unsatisfactory conditions of service of the Highlands and Isles Medical Service Board. The Committee had formulated what it believed would be a workable scheme which would, in his opinion, satisfy the practitioners working under it. Already the action of the Committee had had a certain effect.

Later in the afternoon a sympathetic message was sent from the Representative Meeting to Dr. Adams, regretting that the state of his health had necessitated his giving up official work for the Association.

### IRISH COMMITTEE.

Dr. J. S. DARLING (Chairman of the Irish Committee) said that the Irish office and its secretary had been switched on almost entirely to war work. The chaotic condition of the country had made it difficult to keep up the membership, and, although conscription was not applied in Ireland, all the young men as soon as they qualified went into the army, so that the Association had little opportunity of getting hold of them and recruiting its numbers from that source. But the work of the Association was being well done, and with patience it would be found to pay in the future.

### VOTES OF THANKS.

The minutes of the meeting having been read, amended, and approved, a vote of thanks to the staff was proposed by the CHAIRMAN, who said that it was through their labours behind the scenes that the meeting had been carried through in the smoothest possible way.

Dr. GARSTANG then proposed a vote of thanks to the retiring Chairman of Representative Meetings for his conduct in the chair during the last three years. He said that he could remember all the Chairmen of Representative Meetings, and some day hoped to make a little

oration about the characteristics of each. With regard to Mr. Turner, he was a chairman who had not allowed common sense to be strangled by red tape. Of his personal qualifications for the office nothing needed to be said; they were evident to all. He had been a most excellent chairman, and a worthy successor to the eminent men who had preceded him. Recent Representative Meetings had seemed to show an improvement in point of order upon those held years ago. Not all the credit for this was due to Mr. Turner, for the Representatives themselves were learning better behaviour—(Laughter)—but Mr. Turner's chairmanship had undoubtedly helped to bring about the change.

The TREASURER, in seconding the vote of thanks, said that during the three years of his chairmanship, Mr. Turner had ruled the meeting in a firm, fair, and courteous way.

The vote of thanks was put to the meeting by the CHAIRMAN OF COUNCIL, and was carried by the Representatives rising in their places and cheering.

Mr. TURNER said that he parted from the meeting with mixed feelings, partly pleasurable and partly painful. During the three years of his chairmanship he had never once had to call a single Representative to order, and the meeting had been one of the easiest to conduct he had ever known in the course of his public life. Owing to the continuance of the war he had not been able to give that attention to certain of the business of the Association that he had hoped and wished to give, but he had worked his hardest to unite the whole of the profession under the Association's banner. His hope had been particularly to do something to improve the membership in London and enlist those influential men who at present were outside their ranks.

## Association Notices.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**NORTH OF ENGLAND BRANCH.**—Dr. James Don, Honorary Secretary and Treasurer (1, Grove Street, Newcastle-on-Tyne), gives notice that the annual meeting of the Branch will be held at the Medical Committee Rooms, 23, Ridley Place, Newcastle-on-Tyne, on Thursday, August 29th, at 3.30 p.m.

**SURREY BRANCH.**—Mr. Cecil G. Lankester, Honorary Secretary (1, Rectory Place, Guildford), gives notice that the annual meeting of the Branch will be held in the Library of the Association, 429, Strand, London, W.C., on Wednesday, August 28th, at 3 p.m.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

The following appointments are announced by the Admiralty: Fleet Surgeon J. Whelan to the *Rosburgh*. Staff Surgeons: A. D. Spalding to the *Isis*, F. J. Gowans to the *Albion*, H. M. Braithwaite to the *Tyne*. Temporary Surgeons: S. C. Mitchell to the *Plymouth*, V. T. Smith and W. Edgar to Haslar Hospital, L. R. Warburton to the *Widgeon*, R. W. Nesbit to the *Implacable*, H. Whyte to the *Centurion*, B. F. Niblock to Chatham Hospital, J. D. Arthur to Plymouth Hospital. To be temporary Surgeon: S. Acheson.

### ROYAL NAVAL VOLUNTEER RESERVE.

Staff Surgeon R. J. Willan, M.V.O., to R.N. Hospital, Haslar. To be Surgeon Probationers: V. S. Fournier, E. B. Nagle, D. T. Fournier.

### ARMY MEDICAL SERVICE.

To be Deputy Assistant Director-Generals: Captain E. F. W. Mackenzie, M.C., and to be temporary Major whilst so employed: temporary Major S. Fleming.

### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel W. Bennett, D.S.O., to be temporary Colonel whilst employed as Assistant Director of Medical Services of a Division.

Temporary honorary Lieut.-Colonel E. W. White to be temporary Lieut.-Colonel.

Major J. A. Anderson to be temporary Lieut.-Colonel whilst specially employed.

M. A. Collins, late temporary Captain, to be temporary Lieut.-Colonel whilst serving at the (Dewell County of London) War Hospital.

R. S. Turton to be temporary Major.

Temporary Captains relinquish their commissions and are granted the honorary rank of Captain: J. Glaister (on account of ill health contracted on active service), L. M. Webber (on account of ill health caused by wounds), P. S. MacLaren.

J. H. Paterson, late temporary Captain, is granted the honorary rank of Captain.

Officers relinquish their commissions: Temporary Lieut.-Colonel R. B. Graham (Lieut.-Colonel ret. T.F.), temporary Major H. C. T. Langdon, temporary Captains W. Clow (on appointment under the Ministry of National Service), A. Paterson, W. J. Macdonald, H. F. MacKendrick, O. de Muth, M.C., J. B. Anderson, H. G. Coulthard, T. H. Crews, S. Waddell, R. R. Scott, E. H. Lawson, S. H. Calnek, C. G. Sutherland, H. B. Lawson, T. N. B. Smart, J. Treharne, R. J. Morgan, H. Whitwell, temporary Lieutenants M. J. MacCarthy, F. H. R. Heath.



Temporary Lieutenants to be temporary Captains: G. A. Ticehurst, H. Holt, J. Ruffan, R. T. Sel. Brooks, D. G. Halsted, H. E. Gray, J. L. McCann, L. H. R. Harries, W. W. Walker, A. M. Hewat, (acting Major) D. Burrows, J. A. Loughridge, J. A. Clarke, H. M. Raven, R. M. Menzies, W. A. Mahon, R. McN. Wilson, G. M. Coope, A. F. Sanderson, A. M. Jones, A. Rhodes, M. Hocken, L. K. Foster, J. C. Middleton, A. Allison, C. W. Ewing, R. Wade, E. D. W. Reid, C. R. Wilkins, K. H. Bennett, F. H. Fleck, S. S. M. Wood, (acting Major) R. G. Oram, G. J. Eady, D. Martin, H. Simson, J. Hunter, A. Brownlie, J. H. Thompson, J. E. R. McDonagh, L. G. Leonard, D. A. Stewart, C. Garner, J. A. Brown, T. N. Wiltshew, W. Murray, F. Butler, A. White, J. D. Kenyon, W. J. McFeat, T. D. Graham, H. J. van Praagh, R. N. Berman, A. Bradshaw, A. G. Craib, D. M. McGillivray, A. D. Yule, W. Gorrie, W. Boyd, T. W. Bayne, G. B. Charnock, R. Parry, G. B. Warburton, G. Newstead, W. Angus, J. K. Willes, F. B. O'Dowd, G. H. Mead, R. J. Reynolds, J. H. Sutcliffe, H. H. Jenkins, J. K. Hamilton, G. A. Rorie, A. S. Campbell, A. T. Mackenzie, S. Bree, S. G. Corner, D. A. Dewar, W. J. D. Bromley, A. Davies, R. Davidson, J. W. Simon, K. R. C. Hallows, F. D. Parbury, S. L. O. Young, M. McC. Hutchison, F. D. Nicholson, W. L. English, E. Banks, A. S. M. Palmer, E. E. Cassidy, L. D. Stamp, H. P. Dawson, A. M. Laurie, J. Donaldson, H. M. Reeve, M. F. Emrys-Jones, W. G. Riley, A. Morton, A. Barker, D. Purdie, J. F. Findlay, H. J. Beddow, R. L. Haines, E. F. Thomas, A. D. Crofts, H. J. Rae, G. C. B. Miéville, C. W. Hutt, R. S. Roper, P. W. Stewart, F. F. Laidlaw, A. V. Ledger, J. Fletcher, N. C. Rogers, H. Snape, K. S. Melvin, J. R. Cameron, T. Miller, A. Robertson, P. E. Carroll, M. T. D. McMurrich, A. Boyle, E. A. Atkin.

Temporary Lieutenant Thomas McFetridge, M.B., is dismissed the service by sentence of a general court martial, April 6th, 1918.

Temporary honorary Lieutenant A. H. Good to be temporary honorary Captain.

V. P. G. Pedrick, late temporary Lieutenant, to be honorary Lieutenant.

#### ROYAL AIR FORCE.

##### MEDICAL BRANCH.

Granted temporary commissions: As Captains: W. G. Weston, A. P. Woodwright (late Captain R.A.M.C.), As Lieutenants: P. A. Dornier, R. W. Stephenson, G. F. H. Bloom, H. B. B. Greene.

#### SPECIAL RESERVE OF OFFICERS.

##### ROYAL ARMY MEDICAL CORPS.

Lieutenants to be Captains: C. C. Chesterman, J. C. Collins, W. I. FitzG. Powell, C. G. Irwin, J. B. S. Lewis, T. H. McLeod, A. G. E. Wilcock, C. V. Pink, H. W. Leatham, W. G. Woolrich, C. K. Mowll, H. J. C. Churchill, A. O. Bolton, D. Cameron, A. Rose-Innes, J. P. Williams, J. Rowland, H. Gainsborough, R. S. Corbett, I. Braun, R. L. Robinson, J. H. Wiseman, H. G. V. Mence, T. W. Shaw, J. W. Bowman, C. A. Harvey, J. Irvine, J. Kinnear, F. J. Charlton.

#### INDIAN MEDICAL SERVICE.

Officers retired on account of ill health: Lieut.-Colonel R. J. Marks (February 26th), Major T. H. Defany, M.D. (January 28th). Major J. M. Holmes, M.B., appointed substantively *pro tempore* to be Health Officer, Simla, with effect from May 3rd, 1918.

Lieut.-Colonel C. R. Stevens, M.D., F.R.C.S., has been confirmed in the appointment of Professor of Surgery at the Medical College, Calcutta, and Surgeon to the College Hospital (March 31st).

Lieut.-Colonel R. P. Wilson, F.R.C.S., Superintendent, Campbell Medical School and Hospital, Sealdah, Calcutta, and Officiating Professor of Clinical and Operative Surgery, Medical College, Calcutta, and Surgeon to the College Hospital, has been confirmed in the latter appointment (March 31st).

#### OVERSEAS CONTINGENTS.

##### CANADIAN ARMY MEDICAL SERVICE.

Temporary Major-General G. la F. Foster, C.B., C.A.M.C., to be D.G.M.S., Overseas Military Forces of Canada, and to be graded for purposes of pay under S.P., Cl. 2.

Temporary Colonel A. E. Ross, C.B., C.M.G., C.A.M.C., to be temporary Brigadier-General, and to be D.M.S. Canadian Section G.H.Q., and to be graded for purposes of pay under S.P., Cl. 3.

Temporary Colonel K. Cameron, C.M.G., C.A.M.C., relinquishes his appointment as Assistant Director of Medical Services.

#### SOUTH AFRICAN MEDICAL CORPS.

Temporary Major C. M. Murray relinquishes the acting rank of Lieut.-Colonel on ceasing to command a unit.

To be temporary Captain: E. Wolff.

#### TERRITORIAL FORCE.

##### ROYAL ARMY MEDICAL CORPS.

Major (temporary Colonel) A. Milne-Thomson, C.M.G., M.C., relinquishes his temporary rank on vacating appointment as Assistant Director of Medical Services and is restored to the establishment.

Major (Brevet Lieut.-Colonel) T. D. Acland remains seconded whilst holding a temporary commission in the R.A.M.C.

Captains to be Majors: J. Allan, L. A. Avery, December 24th, 1914 (substituted for notification in the *London Gazette*, February 24th, 1915), R. Thornton, October 23rd, 1914 (substituted for notification in the *London Gazette*, January 14th, 1915).

Officers seconded: Captain (Brevet Major) C. H. S. Frankau, D.S.O. (whilst holding a temporary commission in the R.A.M.C.), Captain A. McLean (for duty with a general hospital), Captain A. E. Woodhead (for duty with the Ministry of Munitions).

Captain A. N. McGregor is restored to the establishment.

Captain (acting Major) H. Henry relinquishes his acting rank.

#### VOLUNTEER FORCE.

*City of Bristol R.A.M.C.(V).*—Medical Officer and temp. Captain Sir H. Isambard Owen resigns his commission on account of ill health.

*Cornwall R.A.M.C.(V).*—Medical Officer and temp. Captain E. J. Jerome, from 2nd Vol. Batt. Duke of Cornwall's Light Infantry, to be temp. Captain, precedence from May 15th, 1918.

*Denbighshire R.A.M.C.(V).*—Medical Officer and temp. Lieutenant W. B. Russell, from 2nd Vol. Batt. Royal Welsh Fusiliers, to be temp. Lieutenant, precedence from February 23rd, 1917.

*Derbyshire R.A.M.C.(V).*—Medical Officer and temp. Lieutenant W. A. Warters, from 8th Vol. Batt. Notts and Derby Regiment, to be

temp. Lieutenant, precedence from June 18th, 1917 (substituted for notice in the *London Gazette* of July 2nd, 1918).

*Flintshire R.A.M.C.(V).*—Medical Officer and temp. Captain D. Fraser, from 2nd Vol. Batt. Royal Welsh Fusiliers, to be temp. Captain, precedence from May 15th, 1917.

*Forfarshire R.A.M.C.(V).* To be temp. Lieutenant: J. D. Gilruth, *City of Glasgow R.A.M.C.(V).*—Temp. Captain M. Campbell to be temp. Major.

*Huntingdonshire R.A.M.C.(V).*—Medical Officer and temp. Lieutenant W. F. Fisher, from 1st Batt. Huntingdonshire Vol. Regt., to be temp. Lieutenant, precedence from February 8th, 1917 (substituted for notice in *London Gazette* of July 9th, 1918).

*Kent R.A.M.C.(V).*—Captain C. Killick (T.F. Res., R.A.M.C.) to be temp. Major; Medical Officer and temp. Lieutenant W. J. D. Jost, from the Kent A.S.C., M.T.(V.), to be temp. Lieutenant, precedence from May 12th, 1918.

*Leicestershire R.A.M.C.(V).* To be temp. Captains: J. Banchoff, temp. Lieutenant J. E. Healey, to be temp. Lieutenants: Medical Officer and temp. Lieutenant R. C. Holt, from 1st Vol. Batt. Manchester Regiment, precedence from May 21st; F. J. Atkinson.

*Lincolnshire R.A.M.C.(V).*—Medical Officer and temp. Lieutenant H. T. Benson, from 2nd Vol. Batt. Lincolnshire Regt., to be temp. Lieutenant, precedence from November 6th, 1917.

*County of London R.A.M.C.(V).* To be temp. Majors: Honorary Colonel Sir John Collie, J. C. Goodall, F. G. Parsons, A. Allport (late Captain 1st City of London Vol. Artillery) To be temp. Captains: E. E. Henderson, T. Wilson, R. E. T. Ingram, K. Lawson, R. C. Wakefield, Medical Officers and temp. Captains S. Peake (from 20th Batt. County of London Vol. Regt.), R. Chittenden, Strode (from 3rd Batt. County of London Vol. Regt., precedence July 13th, 1917), F. G. Bent (from County of London Vol. Corps, precedence April 22nd, 1918), temp. Captain H. Webb (from City of London R.A.M.C.(V.)), H. J. Bunisted. To be temp. Lieutenants: Medical Officers and temp. Lieutenants H. Johnson (from 29th Batt. County of London Vol. Regt., precedence February 26th, 1917), R. O'Brien (from 19th Batt. County of London Vol. Regt., precedence April 28th, 1917), J. B. Howell (from County of London A.S.C., M.T.(V.)), precedence from May 15th, 1918).

*Middlesex R.A.M.C.(V).* Temp. Lieutenant L. C. Hudson to be temp. Captain. Medical Officer and temp. Lieutenant J. O. Shennons, from Middlesex A.S.C., M.T.(V.), to be temp. Lieutenant, precedence from May 23rd, 1918.

*Norfolk R.A.M.C.(V).* To be temp. Lieutenants: Medical Officers and temp. Lieutenants G. S. Keeling (from 4th Vol. Batt. Norfolk Regt., precedence February 28th, 1917), W. L. Cox (from 1st Vol. Batt. Norfolk Regt., precedence May 12th, 1917).

*West Riding R.A.M.C.(V).* To be temp. Captain: Medical Officer and temp. Captain E. A. White (from West Riding A.S.C., M.T.(V.)), precedence May 9th, 1918). To be temp. Lieutenants: Medical Officers and temp. Lieutenants K. H. Beverley (from 1st Vol. Batt. York and Lancaster Regt., precedence May 17th, 1918), and O. H. Hudson (from 3rd Vol. Batt. York and Lancaster Regt., precedence April 11th, 1918); T. Chelwood.

#### APPOINTMENTS.

AHMED, Aziz, M.B., Ch.B. Edin., Assistant School Medical Officer and Assistant Tuberculous Officer for Wigton.

HARGREAVES, C. C., M.B., Ch.B. Aberd., Assistant to Medical Superintendent of Bury and District Joint Hospital Board.

STUART, R. M.R.C.S., L.R.C.P., Medical Officer H. M. Prison, Durnam, vice P. F. Gilbert, L.R.C.P. Edin., M.R.C.S. Eng.

WACHER, H., M.B., B.C. Cantab., Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 49, Ashford, etc., County Courts.

CERTIFYING FACTORY SURGEONS.—D. Kennedy L.R.C.P. and S. Edin., L.R.F.P.S. Glas., for the Newbury District, co. Berks; E. W. Paul M.R.C.S., L.S.A., for the East Nottingham District, co. Nottingham; J. M. Wilson, M.B., Ch.B. Aberd., for the Aberdare District, co. Glamorgan.

DISTRICT MEDICAL OFFICERS.—E. K. Brown, M.R.C.S., L.R.C.P. (Smallburgh Union), P. H. Rawson, M.R.C.S., L.R.C.P. (Edmonton Union), S. Reader, M.R.C.S., L.R.C.P. (Wakefield Union), B. V. Watkins, M.B., Ch.B. (Bromsgrove Union).

#### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.

##### BIRTHS.

FRETZ.—On July 4th, at Serendib House, St. Kitts, B.W.I., the wife of H. E. King Fretz, F.R.C.S., of a son.

MORGAN.—On August 2nd, at 41, Lower Redland Road, Bristol, to Captain F. C. Morgan, R.A.M.C., and Mrs. Morgan (née Alice Muir), a son.

##### MARRIAGE.

BORUCHOWITZ—FAST. On August 6th, Jules S. Boruchowitz, M.R.C.S., L.R.C.P., son of Mr. and Mrs. A. Boruchowitz, Marcellus, to Marcelle Fast, only daughter of Mr. J. Fast, Kilburn, Brondesbury, and the late Mrs. Fast.

##### DEATH.

TATTERSALL.—On August 9th, at "Beachy," Neath, South Wales (following an operation), Ada Marnie, beloved wife of Norman Tattersall, M.D.

#### DIARY OF THE ASSOCIATION.

Date. Meetings to be Held.

##### AUGUST.

22 Thur. London: Rural Practitioners Subcommittee, 2.30 p.m.  
28 Wed. Surrey Branch, Annual Meeting, 429, Strand, London, W.C.  
29 Thur. North of England Branch, Annual Meeting, Newcastle-on-Tyne, 3.30 p.m.



# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 24TH, 1918

## CONTENTS.

	PAGE		PAGE
British Medical Association.		THE RIGHT OF APPEAL. CORRESPONDENCE WITH MINISTRY	
CURRENT NOTES.		OF NATIONAL SERVICE ... ..	33
MEDICAL REPRESENTATION IN PARLIAMENT ... ..	37	NAVAL AND MILITARY APPOINTMENTS ... ..	33
THE LUXURY TAX ... ..	37	APPOINTMENTS ... ..	33
USE OF MOTOR CARS FOR TRAVELLING TO AND FROM A		BIRTHS, MARRIAGES, AND DEATHS ... ..	38
HOLIDAY RESORT ... ..	37	DIARY OF THE ASSOCIATION ... ..	38
ASSOCIATION NOTICES ... ..	38		

### British Medical Association.

#### CURRENT NOTES.

##### Medical Representation in Parliament.

At the Annual Meeting of the Association last month a resolution was adopted to the effect that the time had arrived when the medical profession should be more fully represented in Parliament, and that financial aid should be provided when necessary for candidates approved by the British Medical Association.

The Council was instructed to consider what steps might best conduce to the attainment of this object, and it at once appointed a Parliamentary Elections Committee, which met on August 1st, when Sir John Halliday was in the chair. The Committee resolved that a fund for the support of the parliamentary candidature of medical men should be established to ensure the representation in Parliament of expert medical opinion, and to secure a larger representation of the medical profession in Parliament. It was also resolved to issue a circular to Divisions requesting them: (1) To call a meeting of their executives to discuss the question of the inauguration of the fund, and subsequently to consider the members of the profession in the area, asking for their support; and (2) to state how far they consider the local profession would be prepared to subscribe annually (over and above any donation to the fund at its inauguration) towards the support, after election, of any approved medical member of Parliament who required it, and for the promotion of the general objects of the fund.

The Committee also considered the matter of securing medical candidates for university seats. It had before it two motions—one proposed by Ashton-under-Lyne to the effect that the Association should take steps to improve the medico-political education of the profession with a view to securing the medical vote for medical candidates for university seats in Parliament, and another from Birmingham asking the Council to endeavour to secure that medical men should be chosen as candidates for university seats. The Committee determined to make certain inquiries under this head.

The Committee consists of: Sir Thomas Barlow (London), Lieut.-Colonel R. A. Bolam (Newcastle-on-Tyne), Dr. H. B. Brackenbury (London), Major W. McAdam Eccles (London), Major A. C. Farquharson (York), Sir Thomas Flitcroft (Bolton), Major E. Rowland Fothergill (Liverpool), Dr. Adam Fulton (Old Basford, Nottingham), Major W. Greer (Newport, Mon.), Mr. N. Bishop Harman (London), Dr. R. A. Lundie (Edinburgh), and Dr. Christine Murrell representing the Medical Women's Federation.

##### The Luxury Tax.

Brief reference was made last week to the report of the Luxury Duty Committee, and it was then pointed out that the committee proposed that medical, surgical, and dental requirements and appliances and scientific instruments and apparatus should be exempted. It may be noted further that under Schedule A (articles to be treated as subject to duty whatever the price paid), motor cars appear, but a motor car bought by a medical practitioner to be used by him for the purposes of his profession is exempted, as are also cars not liable to the full licence duty or not liable to the full duty on motor spirit which they use. Among the articles in Schedule B (2) which are subject to duty if the price paid exceeds the specified amounts, are boots and shoes, and we anticipate that a great deal of opposition will be raised to the limit of price. In present conditions for a man to pay £2 for his boots is by no means excessive, and cheaper boots, which are not, perhaps, in the beginning watertight and soon wear out, are not economical either from the point of view of prime cost or of health. Again, the limit of 18s. on all wool underclothing is too low, and if enforced must have an injurious effect on the health of delicate persons of both sexes. The absurdities into which the framers of sumptuary laws may fall is illustrated by the proposal to fix the upper limit of the price for a fountain pen at 10s. 6d. The incompetence of the committee is further shown by its failure to express a definite opinion as to whether the duty should be paid on the total price or only upon the excess over the maximum in the tables. A luxury duty has been in force in France for some time and is universally condemned as having proved a serious impediment to trade, while bringing in only a small proportion of the estimated revenue.

##### The Use of Motor Cars for Travelling to and from a Holiday Resort.

On August 8th representations were made to the Petrol Control Department asking that medical practitioners should be given a permit to use their motor cars to travel to and from a holiday resort, in the same way that motor-cyclists engaged on munition work are given permits to enable them to use their machines for such purposes. It was not suggested that any extra allowance of petrol should be granted, but simply that if a doctor could, out of the quantity allowed to him, manage to provide for a journey to and from the holiday resort he should have a permit to travel by motor car. The Petrol Control Department has declined to make any exception in favour of medical practitioners, and has equally refused a similar application made by the Automobile Association on behalf of car owners generally. The concession to munition workers has been made, the Controller states, in view of the exceptional difficulties of travel in and from congested munition areas.



## Association Notices.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**NORTH OF ENGLAND BRANCH.**—Dr. James Don, Honorary Secretary and Treasurer, 1, Grove Street, Newcastle-on-Tyne, gives notice that the annual meeting of the Branch will be held at the Medical Committee Rooms, 28, Ridley Place, Newcastle-on-Tyne, on Thursday, August 29th, at 5.30 p.m.

**SURREY BRANCH.**—Mr. Cecil G. Lankester, Honorary Secretary, 1, Rectory Place, Guildford, gives notice that the annual meeting of the Branch will be held in the Library of the Association, 429, Strand, London, W.C., on Wednesday, August 28th, at 3 p.m.

### THE RIGHT OF APPEAL.

At a conjoined meeting of the Executives of the Edinburgh and Leith Division of the British Medical Association, and of the Scottish Medical Guild, on July 23rd, it was agreed to address certain questions to the Ministry of National Service. The questions were summarized in the following:

In the event of a medical man having been granted exemption from ordinary military service on occupational grounds, and called upon to undertake either military or civil work, and he has objections to the work he has been called upon to undertake, will he have the right to appeal to the medical tribunal?

The following reply was received from Sir James Galloway, Chief Commissioner for Medical Services, Ministry of National Service:

I am to state that the answer to this question is a modified affirmative. A practitioner in such circumstances has no legal right to a hearing by the medical tribunal as such, but both the Central Professional Committees have arranged that in such circumstances they will extend to the practitioner the privilege of a hearing, at which his objections to the particular form of service allotted to him would receive every consideration, should he desire to make his representations in person.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

The following appointments are announced by the Admiralty: Fleet Surgeon H. C. Whiteside to R.N. College, Osborne. Temporary Surgeons: H. L. Douglass to the *Indefatigable*, H. Wilks to the *Olin*, S. Whinn to the *Powerful*, A. C. V. Green to the *Temeraire*, J. C. Sleigh, W. Whitfield, and A. Patton to Haslar Hospital, J. F. M. Campbell to the *Bellerophon*, J. McR. S. Nichol to the *Diamond*, G. S. Mitchell to the *Iron Duke*.

### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Probationer R. S. Abison to the *Aetern*.

### ARMY MEDICAL SERVICE.

Temporary Colonel Sir Charles A. Ballance, K.C.M.G., C.B., M.V.O., Captain R.A.M.C. (T.F.), relinquishes his temporary commission on repeating, and is granted the honorary rank of Colonel.

### ROYAL ARMY MEDICAL CORPS.

Temporary Major E. A. Chartres to be acting Lieut.-Colonel while in command of a medical unit.

Temporary Major A. W. Nuthall (Captain R.A.M.C. (T.F.)), relinquishes his temporary commission on repeating.

To be temporary Majors: H. E. Durham (whilst specially employed), T. W. Shaw.

The name of temporary Captain Alan Cowan Mann is now as described, and not as in the *London Gazette* of August 18th, 1911, and September 6th, 1915.

Late temporary Captains granted the honorary rank of Captain: T. MacHardy, H. W. Ward, L. M. Davies.

The notifications regarding the following officers in the *London Gazette* of the dates stated are cancelled: Temporary Captains: I. W. Magill (June 4th), P. A. Doyle (July 1st), C. S. Gideon (July 4th), R. C. Muir (July 22nd), temporary Lieutenant W. B. Clarke (July 5th).

To be temporary Captains: A. M. Ross, W. Edgecombe, E. F. Buckler, J. McI. Falkner, J. B. O. Richards (late Captain Devon Regiment), honorary Captain M. R. MacKay, D. Cotterill, G. Birch, honorary Captain V. M. Fisher, O. G. Morgan, J. A. Hadfield, R. L. Moorhead (late Surgeon-Captain Yeomanry T.F.), temporary Lieutenant R. J. Attridge.

Temporary honorary Lieutenants to be temporary honorary Captains: J. F. Harvey, J. V. Ricci.

Officers relinquish their commissions: Temporary Major S. R. Scott. Temporary Captains G. M. de Vinc and D. S. Page (on account of ill health, and are granted the honorary rank of Captain), H. J. Norman (on ceasing to be employed at the Middlesex War Hospital), J. M. D. Mitchell (on account of ill health caused by wounds received in action; substituted for notification in the *London Gazette*, June 13th), R. H. Dix and R. P. Kennedy (on account of ill health contracted on active service, and are granted the honorary rank of Captain), A. M. Cowie, A. McP. Warner, A. Paterson, W. C. Mayo. Temporary Lieutenants: R. J. Archibald and W. M. Hume (on account of ill health, and are granted the honorary rank of Lieutenant), G. S. Ewen.

To be temporary Lieutenants: A. C. Brown, W. N. Leak, C. J. L. Palmer, C. V. Macnamara, R. Price, J. Butterworth, J. Paxton, E. H. Wilson, O. H. Woodcock, P. C. MacRobert, J. Clarke, J. Good, Z. M. H. Ross, T. S. Macaulay, J. M. Reid, G. H. Dunn, J. C. Carr, J. McF.

Fellows, G. Smith, H. S. Roberts, C. M. Smith, W. G. MacArthur, V. D. Pennington, I. Clarke, L. P. McK. Gardner, N. B. Langford, A. G. L. Smith, R. M. Rendall, J. McClellan, B. D. Merrin, J. A. Phibbs, J. A. Aitken, B. Blacklock, A. P. Mitchell, R. Clark, G. H. Dart, O. Marriott, S. McCare, J. C. Watwick, G. B. Woodhouse, A. H. Hollands, H. P. Pennington, R. W. Gilman.

To be temporary honorary Lieutenants: S. A. McR.

### ROYAL AIR FORCE.

#### MEDICAL BRANCH.

Granted temporary commission: A. Captain H. L. H. Grace (late Captain R.A.M.C.). As Lieutenants: N. H. Scott, R. G. J. McCullagh, S. A. Nield-Faulkner, P. C. Parr, N. Rumball.

### SPECIAL RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Captain M. W. H. Miles relinquishes his commission on account of ill health, and is granted the honorary rank of Lieutenant.

To be Lieutenants: M. Jackson and G. P. W. Spanton, from University of London Contingent O.T.C.; D. O. MacDonald.

### OVERSEAS CONTINGENTS.

#### CANADIAN ARMY MEDICAL CORPS.

Temporary Majors to be temporary Lieut.-Colonels: C. A. Young, F. A. Young.

Temporary Major N. V. Leslie to be acting Lieut.-Colonel.

Temporary Major F. H. Mackay to be acting Lieut.-Colonel while specially employed.

Temporary Captains to be temporary Majors: C. G. Imrie, F. A. StJohn. While specially employed: C. E. Anderson, E. L. Pope.

Temporary Captain H. G. Wood to be acting Major.

### SOUTH AFRICAN MEDICAL CORPS.

Temporary Captain J. T. McAuslin relinquishes his commission.

### TERRITORIAL FORCE.

Major E. J. Maclean to be acting Lieut.-Colonel whilst specially employed.

Major A. F. Fergus relinquishes his commission on account of ill health, and is granted the honorary rank of Major.

Captain (acting Major) L. Milton relinquishes his acting rank on ceasing to be specially employed.

Captain W. C. Hodges to be acting Major whilst specially employed.

Captain G. M. A. Thomas relinquishes his commission on account of ill health, and is granted the honorary rank of Captain, December 1st, 1917 (substituted for notification in the *London Gazette* of November 30th, 1917).

Captain W. A. Philipps relinquishes his commission on account of ill health, and is granted the honorary rank of Captain.

Lieutenant J. Jackson to be Captain.

Attached to Units Other than Medical Units.—Captain J. D. Wells to be a Deputy Assistant Director of Medical Services and to be a Acting Major whilst so employed.

### TERRITORIAL FORCE RESERVE.

Major W. H. Pritchard, from R.A.M.C., to be Major.

### VOLUNTEER FORCE.

Lancashire R.A.M.C.—Temp. Lieutenant J. Brown resigns his commission.

County of London R.A.M.C.—To be temp. Captains: E. A. Chiff, H. J. Hildstead, J. Kennish, J. B. Wallace, C. T. Quillor.

Gloucester Regt. 6th (Bristol) Vol. Batt.—Medical Officer and temp. Captain L. R. M. O'Ferrall resigns his commission.

## APPOINTMENTS.

DISTRICT MEDICAL OFFICERS.—W. P. H. Madden, M.D. (Chard Union), J. R. Sinton, M.B., B.Ch. (Stourbridge Union).

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.

### MARRIAGES.

HERDMAN-ARMSTRONG.—On July 31st, 1918, at St. James's Church, Paddington, by the Rev. E. Grose Hodge, M.A., Major Harry Philipps Herdman, Welsh Regiment, to Janet Armstrong, M.B., Ch.B., D.P.H., 174, Cathedral Road, Cardiff.

### DEATHS.

ALMOND.—Killed in action, August 9th, George Hely-Hutchinson Almond, Captain R.A.M.C. (M.A., M.B., B.Ch. Oxon., aged 41, eldest son of the late Hely-Hutchinson Almond, Head Master of Loretto, and of Mrs. Almond, and dearly loved husband of Violet Almond, 6, Brock Street, Bath.

GLASCOTT.—On August 14th, at Rosemullion, Budleigh Salterton, after a very short illness, Charles Edward Glascott, M.D., F.R.C.S., late of Manchester.

WESTON.—On August 12th, after many years' illness, in Devonshire, Arthur Ernest Weston, L.R.C.P. Lond., M.R.C.S. Eng., aged 47.

## DIARY OF THE ASSOCIATION.

Date. Meetings to be Held.

### AUGUST.

28 Wed. Surrey Branch, Annual Meeting, 429, Strand, London, W.C.  
29 Thurs. Northern England Branch, Annual Meeting, Newcastle-on-Tyne, 5.30 p.m.



## BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 7TH, 1918.

## CONTENTS.

## British Medical Association.

## CURRENT NOTES.

MEDICAL REPRESENTATION IN PARLIAMENT 19  
PROTECTION OF MILK CONSUMERS 19

MEETING OF BRANCHES AND DIVISIONS 1

## British Medical Association.

## CURRENT NOTES.

## Medical Representation in Parliament.

THE list of members of the Parliamentary Elections Committee given on August 24th was incomplete. The Committee is constituted as follows:—Officers of the Association—Sir Clifford Allbutt, President of the Association; Dr. T. W. H. Garstang, Chairman of Representative Meetings; Dr. J. A. Macdonald, Chairman of Council; Dr. G. E. Haslip, Treasurer; Lieut.-Colonel R. A. Bolam (Newcastle-on-Tyne), Dr. H. B. Brackenbury (London), Major W. McAdam Eccles (London), Major A. C. Farquharson (York), Sir Thomas Flitcroft (Bolton), Major E. R. Fothergill (Liverpool), Dr. Adam Fulton (Old Basford, Nottingham), Major W. Greer (Newport, Mon.), Mr. N. Bishop Harman (London), Dr. R. A. Lundie (Edinburgh), Dr. Christine Murrell, representing the Medical Women's Federation, Sir Malcolm Morris, K.C.V.O. (London), Sir A. Garrod Thomas (London), Mr. E. B. Turner (London), and Mr. T. Jenner Verrall, LL.D. (Bath). Sir Thomas Barlow was elected to serve on the Committee, but finds himself unable to do so. The Committee has power to co-opt 1) not more than four other members of the Association, and 2) a medical representative from the Local Election Committee formed in each area in which an approved medical candidate is standing for election.

## Protection of Milk Consumers.

The Public Health Committee of the Association will have under consideration at its next meeting the question of the use of a written warranty as a defence in any proceedings under the Sale of Food and Drugs Act, 1875. Statistics of the number of milk summonses during the past three years in one of the London boroughs and the number of summonses dismissed on the warranty defence will be placed before the Committee, and it would be helpful if medical practitioners both in London and the provinces would furnish the Committee with the result of their experience of this question in other areas. Such information should be forwarded to the Medical Secretary, 429, Strand, W.C.2, by September 24th.

## Meetings of Branches and Divisions.

GLASGOW AND WEST OF SCOTLAND BRANCH:  
AYRSHIRE DIVISION.

The following officers have been elected:

*Chairman:* Dr. T. McGeoch. *Vice-Chairman:* Dr. John Aitken. *Honorary Secretary and Treasurer:* Dr. W. F. Brown. *Representative Body:* Dr. A. Young. *Deputy Representative on Representative Body:* Dr. F. McKenna. *Representatives on Branch Council:* Dr. McKenna, Dr. G. D. Medley. *Executive Committee:* Drs. J. L. Boyd, D. P. Gage, R. C. Robertson, A. White, J. McFarlane, J. Beveridge, J. C. M. Taylor, J. Macdonald, and C. R. Macdonald.

LANCASHIRE AND CHESHIRE BRANCH: MANCHESTER  
DIVISION.

The following officers of the Division have been elected:

*Chairman:* Dr. T. A. Helme. *Vice-Chairmen:* Drs. Skinner and Goodfellow. *Secretary:* Dr. R. G. McGowan. *Representatives on Representative Body:* Drs. Chapman and Dearden. *Representatives*

THE BURDEN OF COSTLY REMEDIES	39
NAVAL AND MILITARY APPOINTMENTS	39
APPOINTMENTS	40
BIRTHS, MARRIAGES, AND DEATHS	40

*Dr. J. A. Macdonald, Dr. H. B. Brackenbury, Dr. G. E. Haslip, Dr. T. W. H. Garstang, Dr. Christine Murrell, Dr. Adam Fulton, Dr. E. R. Fothergill, Dr. E. B. Turner, Dr. T. Jenner Verrall, Dr. F. McKenna, Dr. G. D. Medley, Dr. J. L. Boyd, Dr. D. P. Gage, Dr. R. C. Robertson, Dr. A. White, Dr. J. McFarlane, Dr. J. Beveridge, Dr. J. C. M. Taylor, Dr. J. Macdonald, and Dr. C. R. Macdonald.*

## SHROPSHIRE AND MID-WALES BRANCH.

At the meeting of the Branch on August 20th Dr. H. W. Gardner (Shrewsbury) was elected president, and Dr. G. Maskie vice-president. Drs. Dalley and W. H. Farmer were elected members of the Branch Council.

The question of a Ministry of Health was discussed, and Colonel Kynaston made a statement on the views of certain political parties regarding the status of medical men. A discussion took place with reference to subscriptions for expenses of medical M.P.'s. There seemed to be a general opinion that any M.P. to be benefited should be from the ranks of general practitioners, as his experience would enable him to know the needs of general practitioners.

## THE BURDEN OF COSTLY REMEDIES.

At a meeting of the Local Medical and Panel Committee of the West Riding of Yorkshire on July 12th the judgement by the Insurance Commissioners in the case of Dr. F. C. Fisher concerning the supply by dispensing insurance practitioners of serums, antitoxins, etc., was discussed at some length. It was agreed that such treatment was outside the scope of medical benefit.

## Naval and Military Appointments.

## ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty: Surgeons to be acting Staff Surgeons: S. W. Grimshaw, B. Taylor, H. H. Ormsby, C. Maxon Browne, T. H. Richardson, L. A. Moncreaf, A. C. Paterson, C. H. Symonds, B. Clark, G. B. Cockren, G. D. Ferguson, H. M. Whelan, J. G. Boal, G. F. B. Page, D. G. Arthur, D. P. H. Pearson, P. B. Wallis, G. S. Harvey, G. H. Hayes, M. J. Aitken. Temporary Surgeons: C. H. Savory and N. A. Scott to Plymouth Hospital; D. S. McKnight to the *Britannia*; W. Everett to R.N. Hospital, Bermuda; A. J. Pollock to the *Comorant*; W. G. Lodge to the *Ganges*, for R.N. Sick Quarter, Soudley; H. M. Oddy, W. Michael, J. P. O'Grady, and R. D. Lowbart to Haslar Hospital; W. H. Steel to the *St. George*; F. M. Adenun to Royal Marine Hospital, Folkestone; E. F. Thomas to Chatham Hospital. To be temporary Surgeons: L. D. Lockhart.

## ROYAL NAVAL VOLUNTARY RESERVE.

Surgeons N. J. Rollason and T. L. Ellis granted acting rank of Staff Surgeons. To be Surgeon Probationers: C. M. de Villiers, F. C. C. A. I. Carr, A. C. Dewar, W. A. Brown.

## ARMY MEDICAL SERVICE.

THE following Colonels retire on retired pay: E. Leckersley, F. W. G. Gordon-Hall, C.B.  
Lieut.-Colonel H. A. L. Howell to be acting Colonel whilst employed as Assistant Director of Medical Services of a base.

## ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonels to be acting Colonels whilst in command of a medical unit: C. R. Evans, D.S.O., H. Simson, W. Riach, C.M.G.

Temporary Captain (temporary Lieut.-Colonel) C. D. Pye-Smith retains the temporary rank of Lieut.-Colonel whilst in command of a casualty clearing station.

Brevet Lieut.-Colonel (temporary Lieut.-Colonel) S. L. Pallant, D.S.O., retains the rank of Lieut.-Colonel whilst in command of a general hospital.

The undermentioned relinquish the acting rank of Lieut.-Colonel on reposting: Majors G. B. Ferguson, A. S. Littlejohns, D.S.O., R. P. Lewis, D.S.O., R. B. Hole, Captain J. J. O'Keefe, M.C.

To be acting Lieut.-Colonels: Majors K. G. H. Tate, G. A. D. Harvey, C.M.G., temporary Major C. B. M. Lowe, Captain (Brevet Major) H. H. Blake, temporary Captain (acting Major) H. Stokes.

Majors to be acting Lieut.-Colonels whilst in command of medical units: F. E. Rowan-Robinson, R. K. White, D.S.O.

Temporary Major A. Stewart to be temporary Lieut.-Colonel whilst employed at Whips Cross War Hospital.







# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 14TH, 1918.

## CONTENTS.

	PAGE		PAGE
<b>British Medical Association.</b>		<b>NAVAL AND MILITARY APPOINTMENTS</b>	41
<b>CURRENT NOTES:</b>		<b>APPOINTMENTS</b> ...	42
CERTIFICATES FOR WOMEN WORKERS	41	<b>BIRTHS, MARRIAGES, AND DEATHS</b> ...	42
MEDICAL REPRESENTATION IN PARLIAMENT	41	<b>DIARY OF THE ASSOCIATION</b> ...	42
WAR EMERGENCY FUND, ROYAL MEDICAL BENEVOLENT FUND	41		

### British Medical Association.

#### CURRENT NOTES.

##### Certificates for Women Workers.

For more than eighteen months the Association has endeavoured to arrive centrally at an agreement with various Government departments as to the fee for the medical certificate needed by women seeking employment in munitions and land work, etc. This matter was referred to in a Current Note on May 18th, 1918, but no satisfactory result has yet been attained. It is, therefore, necessary that the Divisions should do their part in securing a settlement satisfactory to the profession. The form of certificate objected to is variously worded, according to whether it is required for munition workers, W.A.A.C., W.R.N.S., or women land workers; but each contains some eleven or twelve questions which entail careful examination if they are to be answered adequately. In the opinion of the Council, which was confirmed by the Representative Meeting in 1917, such certificates are worth a fee of 5s., whereas 2s. 6d. is the fee now paid. The Council has endeavoured, but without success, to persuade the Government departments concerned either to raise the fee or to accept a simplified form necessitating less work, and in these efforts the Federation of Medical Women has co-operated. A circular has now been addressed to the secretaries of Divisions and Branches urging them to take steps to make it impossible for these certificates to be obtained for less than 5s. so long as the present elaborate form is used. If this is done throughout the country, the fee will no doubt be raised, or, alternatively, the simplified form already suggested by the Association, which could be properly filled up for a fee of 2s. 6d., would be accepted. Local action upon these lines would invalidate the reply hitherto given by the Departments that there is no difficulty in getting the work done at the present rate.

##### Medical Representation in Parliament.

The Parliamentary Elections Committee of the Association, whose constitution was given in this column last week, has issued through the Medical Secretary a circular to Divisions, dated September 7th, requesting them to call meetings of their executives to discuss the question of the inauguration of a fund for the support of the parliamentary candidature of medical men in order to secure the representation in Parliament of expert medical opinion and a larger representation of the medical profession in Parliament. It is hoped that the members of the profession in each area will be circularized at an early date. In view of the possibility that a General Election may take place in the near future, lists of local subscribers, together with the particulars asked for in the circular, should, if possible, be sent to the office by October 7th, in order that the information may be available for the next meeting of Council on October 23rd.

### War Emergency Fund of the Royal Medical Benevolent Fund.

The following further subscriptions have been received from Divisions of the British Medical Association in response to the recent appeal, and have been passed on to the Treasurer of the War Emergency Fund. The names of individual subscribers are published monthly in the advertisement pages of the JOURNAL.

South Essex Division, per Dr. J. F. Walker, Honorary Secretary	£ s. d.
Bedford Division, per Dr. Fasnacht, Honorary Secretary	5 5 0
	1 1 0

### Naval and Military Appointments.

#### ROYAL NAVAL MEDICAL SERVICE.

The following appointment is announced by the Admiralty: Temporary Surgeon N. MacLeod to the *Africa*.

#### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Probationers C. C. Mackinnon to the *Crusader*, M. W. Kemp to the *Swift*.

#### ARMY MEDICAL SERVICE.

Temporary Colonel T. Sinclair, C.B., relinquishes his commission and is granted the honorary rank of Colonel.

Temporary Major A. W. Robertson, R.A.M.C., to be temporary Deputy Assistant Director-General.

Captain and Brevet Major (acting Lieut.-Colonel) C. H. S. Frankau, D.S.O., to be temporary Colonel whilst specially employed, June 30th, 1918 (substituted for notification in the *London Gazette* of August 1st).

Temporary Lieut.-Colonels to be temporary Colonels: H. Wade, D.S.O. (Captain R.A.M.C.T.F.), C. C. Choyce, R. Davies-Colley.

#### ROYAL ARMY MEDICAL CORPS.

Brevet Lieut.-Colonel (temporary Lieut.-Colonel) S. L. Pallant, D.S.O., retains the rank of Lieut.-Colonel whilst in command of a general hospital.

Majors relinquish the acting rank of Lieut.-Colonel on reposting: J. M. H. Conway, D.S.O. (November 1st, 1917), W. F. Ellis (December 9th, 1917).

Temporary Major H. H. Serpell relinquishes the acting rank of Lieut.-Colonel on reposting.

To be acting Lieut.-Colonels (whilst specially employed): Temporary Major H. F. Woolfenden, Captain (acting Major) E. D. Caddell, M.C., Captain M. P. Leahy; (whilst in command of a medical unit): Temporary Captain (acting Major) J. G. Johnston, M.C., Majors T. S. Coates, O.B.E., W. F. Ellis (Brevet Lieut.-Colonel), G. Ormrod, F. E. Rowan Robinson, R. K. White, D.S.O., Captain A. C. Hammond-Searle, M.C., May 5th, 1918 (substituted for notification in the *London Gazette*, July 30th, 1918.)

Temporary Captains relinquish the acting rank of Major on reposting: J. M. Forsyth, M.C., H. Goodman, V. M. Connolly, M.C.

Temporary Captains to be acting Majors: W. G. Johnston, M.C., January 4th, 1918; J. W. C. Gunn, January 4th, 1918 (substituted for notifications in the *London Gazette* of May 16th and July 10th, 1918, respectively); G. W. Smith, M. N. Perrin, E. S. Sowerby, M.C., and E. L. Audiccombe, N. Dunn and C. M. Kennedy, whilst specially employed.

M. H. Scrimgeour to be local Major and to be granted the pay and allowances of a Major whilst specially employed.

The following is substituted for the notification in the *London Gazette* of January 10th, 1917:—The undermentioned to be Lieutenants, with precedence as stated, and to be temporary Captains, but not to reckon for pay or allowances prior to January 1st, 1917. Captain G. H. Haines, M.C., from R.A.M.C. (S.R.), March 17th, 1915, next below W. T. Hare. Temporary Captain R. L. Ritchie, R.A.M.C., April 1st, 1915, next below R. D. Davy. Captain R. B. Myles, from R.A.M.C. (S.R.), April 10th, 1915, next below R. L. Ritchie. Temporary Captain E. S. Cuthbert, R.A.M.C., April 23rd, 1915, next below R. B. Myles. Captain R. R. Thompson, from R.A.M.C. (S.R.), May 1st, 1915, next below J. M. Mackenzie. Captain (acting Major) A. E. Richmond, from R.A.M.C. (S.R.), May 1st, 1915, next below R. R. Thompson. Captain E. Jamieson, M.B., from R.A.M.C. (S.R.), June 2nd, 1915, next below A. J. Hickey. Captain J. E. Brooks, from R.A.M.C. (T.F.), June 16th, 1915, next below E. Jamieson. Temporary Captain (acting Major,



J. W. O'Brien, M.C., R.A.M.C., July 1st, 1915, next below W. J. Robertson. Captain P. R. S. Shaw, M.C., from R.A.M.C.(S.R.), July 10th, 1915, next below J. W. O'Brien. Captain R. Stowers, from R.A.M.C.(S.R.), July 24th, 1915, next below C. Russell. Captain O. D. Jarvis, from R.A.M.C.(S.R.), August 7th, 1915, next below R. A. Mansell. Temporary Captain (acting Major) J. La F. Lauder, D.S.O., M.C., R.A.M.C., August 8th, 1915, next below O. D. Jarvis. Temporary Captain T. H. Sarsfield, R.A.M.C., August 9th, 1915, next below J. La F. Lauder. Captain J. A. Hinning, from R.A.M.C.(S.R.), August 10th, 1915, next below T. H. Sarsfield. Temporary Captain (acting Major) J. F. Bourke, M.C., R.A.M.C., August 13th, 1915, next below J. A. Hinning. Temporary Captain H. J. Bower, R.A.M.C., October 14th, 1915, next below W. L. Partridge. Captain W. H. A. D. Sutton, from R.A.M.C.(S.R.), November 1st, 1915, next below H. J. Bower. Captain G. T. Gimlette, M.B., from R.A.M.C.(S.R.), December 29th, 1915, next below G. T. Baker. Captain W. L. A. Harrison, M.C., from R.A.M.C.(S.R.), February 15th, 1916, next below C. A. Slaughter.

The following is substituted for the notification in the *London Gazette* of January 22nd, 1917:—The undermentioned to be Lieutenants, with precedence as stated, but not to receive pay or allowances prior to January 1st, 1917: Temporary Lieutenant T. C. Bowie, R.A.M.C., January 21st, 1916, next below G. T. Gimlette. Temporary Lieutenant G. C. Robinson, R.A.M.C., February 8th, 1916, next below T. C. Bowie. Temporary Lieutenant D. H. Coates, R.A.M.C., May 4th, 1916, next below W. H. Ferguson. Lieutenant C. B. C. Anderson, from R.A.M.C.(S.R.), July 12th, 1916, next below G. T. Gimlette. Temporary Lieutenant P. E. D. Pank, R.A.M.C., July 13th, 1916, next below C. B. C. Anderson. Temporary Lieutenant G. Moulson, R.A.M.C., July 15th, 1916, next below P. E. D. Pank. Lieutenant R. H. C. Pryn, from R.A.M.C.(S.R.), August 15th, 1916, next below G. Moulson.

Officers relinquish their commissions: Temporary Captains C. R. Whittaker and C. Townsend (on account of ill health contracted on active service, and are granted the honorary rank of Captain). T. W. N. Dunn and C. S. Bowker (on account of ill health, and are granted the honorary rank of Captain). P. L. Moore, R. W. Statham, J. I. Baeza, (acting Major) J. P. Good, W. Craik; temporary Lieutenant G. F. Hunter (on account of ill health contracted on active service, and is granted the honorary rank of Lieutenant). A. V. Moberly (on account of ill health), H. J. Brewer (on account of ill health, and is granted the honorary rank of Lieutenant).

Lieutenants (temporary Captains) to be Captains: F. J. Hallinan (precedence next below G. B. Hadden). T. J. L. Thompson, M.C. (precedence next below H. C. Gidding). S. Robertson (precedence next below T. J. L. Thompson). J. H. Baird (precedence next below S. Robertson). W. D. Anderson, M.C. (precedence next below R. P. Cormack). W. L. E. Reynolds, M.C. (precedence next below W. K. Beamish). A. G. P. Hardwick, H. A. Rowell, M.C., (acting Major) W. K. Campbell, D.S.O., M.C., (acting Major). O. B. Pratt, J. H. Boag, C. G. Keane, C. R. Dudgeon, M.C. (acting Major) H. E. A. Boldero, R. O. Matson, H. R. Sheppard, (acting Major) W. T. Hare, M.C.

E. H. Paddison relinquishes his commission and is granted the honorary rank of Captain.

The notification in the *London Gazette* of July 29th regarding Captain E. J. Elliot is cancelled.

To be temporary Captains: Temporary Lieutenants E. G. Pringle and C. L. Forde, H. Devine (whilst specially employed).

C. Miskin, late temporary Lieutenant, is granted the honorary rank of Lieutenant.

Temporary honorary Lieutenant S. H. Kagan to be temporary honorary Captain.

J. R. H. Walker, late temporary Captain, is granted the honorary rank of Captain.

R. P. Mitchell to be temporary honorary Lieutenant whilst serving with British Red Cross Society in France.

#### ROYAL AIR FORCE.

##### MEDICAL BRANCH.

Granted temporary commissions:—As Captains: W. G. Helsby, A. Bradford.

#### SPECIAL RESERVE OF OFFICERS.

##### ROYAL ARMY MEDICAL CORPS.

Captain W. F. McLean, M.C., to be acting Lieut.-Colonel whilst in command of a medical unit.

Captain F. R. H. Mollan, M.C., to be acting Major.

Captain C. H. Thomas relinquishes his commission on account of ill health, and is granted the honorary rank of Captain.

Lieutenants to be Captains: H. N. Pritchett, W. J. Walters, G. F. Mitchell, G. K. Fulton, W. Adams, R. Aitken, T. Fleming, J. S. Martin, N. Mackillop, W. Dempster, E. P. Irving, J. H. Shearer, W. McWilliam, J. Ashforth, J. S. Craig, H. E. Charles, C. H. Smith, P. Shillito, N. Pick, G. F. Hurst, H. V. Horsfall, J. H. Parker, S. Adler, F. V. Anderson, H. J. Rice, J. M. Savage, J. B. Kirk, D. McEachran, J. C. Burns, S. L. Smith, J. O. P. Smith, L. Walker, J. McI. H. Smollee, R. Mailer, W. A. Weatherhead, C. B. B. Reid, J. S. Bow, D. W. McLean, R. Andrew, J. H. R. Smith, B. W. Jones, R. L. Fraser, A. B. Austin, P. F. A. Grant, A. B. McA. Lang, F. W. Sandeman, D. S. Mitchell.

To be Lieutenants: F. R. Escriott, A. E. B. Paul, T. Patterson, S. A. Withers, and W. A. Flynn from University of London Contingent O.T.C.; T. H. Almond from Manchester University Contingent O.T.C.; C. Simpson and D. O. Lamont from Edinburgh University Contingent O.T.C.; A. C. Paterson, Second Lieutenant E. J. S. Bennett from Unattached List T.F., F. R. G. Heif.

#### GENERAL RESERVE OF OFFICERS.

##### ROYAL ARMY MEDICAL CORPS.

Captain F. E. Bissell to be acting Major.

#### OVERSEAS CONTINGENTS.

##### CANADIAN ARMY MEDICAL CORPS.

To be acting Lieut.-Colonels: Temporary Majors W. G. Turner, M.C., and A. L. Johnson whilst specially employed; W. A. G. Bauld. Temporary Major G. S. Mothersill, D.S.O., to be temporary Lieut.-Colonel.

Temporary Captains to be temporary Majors: W. J. E. Mingie, F. E. Potman.

Temporary Captain J. Seeger to be acting Major.

Temporary Lieutenants to be temporary Captains: F. H. Nelson, E. N. Bullantyne.

Temporary Colonel L. Drum relinquishes his appointment as Assistant Director of Medical Services.

Temporary Lieut.-Colonel (acting Colonel) L. E. W. Irving, D.S.O.,

relinquishes the acting rank of Colonel on ceasing to be specially employed.

Temporary Captain H. K. Bates to be acting Major while specially employed.

Temporary Lieutenants to be temporary Captains: J. F. Hazard, J. A. Benwick, O. J. Shore, R. S. Murray, O. R. MacTavish, J. F. Edis, P. B. Eaton.

#### SOUTH AFRICAN MEDICAL CORPS.

Lieut.-Colonel (Temporary Colonel) A. B. Ward, D.S.O., relinquishes the rank of temporary Colonel.

Temporary Captain C. F. Boyers resigns his commission.

#### TERRITORIAL FORCE.

##### ROYAL ARMY MEDICAL CORPS.

Major W. Broadbent is seconded for service overseas.

Captain (acting Major) H. C. C. Hackney relinquishes his acting rank on ceasing to be specially employed.

Captain F. J. Wethered is retired under para. 116 T.F. Regulations, and is granted the honorary rank of Captain.

Captain A. H. Falkner to be Major.

Captains to be acting Majors whilst specially employed: J. A. Davies, P. R. Bolus.

Captains P. N. Cave and V. A. P. Costobadie relinquish their commissions on account of ill health, and are granted the honorary rank of Captain.

Captain E. D. Macnamara relinquishes his commission on account of ill health, and is granted the honorary rank of Major.

The announcement regarding Captain (temporary Major) J. Hamilton in the *London Gazette* of July 26th is cancelled.

Captain G. W. Greene relinquishes his commission on account of ill health, and is granted the honorary rank of Captain.

To be Captains: Lieutenants (temporary Captains) W. Gilliatt and J. H. Ryfel, Lieutenants C. W. Yates, B. M. Brander, R. C. Davis, C. M. Smith.

#### TERRITORIAL FORCE RESERVE.

To be Captains: Captains L. A. Celestin and S. Hodgson, from R.A.M.C.; Captain R. W. Simpson, from attached to units other than medical units.

Captain H. V. Capon, from Attached to Units other than Medical Units, to be Captain.

Major F. W. Burton-Fanning, from R.A.M.C., to be Major.

To be Captains: Captains from R.A.M.C.—C. W. Shapley, A. Proudfoot (on vacating appointment as Deputy Assistant Director of Medical Services), J. M. Fonseca.

Lieutenant E. C. B. Paul, from Attached to Units other than Medical Units, to be Lieutenant.

#### VOLUNTEER FORCE.

County of Aberdeen R.A.M.C.—Temp. Captain W. S. Cheyne resigns his commission.

City of Bristol R.A.M.C.—Temp. Second Lieutenant G. G. D. Willett, from Second Lieutenant 2nd Vol. Batt. Somerset Light Infantry, to be temp. Captain.

Kent R.A.M.C.—R. G. Wills to be temp. Captain, F. R. B. Hinde to be temp. Lieutenant.

Lincoln R.A.M.C.—C. H. D. Robbs to be temp. Lieutenant.

Linthgow R.A.M.C.—T. Gilchrist (late Lieutenant R.A.M.C.) to be temp. Lieutenant.

County of London R.A.M.C.—Captain M. A. Farr (late R.A.M.C.) to be temp. Captain, H. McD. Perrott to be temp. Lieutenant.

Norfolk R.A.M.C.—Temp. Lieutenants to be temp. Captains: G. S. Keeling, W. L. Cox.

Suffolk R.A.M.C.—E. J. C. Dicks to be temp. Captain. Temp. Lieutenant H. G. Biddle, from Lieutenant 6th Vol. Batt. Suffolk Regt., to be temp. Lieutenant.

East Yorkshire R.A.M.C.—Temp. Captain H. D. Johns to be temp. Major. To be temp. Captains: R. D. Bradford, W. L. Wyatt.

#### APPOINTMENTS.

BADGEROW, George W., C.M.G., F.R.C.S., Aural Surgeon to the Royal Normal College and Academy of Music for the Blind.

DISTRICT MEDICAL OFFICERS.—F. Chand, M.B., Ch.B. (Edin. (Monmouth Union). C. L. Eyles, M.B., Ch.B. (Edin. (Auckland Union). O. C. Hamilton, M.B. (Durh. L.S.A. (West Ham Union). J. L. Langley, M.D. (Bruz., M.B.O.S., L.R.C.P. (Bigsby Union).

#### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.

#### BIRTHS.

HILL.—On the 2nd of September, 1918, at Rutland Square, Dublin, to Kathleen Josephine (née Kenny), wife of Captain J. F. Hill, M.C., R.A.M.C., B.E.F., France, a son.

MENZIES.—On the 9th September, at Commons Corner, Tadworth, the wife of Dr. F. N. Kay Menzies, of 15, Thurloe Court, of a daughter.

#### DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
OCTOBER.	
1 Tues. London: Poor Law Medical Officers' Subcommittee.	2.30 p.m.
1 Tues. London: Medical Officers of Health Subcommittee.	5 p.m.
1 Tues. London: Public Health Committee.	3.30 p.m.
2 Wed. London: Medico-Political Committee.	2 p.m.
2 Mon. London: Naval and Military Committee.	2.30 p.m.
10 Thur. London: Organization Committee.	2 p.m. (provisional).
18 Fri. London: Central Ethical Committee.	2 p.m.
23 Wed. London: Council Meeting.	
24 Thur. London: Conference of Local Medical and Panel Committees.	10 a.m.



# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 21st, 1918.

## CONTENTS.

### British Medical Association.

#### CURRENT NOTES:

CONFERENCE OF REPRESENTATIVES OF LOCAL MEDICAL AND PANEL COMMITTEES ... ..	43
SCHEMES AND CIRCULARS ... ..	43
THE QUALITY OF PETROL ... ..	43
WAR EMERGENCY FUND OF THE ROYAL MEDICAL BENEVOLENT FUND ... ..	43

PAGE

#### MEETINGS OF BRANCHES AND DIVISIONS

ASSOCIATION NOTICES ... ..	43
NAVAL AND MILITARY APPOINTMENTS ... ..	44
APPOINTMENTS ... ..	44
BIRTHS, MARRIAGES, AND DEATHS ... ..	44
DIARY OF THE ASSOCIATION ... ..	44

### British Medical Association.

#### CURRENT NOTES.

#### Conference of Representatives of Local Medical and Panel Committees.

THE annual Conference of Representatives of Local Medical and Panel Committees throughout the country will be held, under the auspices of the British Medical Association, at the Connaught Rooms, Great Queen Street, London, W.C., on Thursday, October 24th, at 10 a.m. Dr. J. A. Macdonald will act as Chairman. The provisional agenda was issued on September 17th. Motions received not later than the first post on October 14th, at the offices of the Association, will be inserted in the final agenda of the Conference, which will be forwarded to representatives on October 17th.

#### Schemes and Circulars.

Several inquiries have reached the Editor this week with regard to a pamphlet which has apparently been distributed broadcast to members of the medical profession by the Medico-Political Union. In this the Council of the Union draws attention to a scheme for a whole-time salaried medical service "which has been submitted to them as receiving attention in certain parliamentary quarters." The scheme is given in outline, and this is followed by a discussion of the proposals, and an invitation to join the Medico-Political Union. It is difficult to see what is the object of the pamphlet beyond its evident purpose as a recruiting circular. No particular policy with regard to a State Medical Service is put forward. The dark references to the source of the scheme seem to imply that it has behind it powerful parliamentary or Government support. There is, however, no evidence that this is the case, and the British Medical Association has been explicitly informed by representatives of the Government that there is no scheme in hand for a State Medical Service. From internal evidence the scheme would seem to be essentially that of the State Medical Service Association—a body with a very small membership and corresponding influence. Several variants of this scheme are known to be in existence; one of these was advocated by Major Gordon Dill at the Royal Society of Medicine this summer, and was fully discussed there, and was also before the last Representative Meeting of the British Medical Association. The Medico-Political Union declares itself opposed to a whole-time salaried service, but beyond welcoming a more

efficient service than now exists there is little indication of a constructive programme. It is scarcely necessary to point out that during the past two years the British Medical Association, in drafting its ideas for the future organization of the medical service under a Ministry of Health, has opposed the suggestion of a whole-time State salaried clinical service.

#### The Quality of Petrol.

Many complaints having been received of the poor quality of the only petrol (No. 3 Grade) now obtainable and of the difficulty experienced by medical practitioners in starting their engines and keeping them in good working order, the Petrol Control Department was informed of the position and was asked if any improvement could be expected in the quality of the petrol obtainable. The British Medical Association is informed that it is not possible to improve the quality of the No. 3 motor spirit, that No. 2 spirit is no longer imported, and that supplies of No. 1 are extremely limited and are being reserved for special purposes.

#### War Emergency Fund of the Royal Medical Benevolent Fund.

The following further subscriptions have been received from Divisions of the British Medical Association in response to the recent appeal, and have been passed on to the Treasurer of the War Emergency Fund. The names of individual subscribers are published monthly in the advertisement pages of the JOURNAL.

Leeds Division, per Dr. H. J. Henderson, Honorary Secretary	£ 8 0
Birmingham Branch, per Dr. J. R. Ratcliffe, Honorary Secretary	6 6
Bedford Division, per Dr. Farnham, Honorary Secretary (in addition to amount previously published, September 14th)	10 10

### Meetings of Branches and Divisions.

#### SOUTH MIDLAND BRANCH: BEDFORD DIVISION.

At the annual meeting of the Bedford Division the following officers were elected:

Chairman: Dr. J. Wagh. Vice-Chairman: Dr. John Rolleston. Honorary Secretary and Treasurer: Dr. E. R. Farnham. Representative in Representative Body: Dr. J. W. Bone. Deputy Representative in Representative Body: Dr. K. Roberts. Representatives on Branch Council: Drs. G. F. Dixon, A. Chillingworth, K. Roberts, A. L. Street. Executive Committee: Drs. E. Batters, G. H. Goldsmith, S. J. Ross, H. Sweden.







# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 28TH, 1918.

## CONTENTS.

British Medical Association.	
CURRENT NOTES:	PAGE
ELIGIBILITY FOR ELECTION AS A DIRECT REPRESENTATIVE ON THE INSURANCE ACTS COMMITTEE	4
SUPPLY OF CALCIUM CARBIDE TO MEDICAL PRACTITIONERS	5

NAVAL AND MILITARY APPOINTMENTS	4
APPOINTMENTS	46
BIRTHS, MARRIAGES, AND DEATHS	46
DIARY	46

## British Medical Association.

### CURRENT NOTES.

#### Eligibility for Election as a Direct Representative on the Insurance Acts Committee.

In a circular issued by the Insurance Acts Committee to Local Medical and Panel Committees, dated September 7th, 1918, dealing with the election of direct representatives on the Insurance Acts Committee, it is pointed out that these representatives must be members of the Association. Some practitioners have jumped to the conclusion that this is a new provision, but this is not so. Under the by-laws of the Association all members of all standing committees (though not of subcommittees) must be members of the Association. There have been direct representatives of Local Medical and Panel Committees on the Insurance Acts Committee for several years past, and these have always been members of the Association. We understand that some Panel Committees are inclined to object to this restriction on their freedom of choice. It may be suggested to them that their proper course is to bring the matter before the forthcoming Conference of Local Medical and Panel Committees on October 24th. If the Conference is of opinion that there should be unrestricted freedom, the matter will be put to the Representative Body of the Association. As that body has, without demur, consented to a series of changes in the composition of the Insurance Acts Committee which have resulted in the direct representatives now being in a majority, there is good reason to suppose that the further change will receive unprejudiced consideration.

#### Supply of Calcium Carbide to Medical Practitioners.

Medical practitioners are reminded that, owing to an improvement in the situation, the Ministry of Munitions is now in a position to release quantities of calcium carbide for public purposes on a somewhat more lenient basis. It is therefore unnecessary to continue to refer applications from medical practitioners to the British Medical Association for recommendation, and practitioners who require a supply of calcium carbide for lighting the headlights of their motor cars and motor cycles should communicate direct with the Controller of Non-Ferrous Materials Supply, Ministry of Munitions of War, 8, Northumberland Avenue, S.W.1.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Temporary Surgeons: W. Ibbotson to the *Queen*; R. B. Bellwood to Chatham Hospital; W. Edgar and F. P. McNevin to Haslar Hospital.

### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Probationers (G. L. Chambers to the *Badger*; H. K. Tucker to the *Lura*). To be Surgeon Probationers: A. H. Craig, A. A. Bell, J. Wilson, A. Smith, D. M. Thompson, H. K. Tucker, F. T. Evans, C. G. Lewis, T. Adam, A. B. Clark, O. E. S. Runciman, J. G. Craik.

### ARMY MEDICAL SERVICE.

Surgeon-General ranking as Lieut-General Sir W. L. Gubbins, K.C.B., M.V.O., ret. pay, to be Lieut-General on the retired list.

Temporary Major-General Sir G. H. Makins, K.C.M.G., C.B. (Lieut.-Colonel, T.F.), relinquishes his temporary commission on reposting and is granted the honorary rank of Major-General, May 1st, 1918 (substituted for notification in the *London Gazette*, May 9th, 1918).

Surgeon-Generals ret. pay to be Major-Generals on the retired list: Sir H. R. Whitehead, K.C.B., Sir D. Bruce, K.C.B., F.R.S., Sir T. F. Woodhouse, K.C.B., R. Porter, C.B., R. H. S. Sawyer, C.B., J. C. Collins, C.B., W. S. M. Price, Sir T. L. Gallwey, K.C.M.G., C.B., J. C. Quill, C.B., Sir G. D. Bourke, K.C.M.G., C.B., J. G. MacNeece, C.B., T. M. Corker, C.B., Sir R. W. Ford, K.C.M.G., C.B., D.S.O., G. J. H. Evatt, C.B., W. J. Fawcett, C.B., J. D. Edge, C.B., W. W. Kenny, C.B., P. M. Ellis, O. E. P. Lloyd, V.C., C.B.

Colonels (honorary Surgeon-Generals) ret. pay to be honorary Major-Generals on the retired list: Sir J. Maher, K.C.M.G., C.B., Sir M. W. Russell, K.C.M.G., C.B., R. S. F. Henderson, C.B., W. F. Stevenson, C.B., K.H.S.

### ROYAL ARMY MEDICAL CORPS.

Major A. M. H. Gray, R.A.M.C.(T.F.), to be temporary Lieut.-Colonel whilst specially employed.

The undermentioned relinquish the acting rank of Lieut.-Colonel on reposting: Majors A. C. H. Gray and J. W. L. Scott, D.S.O.; Captain J. A. Andrews, M.C., when he reverts to the acting rank of Major.

Major G. E. Ferguson relinquishes the acting rank of Lieut.-Colonel on reposting, July 4th, 1918 (substituted for notification in the *London Gazette* of August 21st, 1918).

To be acting Lieut.-Colonels:—Whilst in command of a Medical Unit: Majors L. V. Thurston, D.S.O., R. E. Todd, J. T. McEntire, and W. J. Weston, D.S.O.; temporary Captain (acting Major) Hugh Young, from July 13th to August 1st, 1918, when he reverts to the acting rank of Major. Whilst specially employed: Temporary Major H. MacCombie.

Edward C. Hort to be temporary Major whilst specially employed.

The undermentioned relinquish the acting rank of Major on reposting:—Temporary Captains J. Rolzer, J. P. Good, and Norman G. W. Davidson, Captains J. J. H. Beekton and H. W. Carson, D.S.O.

To be acting Majors: Temporary Captains M. J. Mottram, M. C. Gardner, M.C., C. D. Coyle (from January 27th to April 29th, 1918), R. C. Cooke, M.C., G. Clarke, H. K. Wallace, F. B. McCarter, M.C. (from July 7th to August 28th, 1918), M. W. Littlewood, A. W. Cloth, W. Ward-Smith, and B. E. H. Leach. Captains J. James (from January 4th to March 8th, 1918), G. De la Cour, A. M. McCutcheon, T. O. Thompson, and R. F. O'T. Dickinson. While specially employed: Temporary Captains D. W. Roy, W. R. Wilson.

The notification in the *London Gazette* of August 13th, 1918, regarding temporary Captain J. Tichborne is cancelled.

Temporary Captain G. E. F. Mount-Biggs to be temporary Major (without increased emoluments).

The rank of the undermentioned is as now described and not as in the *London Gazette* of March 12th and June 4th, 1918, respectively: Temporary Captain E. H. Roberts, Temporary Captain J. A. Davidson. Late temporary Captains granted the honorary rank of Captain: R. H. Bridge, J. Craig.

Temporary Lieutenants to be temporary Captains: J. M. Smith, A. L. Vaughan, H. E. White.

Temporary Lieutenant William Lovell is dismissed the service by sentence of a general court-martial, May 3rd, 1918.

Temporary Lieutenant John Moncrieff Muir is dismissed the service by sentence of a general court-martial, July 25th, 1918.

Officers relinquish their commissions: Temporary Captains W. T. Williamson, R. J. Gordon, F. J. McCarthy, J. K. Stewart, W. Scott, A. J. M. Crichton, W. F. Evans, W. R. Tutt, C. R. Porter, F. McE. Sinclair, T. F. Saunders, S. W. Swindells, M. B. Arnold, H. A. Treadgold, J. N. MacDonald, H. S. Gaskell, A. H. Walker, J. R. White, W. Balkarnie (and is granted the honorary rank of Captain), (acting Major) C. L. T. Arthur, L. E. Bolster, C. D. H. Corbett, J. M. N. S. Bickerton (on account of ill health and is granted the honorary rank of Captain), R. O. H. Jones, M.C., J. S. Gilchrist, and F. R. Snell (on account of ill health contracted on active service and are granted the honorary rank of Captain), E. Hamilton (on appointment under the Ministry of National Service), W. Hutchison (on account of ill health), W. S. Pickup, E. F. Thomas, F. A. Cooke, C. M. Bernays (on account of ill health contracted on active service, and is granted the honorary rank of Captain), G. S. Robinson (on account of ill health, and is granted the honorary rank of Lieutenant). Temporary Lieutenants: C. W. S. Boggs, D. A. Tompsett, S. W. Smith (on account of ill health),



H. Cox, H. S. Mason, S. B. Depree, B. S. Corneli on account of ill health, and is granted the honorary rank of Lieutenant, temporary honorary rank of Lieutenant C. F. Larson.

Temporary honorary Lieutenant B. E. Hawke to be temporary honorary Captain.

## ROYAL AIR FORCE.

## MEDICAL BRANCH.

Granted temporary commissions: As Captains: R. Hall, M. C. Lacey, I. de B. Daly, S. W. Fisher, H. A. Treadgold and to be temporary Major whilst so employed, but without pay and allowances of that rank.

## INDIAN MEDICAL SERVICE.

The services of Major F. P. Connor and Major N. W. Mackworth have been placed permanently at the disposal of the Government of Bihar and Orissa, January 28th and April 18th, 1918, respectively.

The services of the following officers have been placed permanently at the disposal of the Government of Bengal with effect from the dates noted against their names: Brevet Lieut. Colonel M. Mackelvie, March 28th, 1917; Major H. B. Foster, January 23rd, 1918; Major H. B. Steen, March 31st, 1918.

Major H. B. Steen to be Professor of Midwifery, Medical College, and Obstetric Physician and Surgeon of the Medical College Hospital, Calcutta, substantively *pro tempore*, December 24th, 1916.

Lieut.-Colonel N. P. O'G. Lador has been permitted to retire, July 25th, 1918.

Colonel G. J. H. Bell, C.I.E., Inspector-General of Civil Hospitals, Bihar and Orissa, has been granted, with effect from June 15th, 1918, combined leave for six months, and Lieut.-Colonel J. C. S. Vaughan has been appointed to officiate as Inspector-General of Civil Hospitals, Bihar and Orissa, during his absence on leave.

The services of Lieut. Colonel R. C. Macwatt have been replaced at the disposal of His Excellency the Commander-in-Chief, June 12th, 1918.

Lieut.-Colonel P. B. Haig has been appointed to officiate as an Agency Surgeon of the 1st Class, and has been posted as Civil Surgeon, Amer, and Chief Medical Officer in Rajputana, June 12th, 1918.

Lieut.-Colonel R. C. Macwatt, C.I.E., to be Colonel, January 8th, 1918, vice Colonel W. H. B. Robinson, C.B., promoted Surgeon-General.

The services of Major W. V. Coppinger and Captains V. B. Green-Armistead and J. A. Shorten have been replaced at the disposal of the Government of Bengal, and the services of Major J. Kirkwood at the disposal of the Government of Madras.

## SPECIAL RESERVE OF OFFICERS.

## ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel A. A. Watson, D.S.O., to be acting Colonel whilst employed as Assistant Director of Medical Services of a Division.

Captain W. J. M. White relinquishes his commission on account of ill health contracted on active service and is granted the honorary rank of Captain.

Captains to be acting Majors: G. E. Pepper (from January 4th to May 22nd, 1918), R. Green.

Lieutenants to be Captains: D. C. Buchanan, J. Marshall, P. A. O'Brien, J. J. Robertson, B. P. Crawford, W. F. Kivlichan, J. G. McK. Macaulay, A. R. Cocker, J. B. Irving.

Lieutenant H. Taylor relinquishes his commission on account of ill health, and is granted the honorary rank of Lieutenant.

Lieutenant Michael Beresford Gunn is dismissed the service by sentence of a general court-martial, June 14th, 1918.

To be Lieutenants: Second Lieutenant D. Ferguson, from Unattached List, T.F., J. A. Dawson and J. Morrison, from Aberdeen University Contingent O.T.C., A. I. Meek, G. W. C. Dunlop, H. J. Parish and E. D. Dickson, from Edinburgh University Contingent O.T.C., G. H. Ross, from St. Andrew's University Contingent O.T.C., R. J. Patchett.

## OVERSEAS CONTINGENTS.

## CANADIAN ARMY MEDICAL SERVICE.

Temporary Colonel W. L. Watt, C.M.G., C.A.M.C., to be Assistant Director of Medical Services.

## CANADIAN ARMY MEDICAL CORPS.

Temporary Major (acting Lieut.-Colonel) C. Hunter to retain the acting rank of lieutenant-colonel while specially employed.

Temporary Captains to be temporary Majors: A. Beech, R. W. Kenny, M.C.

Temporary Captains to be acting Majors while specially employed: C. F. Martin, L. A. Richmond, T. R. Little, A. W. Bagnall, G. J. Gillam, H. H. Argue, M.C., W. G. Lyall, F. R. Fratten.

## SOUTH AFRICAN MEDICAL CORPS.

Temporary Captain R. C. Mullins relinquishes his commission. E. H. Culverto to be temporary Captain.

## TERRITORIAL FORCE.

## ARMY MEDICAL SERVICE.

Colonels restored to the establishment: A. W. Sheen, H. E. Bruce-Porter, C.M.G., E. J. R. Evatt, D.S.O.

## ROYAL ARMY MEDICAL CORPS.

Restored to the establishment:—Lieut.-Colonels: F. Kelly, C. H. Hawkins, D.S.O., C. T. Green, E. V. Gosting, D.S.O., W. R. Matthews, D.S.O., H. Collinson, C.M.G., D.S.O., A. M. McIntosh, M.B., E. C. Montgomery-Smith, D.S.O. Majors: D. F. Todd, F. C. A. Webb, A. Bird, C. H. Lindsay, C.M.G., D.S.O., A. E. Kidd, D. Rorie, D.S.O., H. Richardson, D.S.O., R. B. Carshaw, H. A. Howes, J. Hobbs. Captains: W. A. Valentine, S. F. St. J. Stendman, J. L. Joyce, M. Coplans, D.S.O., A. C. McMaster, A. Leggat, D.S.O., S. S. Greaves, D.S.O., M.C., G. Finch, J. Everidge, G. W. Shore, H. A. Lucas, E. Smeed, L. Courtland, F. Roberts, A. W. Stott, C. W. Wigram, A. J. Campbell, H. F. Humphreys, M.C., W. B. Keith, M. C., H. M. Calder, D.S.O., C. E. H. Miner, G. McConnell, C. E. W. McDonald, A. B. Pettigrew, A. G. S. Logie, W. A. Hooton, J. D. Lickley, A. G. Hebblethwaite, D.S.O., C. D. Rogers, W. Tresawna, A. R. Moodie, W. Longley, A. B. Jamieson, T. S. P. Parkinson, A. C. Alport, G. F. Stones, F. W. C. Brown, P. G. Doyne, C. G. Skinner, J. Fenton, J. A. Willett, L. N. Beece, R. Armstrong, W. K. Legassick, A. E. Campbell, B. L. Davis, C. A. Raisin, W. Alexander, A. A. McKenzie, A. G. Reid, D. Cameron, J. Chalmers, A. C. Smith, E. McMillan, D.S.O., A. C. Hepburn, D. Campbell, M.C., J. Steele, J. W. Anderson.

Lieut. Colonel T. Fraser, D.S.O., to be an Assistant Director of Medical Services and to be temporary Colonel whilst so employed.

Major F. J. Smith is retired under paragraph 116 T.F. Regulations, and is granted the honorary rank of Major.

Major A. R. Hendley to be acting Lieut.-Colonel whilst specially employed.

Captains to be acting Majors whilst specially employed: A. W. Stott, G. S. Melvin, F. S. Jackson, C. S. P. Black, M.C., P. S. Pice, F. Scroggie, M.C., A. L. Heiser, W. H. Morrison, C. Burrows.

Major (acting Lieut. Colonel) W. B. Armstrong relinquishes his acting rank on ceasing to be specially employed.

Major J. C. Manning relinquishes his commission on account of ill health and is granted permission to retain his rank and to wear the prescribed uniform.

Captain J. W. Patrick is seconded for duty with a general hospital.

Captain (acting Major) B. Hughes, D.S.O., relinquishes his acting rank.

The date of reversion of Captain (acting Lieut.-Colonel) W. D. Sturrock to the temporary rank of Major, announced in the *London Gazette* of December 13th, 1917, to be September 26th, 1917, with precedence from September 11th, 1915, and not as therein stated.

Captains (acting Majors) relinquish their acting rank on ceasing to be specially employed: T. B. McKee, H. Stonehouse, D. Campbell, M.C., C. E. Petley, G. B. Pritchard, H. Duguid.

Lieutenant C. W. Ellison to be captain.

## TERRITORIAL FORCE RESERVE.

Major W. A. Wigham from R.A.M.C. to be Major.  
To be Captains: Captains J. A. L. Magee and J. O'Sullivan from R.A.M.C.

## VOLUNTEER FORCE.

*London Gazette* (C.M.C.F.)—The notices which appeared in the *London Gazette* of February 26th, 1918, regarding temp. Major H. H. Grimby and temp. Captains G. H. Johnson and J. R. Hatfield are cancelled. Medical Officer and temp. Lieutenant H. J. Edwards, from 3rd Vol. Batt. Devonshire Regt., to be temp. Lieutenant with precedence from April 17th, 1917.

*London Gazette* (R.A.M.C.F.)—Temp. Captains to be temp. Major: F. Duke, E. S. Tait, F. S. Barber, R. C. Ham Stride, R. M. H. Watford. Temp. Captain H. Webb to be temp. Major (precedence as from July 1st, 1918).

*London Gazette* (R.A.M.C.F.)—Temp. Captain W. Roberts relinquishes his commission.

*Northern Counties Highland R.A.M.C.F.*—Medical Officer and temp. Captain A. C. Balfour, from 1st Batt. Northern Counties Highland Vol. Regt., to be temp. Captain.

*Scottish R.A.M.C.F.*—F. Fitzgerald Frazer to be temp. Lieutenant.

## APPOINTMENTS.

MELDON G. P. M.D., Certifying Factory Surgeon for the Dublin District, co. Dublin.

DISTRICT MEDICAL OFFICERS: E. F. M. Hiter, M.D. Lond., and H. M. D. Townshend, M.D. Dub., of the Lewisham Union.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.

## MARRIAGES.

HARRISON, SORLEY.—On August 22nd, 1918, at the Church of the Annunciation, Kingston Street, London, W., James M. Harrison, M.B.C.S. Eng., L.R.C.P. Lond., Temporary Surgeon R.N., of Hastings, to Rita Graham Sorley, of 19, Portman Street, Portman Square, London, W.

LARK.—STORMONT.—On September 12th, at St. Mary's, Bryanston Square, Richard Lake, R.R.C.S., to Ellen, widow of Arthur Stormont, and second daughter of Mr. and Mrs. Sapsworth, of Steyning.

## DEATH.

HIND.—On September 16th, at St. Thomas's Home, Westminster, after severe operation, Clara Hind, L.R.C.P. and S. Edin., of Oakley Sanatorium, Surrey.

## DIARY FOR THE WEEK.

## FRIDAY.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, 8.30 p.m. Opening Meeting. Induction of New President. Presentation of the Keetley Memorial Medal. Presidential Address: "Ancient Physic."

## DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
OCTOBER.	
1 Tues.	London: Poor Law Medical Officers' Subcommittee, 2.30 p.m. London: Medical Officers of Health Subcommittee, 3 p.m. London: Public Health Committee, 3.30 p.m. London: Medical Political Committee, 2 p.m.
2 Wed.	London: Medicine Committee, 2 p.m.
3 Thurs.	Organization Acts Subcommittee (Scotland), North British Insurance Hotel, Edinburgh, 10.45 a.m.
5 Sat.	Station Hotel, Edinburgh, 2.15 p.m.
7 Mon.	London: Navy and Military Committee, 2.30 p.m.
10 Wed.	London: Finance Committee, 2 p.m.
18 Fri.	London: Central Ethical Committee, 2 p.m.
23 Wed.	London: Council Meeting.
24 Thurs.	London: Conference of Local Medical and Panel Committees, Connaught Rooms, Great Queen Street, London, W.C., 10 a.m.



# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 5TH, 1918.

## CONTENTS.

	PAGE		PAGE
<b>British Medical Association.</b>		<b>ASSOCIATION NOTICES: MEETING OF COUNCIL</b>	47
<b>CURRENT NOTES:</b>		<b>NAVAL AND MILITARY APPOINTMENTS</b>	48
A MINISTRY OF HEALTH AND THE FUTURE OF THE MEDICAL PROFESSION ...	47	<b>APPOINTMENTS</b> ...	48
LINKED HOSPITALS AND HOMES ...	47	<b>BIRTHS, MARRIAGES, AND DEATHS</b>	48
INSURANCE ACTS SUBCOMMITTEE FOR SCOTLAND ...	47	<b>DIARY FOR THE WEEK</b> ...	48
<b>MEETINGS OF BRANCHES AND DIVISIONS</b> ...	47	<b>DIARY OF THE ASSOCIATION</b> ...	48

### British Medical Association.

#### CURRENT NOTES.

##### A Ministry of Health and the Future of the Medical Profession.

THE Metropolitan Counties Branch of the British Medical Association has arranged a meeting of the medical profession of the Home Counties to be held in the Toplady Hall (Whitefield's), Tottenham Court Road, on Tuesday, October 15th, at 4 o'clock. The purpose of the meeting is to consider the proposed Ministry of Health in its relation to the health of the people and the future of the medical profession. The speakers will include the president of the Branch, Dr. M. G. Biggs, who will take the chair, Major-General Sir Bertrand Dawson, G.C.V.O., and Dr. H. B. Brackenbury. At the close of the discussion resolutions based upon the following principles will be submitted to the meeting: (1) A Ministry of Health should be set up under proper conditions as an introduction to a constructive health policy adequate to the national needs. (2) It is essential that the Ministry of Health should have a medical advisory council as a part of its permanent organization. To be a reality such council must meet frequently, be empowered to seek information from heads of departments, and have direct access to the Minister and the right to initiate advice. No scheme which fails to institute such a council from the outset can be of benefit to the nation or enlist the support of the medical profession. (3) Any organization of the clinical services of the country should be based upon a development of voluntary independent professional work and should preserve the best features of existing methods of practice. No scheme for a whole-time salaried clinical service would be in the best interests of the people. (4) In order to secure greater professional solidarity and organized means of voicing that unity, it is important that the British Medical Association should receive a still wider allegiance from medical practitioners in the metropolitan counties area than it now possesses.

##### Linked Hospitals and Homes.

The Medico-Political Committee of the British Medical Association at its meeting on October 2nd was informed that the Ministry of Pensions is arranging to link up a number of homes for paralytic and chronic pensioners with voluntary hospitals in order to secure administrative supervision of the homes by the larger institutions, the cost being borne as administration expenses. In one area a local practitioner is being appointed to visit the home daily at a fee of one guinea a week, and in another area a fee of two guineas a week is contemplated for the same service. It is understood that the Ministry is endeavouring to persuade the staffs of the voluntary hospitals to undertake consultative service in difficult cases gratuitously. The committee decided that the attention of the medical profession should be drawn to these proposals, and that the medical staffs should be advised not to give the suggested consultations without fee.

##### Insurance Acts Subcommittee for Scotland.

The Insurance Acts Committee at its last meeting resolved that a Scottish subcommittee should be reappointed consisting of (a) members of the parent committee resident in Scotland; (b) eight members appointed by the Panel Committees of Scotland; and (c) five members appointed by the Scottish Committee of the Association, of whom three at least shall be insurance practitioners. The subcommittee will continue to meet in Scotland, with the following terms of reference:

To consider and report to the Insurance Acts Committee on those matters which are peculiar to that country, respecting the relation of the medical profession in Scotland to the National Insurance Acts; to report on any matters specially referred to it by the parent Committee; to confer with the Scottish Commissioners as representing the views of insurance practitioners in Scotland on any subjects specially relating to the working of the Insurance Acts in Scotland as distinct from those which are common to all insurance practitioners; and generally to keep the Insurance Acts Committee in touch with the Local Medical and Panel Committees in Scotland.

### Meetings of Branches and Divisions.

#### DORSET AND WEST HANTS BRANCH.

THE autumn meeting of the Branch was held at Dorchester on September 25th, when the President, Dr. H. SIMMONS, was in the chair. The following officers were elected for the year commencing May, 1919:

*President:* Dr. E. KYLE LE FLEMING. *Vice-Presidents:* Dr. A. D. EDWARDS and Dr. J. EDHOTT ROBINSON. *Honorary Secretaries:* Dr. F. FOWLER and Dr. P. A. ROSS.

It was decided that the next annual meeting should be held at Bournemouth. Dr. E. L. LUTHER, vice-president, read a paper on painless childbirth, and Major COSENS a paper on reflex abdominal phenomena. On the proposition of the PRESIDENT a hearty vote of thanks was given to Dr. Luther, who kindly entertained members to tea after the meeting.

### Association Notices.

#### MEETING OF COUNCIL.

THE next Meeting of Council will be held on Wednesday, October 23rd, in the Council Room, 429, Strand, London, W.C.2.—By order,

W. E. WARNE,

*Acting Financial Secretary and Business Manager.*

October 3rd, 1918.

The Nottingham Insurance Committee has notified practitioners on the panel in that area that the final credit for medical benefit for 1917 is sufficient to admit of a credit to practitioners at the rate of 7s. and 9.7652 pence, which includes 5.89 pence from the Drug Suspense Account (the floating sixpence) in respect of each name on the doctor's list calculated on the average number for the year as provided by the regulations.



## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

The following notifications are made by the Admiralty: Fleet Surgeon J. C. Ferguson has been placed on the retired list with the rank of Deputy Surgeon-General. Fleet Surgeon W. G. Westcott to the *Monarch*. Temporary Surgeons I. H. Lloyd to the *Ganges*, for R.N. Sick Quarters, Chetley, A. G. Simmons to R.N. Hospital, Haslar. D. A. Imrie to R.N. Hospital, Plymouth.

### ROYAL NAVAL VOLUNTEER RESERVE.

To be Surgeon Probationer: J. F. H. Greener.

### ARMY MEDICAL SERVICE.

#### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel G. J. A. Ormsby, D.S.O., relinquishes the temporary rank of Colonel on reposting.

The following relinquish the acting rank of Lieut.-Colonel on reposting: Major E. B. Booth, D.S.O., temporary Captain H. Faulkner.

To be acting Lieut.-Colonels while in command of a medical unit: Major M. F. Grant, Captain (acting Major) L. Phillips, M.C.

Temporary Captain L. Leslie relinquishes the acting rank of Major on reposting.

Temporary Captain A. N. Brace to be acting Lieut.-Colonel whilst specially employed.

To be acting Majors: Captain D. Bell, M.C.; temporary Captains O. J. Day, M.C., W. L. Lyall, J. D. Cooke, M. Fitzmaurice-Kelly, G. G. Anderson, J. R. Davies (from June 9th to July 29th, 1917).

The notification in the *London Gazette* of July 20th, 1918, regarding temporary Captain W. Rogerson is cancelled.

To be temporary Captains: G. B. Wilkinson, E. A. Aylward, W. J. Woodman (late Captain R.A.M.C., T.F.), W. G. Lidderdale, E. S. Holloway, E. Beamish, S. L. Haslett, F. M. Harvey, M.C., J. P. Bullar, A. S. Allan, W. Hughes, P. Daly, L. J. Hood. Temporary Lieutenants: H. Farncombe, A. E. Clark, C. W. Coghlan, H. D. Pollard, J. Martin, J. B. Wilkie, D. Young, M. B. Reichwald, H. L. Pearson, C. P. Curtis, T. Craig, D. M. Cox, J. S. Crichton, D. T. Evans, H. Graham, S. A. Furlong, M. Dockrell, S. M. Vassallo, G. W. B. Shaw, H. H. Molloy, G. M. Grundy, R. G. Meyer, F. W. Emery, F. M. H. Sanderson, L. E. C. Handson, E. G. Hodgson.

Late temporary Captains granted the honorary rank of Captain: E. A. Pearson, A. M. J. Halligan, E. G. H. Weir.

To be temporary honorary captains: S. J. Cattley, J. R. Taylor.

Officers relinquish their commissions:—Temporary Captains: T. G. Pocock (on account of ill health contracted on active service and is granted the honorary rank of Captain), S. C. Westwood and T. W. Huxley (on account of ill health and are granted the honorary rank of Captain), C. A. Wickham (and is granted the honorary rank of Captain), J. W. Wayte (on account of ill health caused by wounds and is granted the honorary rank of Captain), S. C. Shanks, F. H. Cooke, A. P. Woolright, P. L. McKinnon, M.C., J. H. Mayston, W. H. Parsons, M.C., A. G. Graham, P. Daly, F. J. McCarthy, A. D. Howard, W. E. Peck, B. H. Swift, M.C., J. F. Allen, C. Wace, T. S. S. Holmes, T. E. Parker, F. S. Noble, H. O'Neill, R. McCaffery. Temporary Lieutenants: F. W. Chesnaye, T. E. Lister, H. Leach, W. H. Woodyer, P. T. J. O'Farrell, A. Rogers, G. Burnet, M.C. K. D. Marriner, C. L. Birmingham, T. D. C. Cathcart. Temporary honorary Lieutenant C. E. Fearn (on account of ill health and is granted the honorary rank of Lieutenant).

To be temporary Lieutenants: D. H. Vickery, T. M. Richardson, L. Milburn, W. Bligh, S. F. Brackley, H. T. O'Neill, C. H. Lee, R. Lawrence, W. A. Mein, J. Black, A. D. Pringle, H. R. F. Towne, A. I. Girdwood, F. Atkin, R. M. Moore, L. N. H. Biggs, H. C. Sutton, H. Abernethy, W. K. Anderson, C. Blake, E. S. Verdon, S. Wilton, C. R. Kidd, A. L. Aylmer, E. W. Sharp, J. G. Loudon, A. Macintyre.

To be temporary honorary Lieutenants: F. A. Georger, B. D. Brooker.

### ROYAL AIR FORCE.

#### MEDICAL BRANCH.

Granted temporary commissions:—As Captains: H. P. Helsham (Captain R.A.M.C.), E. H. Swift, M. E. H. Wale, E. G. Fernsides (and to be honorary Major), B. B. Lilly. As Lieutenants: E. E. Rollins, A. E. Collie, E. F. Wilson, S. A. Clark.

### INDIAN MEDICAL SERVICE.

All temporary Indian Medical Service officers appointed prior to January 1st, 1917, have been granted the temporary rank of Captain with effect from date of completion of one year's service.

The services of Majors M. H. Thornely, F.R.C.S.E., W. E. McKechnie, M.B., and R. F. Steel have been replaced at the disposal of the Governments of Bihar and Orissa, United Provinces and Bombay respectively.

Lieut.-Colonel P. B. Haig, appointed temporarily to hold visiting charge of the office of Residency Surgeon, Jaipur, in addition to his own duties, June 12th, 1918.

Granted temporary rank of Major: Captains E. R. Armstrong, E. E. Doyle, A. F. Baboonan, A. D. Stewart and F. W. Cragg.

Officers permitted to retire with effect from dates indicated: Lieut.-Colonels H. A. J. Gidney, July 1st, 1918, and A. Gwyther, January 29th, 1918, on account of ill health, and N. P. O'G. Lazen, July 25th, 1918; Major C. S. Lowson, July 27th, 1917.

### SPECIAL RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Captain E. J. Bradley relinquishes the acting rank of Major on reposting.

Captain N. M. Lewis relinquishes his commission on account of ill health and is granted the honorary rank of Lieutenant.

Captain T. G. Fleming, M.C., to be acting Major whilst specially employed.

Lieutenant D. J. Valentine to be acting Major.

To be Lieutenants: F. K. MacMillan, N. B. Peacock, W. Napier, A. S. Goudie, J. W. Mackay, J. B. Potter, W. Scotland, and D. Finlayson, from Glasgow University Contingent O.T.C.; A. M. Dugan, from Aberdeen University Contingent O.T.C.; R. B. MacGregor, from Edinburgh University Contingent O.T.C.; A. K. I. Jones, from University of London Contingent O.T.C.; W. A. Hewitson, from Durham University Contingent O.T.C.; G. R. Baxter, from Leeds University Contingent O.T.C.; J. F. Cunningham, W. H. Duff, J. M. Macpherson, A. M. Davidson.

### OVERSEAS CONTINGENTS.

#### CANADIAN ARMY MEDICAL SERVICE.

Temporary Major A. L. Jones, M.C., C.A.M.C., to be Deputy Assistant Director of Medical Services.

Temporary Major G. H. B. Gibson, D.S.O., C.A.M.C., relinquishes his appointment as Deputy Assistant Director of Medical Services.

#### CANADIAN ARMY MEDICAL CORPS.

Temporary Captains to be temporary Majors: E. L. Warner, F. S. Park, W. R. W. Haight.

### TERRITORIAL FORCE.

#### ROYAL ARMY MEDICAL CORPS.

Major (Brevet Lieut.-Colonel, acting Lieut.-Colonel) W. Butler relinquishes his acting rank on ceasing to be specially employed.

Major F. G. Bushnell and Captain C. N. Chadborn are seconded for duty overseas.

Major T. Duncan relinquishes his commission on account of ill health, and is granted the honorary rank of Major.

The announcement regarding Major (temporary Lieut.-Colonel) A. C. Goodwin which appeared in the *London Gazette* of April 1st, 1918, is cancelled.

Captain (acting Major) R. S. Taylor, D.S.O., is granted the pay and allowances of his acting rank.

Captains (acting Majors) C. S. P. Black, M.C., and P. S. Martin, M.C., relinquish their acting rank on ceasing to be specially employed.

Captain N. C. Rutherford, D.S.O., to be acting Lieut.-Colonel whilst commanding a field ambulance.

Captain (Brevet Major, temporary Lieut.-Colonel) C. H. S. Frankish, D.S.O., relinquishes the temporary rank of Lieut.-Colonel on ceasing to command a casualty clearing station.

Captain W. Duncan to be acting Lieut.-Colonel whilst specially employed.

Captain E. D. Gairdner, D.S.O., to be Major.

Captains to be acting Majors whilst specially employed: A. L. Sharpin, G. B. Pritchard, H. Connop, J. Walker, W. A. Campbell, G. H. Dornay.

Captains R. Richards and A. L. Flemming are restored to the establishment.

Lieutenant W. E. Evans to be Captain.

### VOLUNTEER FORCE.

*City of Edinburgh R.A.M.C.(V).*—Temp. Lieutenant W. G. Aitchison-Robertson to be temporary Major.

*Kent R.A.M.C.(V).*—Temporary Lieutenants to be temporary Captains: R. Wilkinson, H. O. Preston, E. J. Wood, R. A. Walter, J. Sterry (Lieutenant late R.A.M.C.) to be temporary Captain.

*Lancashire R.A.M.C.(V).*—Temp. Lieutenant J. Holmes resigns his commission.

*County of London R.A.M.C.(V).*—J. G. McWilliam to be temporary Captain, J. S. Macintosh to be temporary Lieutenant.

*Norfolk R.A.M.C.(V).*—C. W. Stee to be temporary Captain. To be temporary Lieutenants: T. T. Richards, L. P. Clements, S. W. M. Vasey.

*Peabshshire R.A.M.C.(V).*—G. H. Wilson to be temporary Lieutenant (late R.A.M.C.). Lieut.-Colonel C. W. Owen, C.M.G., C.B.E. (late I.M.S.), to be temporary Major.

### APPOINTMENTS.

DAVIES, Maurice, M.B., Ch.B. Edin., District Medical Officer and Public Vaccinator for Roydon, Parndon, and Nazeing District of the Epping Union.

DISTRICT MEDICAL OFFICERS.—J. W. Rollings, L.M.S.S.A. (Luton Union), A. Stewart, M.B., Ch.B. Glas. (Bury Union).

### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.

#### DEATHS.

GRIFFITH.—On September 24th, at "The Homestead," The Colony, Lingfield, Surrey, Alfred Hume Griffith, M.D. Edin., D.P.H. Cantab., aged 43.

STUMPS.—On the 1st inst., at Thornescroft, Shipley, near Wolverhampton, Henry Stubbs, M.R.C.S., L.S.A. (formerly of Madoc, Shropshire), aged 80 years.

#### On Active Service.

O'FLYNN.—Died of wounds in France on September 24th, 1918, Lieutenant M. J. O'Flynn, M.D., R.A.M.C., Northamptonshire Regiment, aged 38 years, beloved husband of Mrs. F. E. O'Flynn, of Neath, Glamorgan. R.I.P.

### DIARY FOR THE WEEK.

#### THURSDAY.

ROYAL SOCIETY OF MEDICINE. 8.30 p.m.—Section of Neurology: A Discussion on Cruralgia and its Treatment, to be opened by Dr. Wilfred Harris.

### DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
	OF ROBBERS.
5 Sat.	Insurance Acts Subcommittee (Scotland), North British Station Hotel, Edinburgh, 10.45 a.m. Scottish Committee, North British Station Hotel, Edinburgh, 2 p.m.
7 Mon.	London Naval and Military Committee, 2.30 p.m.
15 Tues.	Meeting of Profession arranged by Metropolitan Counties Branch of Ministry of Health and the Faculty of the Medical Profession, Topclay Hall (Whitefield's), Tottenham Court Road, W., 4 p.m.
16 Wed.	London: Finance Committee, 2.30 p.m.
18 Fri.	London: Central Ethical Committee, 2 p.m.
23 Wed.	London: Council Meeting.
24 Thur.	London: Conference of Local Medical and Panel Committees, Connaught Room, Great Queen Street, London, W.C., 10 a.m.



## BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 12TH, 1918.

## CONTENTS.

## British Medical Association.

## CURRENT NOTES:

A MINISTRY OF HEALTH .....	49
REMUNERATION OF MEDICAL REFEREES .....	50
INSURANCE COMPANIES AND CERTIFICATES OF DEATH .....	51
NAVAL AND MILITARY APPOINTMENTS .....	52

PAGE

ASSOCIATION NOTICES. MEETING OF COUNCIL—ELECTION OF MEMBERS OF COUNCIL, 1919-20. BRANCH AND DIVISION MEETINGS TO BE HELD .....	53
BIRTHS, MARRIAGES, AND DEATHS .....	54
DIARY FOR THE WEEK .....	55
DIARY OF THE ASSOCIATION .....	56

## British Medical Association.

## CURRENT NOTES.

## A Ministry of Health.

DR. ADDISON, Minister of Reconstruction, announced on October 1st that proposals for the constitution of a Ministry of Health had been examined by the Cabinet Committee for Home Affairs, and had been passed by it to the War Cabinet for consideration. In this connexion it may be recalled that on November 29th, 1917, Dr. Addison, to whom this matter had been entrusted by the Cabinet, asked that a few representatives of the British Medical Association should have an informal conversation with him on the subject of a Ministry of Health. At the interview which took place on December 7th he indicated the general position of the Government, and discussed with those present the details of a bill which had been drafted by his department. Dr. Addison was supplied with the scheme for a Ministry of Health which the Association had drawn up; and an explanatory memorandum setting out the views of the Association was forwarded to him in the last week of the year. These steps were reported to the Association in the annual report of Council, and were discussed at the last Annual Representative Meeting. In view of public statements to the effect that material changes have been made in the draft Government bill, the Medical Secretary lately requested the Minister of Reconstruction to give the British Medical Association an opportunity of considering the proposed alterations. Dr. Addison at once acquiesced, and as we go to press a conference is being held between the Minister and the Ministry of Health Committee of the Association.

## Remuneration of Medical Referees.

The Medico-Political Committee of the British Medical Association has under consideration the question of the remuneration of medical referees appointed by the Ministry of Pensions, and will be glad to know whether medical practitioners who hold such appointments consider that the payment now made for the necessary examinations and reports is adequate in respect of the amount of work entailed. Information on this matter should be forwarded to the Medical Secretary, 429, Strand, London, W.C.2.

## Insurance Companies and Certificates of Death.

The attention of the Medico-Political Committee has been drawn to cases in which medical practitioners have been asked by insurance companies to give their opinion as to what was the state of the health of deceased members some months prior to their death. In some of these cases a fee of 10s. 6d. has been offered for supplying such information, which it was intimated would be regarded as private and confidential. The Committee wishes it to be known that in its opinion medical practitioners should decline to furnish information as to the previous health of persons who were insured without medical examination and who have since died.

## Association Notices.

## MEETING OF COUNCIL.

The next Meeting of Council will be held on Wednesday, October 23rd, in the Council Room, 429, Strand, London, W.C.2.—By order,

W. E. WARNE,

*Acting Financial Secretary and Business Manager.*

October 3rd, 1918.

## ELECTION OF MEMBERS OF COUNCIL, 1919-20, BY BRANCHES OUTSIDE THE UNITED KINGDOM.

NOTICE is hereby given that, in accordance with By-law 49, nominations of candidates for election as members of Council by the grouped Branches outside the United Kingdom for a period not exceeding three years, as prescribed by By-law 52 (2), must be forwarded in writing so as to reach me on or before February 15th, 1919.

Nomination papers may be signed by not less than three members of any Branch comprised in the group, and must be in the form prescribed below or in a form to the like effect.

Election will be by voting papers, which will contain the names of all duly nominated candidates, and will be issued from the head office in London to each member of each Branch comprised in the group.

By order of the Council,

W. E. WARNE,

*Acting Financial Secretary and Business Manager.*

429, STRAND, London, W.C.2.

October 12th, 1918.

## NOMINATION FORM.

By not less than Three Members of the Grouped Branches.

We, the undersigned, hereby nominate ..... of ..... as a candidate for election to the Council of the Association. His name and address must be given as a candidate for election by the Branches in the group. Branches in the group. Branches in the group. Branches in the group.

Names and addresses of nominators, and Branches to which they belong.

Signature and Address ..... Branch ..... Date ..... 1918.

This form should be forwarded to the Acting Financial Secretary and Business Manager, 429, Strand, London, W.C.2, so as to be received not later than February 15th, 1919.

Not later than the second week in June, 1919, a notice of the result of the election will be published in the JOURNAL.

## GROUPING OF BRANCHES NOT IN THE UNITED KINGDOM FOR REPRESENTATION IN COUNCIL OF ASSOCIATION, 1919-20.

	No. to be elected.
South Australian, Tasmanian, Victorian, Western Australian	1
New South Wales, Queensland	1
New Zealand	1
Barbados, Bermuda, British Guiana, Grenada, Halifax (Nova Scotia), Jamaica, Leeward Islands, Montreal, St. John (New Brunswick), Saskatchewan, Toronto, Trinidad, and Tobago	1
Assam, Baluchistan, Bombay, Burma, Ceylon, Hyderabad and Central Provinces, Punjab, South Indian and Madras	1
Hong Kong and China, Malaya	1
Border (South Africa), Cape of Good Hope (Eastern), Cape of Good Hope (Western), East Africa and Uganda, Egyptian, Gibraltar, Griqualand West, Malta and Mediterranean, Natal Coastal, Natal Inland, Orange Free State, Pretoria, Rhodesia, Witwatersrand	1

## BRANCH AND DIVISION MEETINGS TO BE HELD.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: MONMOUTHSHIRE DIVISION.—Dr. R. J. S. Verity, Honorary Secretary, (Garndiffaith, near Pontypool), gives notice that the next meeting of the Division will be held at Abergavenny on Thursday, October 21st, at 1.15 p.m.



## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

The following notifications are announced by the Admiralty—  
Surgeon-General G. Welch, C.B., has been placed on the retired list.  
Surgeon-General A. G. Wildey to Haslar Hospital. Deputy Surgeon-Generals: J. H. Stenhouse to Gibraltar Hospital; W. Bell, M.V.O., to Plymouth Hospital; E. C. Lomas, D.S.O., C.B., to R.N. Barracks, Portsmouth. Staff Surgeon G. L. Puckeridge to the *Dido*. Temporary Surgeons: H. S. Martyn to the *Indefatigable*; T. E. Francis to R.N. Hospital, Plymouth; R. B. Boston to the *Mars*.

### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeons D. J. Williamson to the *Temeraire*; F. W. Moffatt to the *Cossack*.

### ARMY MEDICAL SERVICE.

Lieut.-Colonel J. F. Martin, C.M.G., to be a temporary Deputy Assistant Director-General.

### ROYAL ARMY MEDICAL CORPS.

Temporary honorary Lieut.-Colonel Sir John Bland-Sutton (Major R.A.M.C.T.F.), relinquishes his honorary commission on retiring.  
Majors H. F. Shea, D.S.O., and M. C. Wetherell relinquish the acting rank of Lieut.-Colonel on reporting.

Temporary Major J. A. Wait (Lieut.-Colonel R.G.A., T.F.) to be temporary Lieut.-Colonel.

Captain M. P. Leahy relinquishes the acting rank of Lieut.-Colonel.  
Captain H. C. D. Rankin to be acting Lieut.-Colonel whilst in command of a medical unit.

To be acting Majors: Temporary Major P. Turner; temporary Captains V. F. Southill, T. A. Lawder, H. F. N. Scott, H. Pringle, A. Manuel, P. Moran.

The notification in the *London Gazette* of September 12th, 1918, regarding temporary Captain G. D. Laing is cancelled.

Temporary Captain W. M. Fergusson relinquishes his commission on account of ill health, and is granted the honorary rank of Captain (substituted for notification in the *London Gazette*, July 17th, 1918).

The notifications in the *London Gazette* of August 28th, 1918, and November 27th, 1917, regarding temporary Captain Archibald Ramsay and temporary Lieutenant Alexander G. McKenley respectively are cancelled.

The name of temporary Captain G. B. Moffatt is as now described and not as in the *London Gazette* of June 1st, 1917.

Lieutenant (temporary Captain) G. H. Haines, M.C., to be Captain.

Late temporary Captains granted the honorary rank of Captain: H. W. Doll, G. A. Borthwick, F. McE. Sinclair.

Officers relinquish their commissions.—Temporary Majors: C. B. Heald, F. F. Muecke. Temporary Captains: E. F. Thomas, J. R. Dick, W. Corbet (on account of ill health contracted on active service, and is granted the honorary rank of Captain); J. McIntyre, L. S. Hooper, H. P. Helsham, G. Munro (on account of ill health, and is granted the honorary rank of Captain); J. McChark (on account of ill health, and is granted the honorary rank of Lieutenant); W. S. Foote, E. Macmillan, G. A. Basse. Temporary Lieutenants: F. W. Maunsell and A. W. Mussen (on account of ill health, and are granted the honorary rank of Lieutenant); C. J. G. Exley (on account of ill health), J. S. Simpson.

Temporary Lieutenants to be temporary Captains: C. P. Strong, A. Mills, E. Macmillan, A. Lowndes, I. H. Lupetz, W. P. Lowe, C. H. Ripman, E. L. Holland, T. Drysdale, J. F. Allan, A. B. Waller, R. C. W. Spence, F. H. Whyte, J. T. Grierson, W. M. Thomson, C. W. Alford, T. C. Hynd, W. Bain, S. W. Green, W. Look, G. Price, J. C. Oglivie, F. C. Mason, J. Findlay, G. A. Crowley, W. P. Bonner, A. J. D. Cameron, R. H. Calvert, J. B. H. Beatty, S. K. Hutton, A. R. Moir, D. H. Trail, H. M. Johnston, T. F. Ryan, F. B. MacFavish, J. G. Lessey, J. Macnamara, J. Magner, W. Murphy, P. D. Maclean, R. W. H. Meredith, W. H. C. Patrick, H. E. Alexander, A. H. L. Thomas, S. M. Green, D. Wardrop, J. B. C. Brockwell, A. B. Fearnley, T. J. D. Quigley, G. R. Harcourt, S. E. Cathcart, T. A. Clarke, H. H. James, I. C. Mackenzie, C. Murray, S. Vosper, H. F. Powell.

### ROYAL AIR FORCE.

#### MEDICAL BRANCH.

The following officers to take seniority from April 1st:—Lieut.-Colonels: R. H. Mornement, precedence next below H. H. Southey; W. H. Pope, precedence next below R. H. Mornement; N. J. Roche, precedence next below F. L. M. Boothby; J. St. J. Murphy, precedence next below C. A. Ward; H. Cooper, D.S.O., precedence next below C. F. Pollock. Majors (temporary Lieut.-Colonels): H. F. Horne, precedence next below G. H. Padley; H. C. T. Langdon, precedence next below C. S. MacNab. Captain (temporary Lieut.-Colonel) R. P. Williams, precedence next below E. P. Plenty. Captains (temporary Majors): C. H. S. Taylor, precedence next below F. O. Jenkins; J. McIntyre, precedence next below P. E. L. Gethin. Captains: A. L. George, precedence next below R. H. Woods; A. P. Woolbright, precedence next below D. Thomson; A. P. Bowdler, precedence next below E. W. Leggett; A. G. Graham, precedence next below W. B. Stuart; H. L. H. Grey, precedence next below A. H. O'H. Wood; C. S. Glegg, precedence next below W. A. McClatchie; A. T. Williamson, precedence next below T. G. Baxenden.

Major C. H. S. Taylor to be temporary Lieut.-Colonel whilst specially employed.

Granted temporary commissions:—As Captain: C. D. H. Corbett (late Captain R.A.M.C.) and to be temporary Lieut.-Colonel whilst specially employed. As Lieutenants: W. J. Lytle, A. Parker, G. M. Wishart.

### SPECIAL RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Captain A. H. Haggood, D.S.O., relinquishes the acting rank of Lieut.-Colonel and reverts to the acting rank of Major (with pay and allowances of his substantive rank).

Captain S. J. Steward, D.S.O., relinquishes the acting rank of Major on reporting.

### OVERSEAS CONTINGENTS.

#### CANADIAN ARMY MEDICAL CORPS.

Temporary Captain (acting Major) F. C. Clarke to be temporary Major.

Temporary Captain H. C. Mersereau to be acting Major while specially employed.

### BRITISH WEST INDIES REGIMENT.

The name of temporary Surgeon-Lieutenant Alexander G. McKenley is as now described and not as in the *London Gazette* of June 1st and July 9th, 1918.

### TERRITORIAL FORCE.

#### ROYAL ARMY MEDICAL CORPS.

Major T. H. Ioudes and Captain E. R. Clarke are seconded for duty overseas.

Major A. V. Ford relinquishes his commission on account of ill health and is granted the honorary rank of Major.

Captain (temporary Major) A. A. S. Skirving, C.M.G., relinquishes his temporary rank and is restored to the establishment.

Captain (acting Major) I. Dundas relinquishes his acting rank on vacating the appointment of Deputy Assistant Director of Medical Services.

Captain (acting Major) J. A. Bell, M.C., relinquishes his acting rank on ceasing to be specially employed.

Captains to be acting Majors whilst specially employed: A. W. Harrington (and remain seconded), J. R. Menzies.

Captain W. Gough is restored to the establishment.

Captain A. MacGillivray, from a general hospital, to be Captain.

### VOLUNTEER FORCE.

Cheshire R.A.M.C.(V).—Temporary Lieutenant M. Young to be temporary Captain.

City of Dundee R.A.M.C.(V).—H. M. McHale to be temporary Lieutenant.

Gloucestershire R.A.M.C.(V).—H. Davies-Jones to be temporary Lieutenant.

Kent R.A.M.C.(V).—To be temporary Majors: W. F. Umney, A. Tennyson-Smith (late Captain R.A.M.C.). To be temporary Captains: J. A. Meekle, J. M. Bennion (late Lieutenant R.A.M.C.).

Lancashire R.A.M.C.(V).—The announcements regarding Dr. H. L. Bates published in the *London Gazette* of July 9th, 1918, and January 16th, 1918, under this heading and under the heading 7th Battalion Lancashire Volunteer Regiment respectively are both cancelled.

B. Browning to be Lieutenant.

City of London R.A.M.C.(V).—G. W. Isaac to be temporary Lieutenant.

Northumberland R.A.M.C.(V).—Temporary Captain W. S. Fraser resigns his commission.

### EXCHANGE.

R.A.M.C. Exchange.—Ophthalmic specialist stationed near London, leave once a month, would like to exchange to France. Address No. 3950, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.

### DEATHS.

BENNETT.—At "Oakleigh," Abertillery, Mon., on October 5th, EM.abeth Mary Duguid, the wife of Dr. C. Gordon Bennett, aged 45.

KEITH.—On October 2nd, at Kinnermill, Turf, Aberdeenshire, Robert Donald Keith, M.A., M.D. (Aberd.), formerly Principal of the King Edward VII Medical School, Singapore, aged 41.

### On Active Service.

O'FLYNN.—Died of wounds in France on September 24th, 1918. Lieutenant M. J. O'Flynn, M.D., R.A.M.C., Northamptonshire Regiment, aged 38 years, beloved husband of Mrs. F. E. O'Flynn, of Neath, Glamorgan. R.I.P.

## DIARY FOR THE WEEK.

### MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1. 8 p.m., Annual General Meeting. 8.30 p.m., Presidential Address by Major A. F. Voeleker, R.A.M.C.(T.), M.D., to be followed by a Demonstration on Degeneration in Art, Science, and Literature, by Dr. T. B. Hyslop.

### FRIDAY.

ROYAL COLLEGE OF PHYSICIANS, Pall Mall East, S.W., 4 p.m.—Harveian Oration by Dr. Percy Kidd.

ROYAL COLLEGE OF SURGEONS, Lincoln's Inn Fields, W.C., 5 p.m.—Demonstration by Professor A. Keith: Nerve Suture and Nerve Regeneration.

ROYAL SOCIETY OF MEDICINE.—Tuesday, 5 p.m., General Meeting of Fellows: Installation of new President, Sir Humphry Rolleston, K.C.B., M.D. Section of History of Medicine, Wednesday, 9 p.m.: Presidential Address by Mr. D'Arny Power. Dr. Charles Sanger: From Tradition to Observation: a Chapter in the History of Anatomy (with lantern slides). Section of Dermatology, Thursday, 4.30 p.m.: Cases. Section of Electro-Therapeutics, Friday, 8.30 p.m.: Presidential Address by Mr. C. R. C. Lyster. Demonstration by Sir James Mackenzie Davidson: Stereoscopic Technique, with practical demonstration.

## DIARY OF THE ASSOCIATION.

Date. Meetings to be Held.

### October.

- 15 Tues. Meeting of Profession arranged by Metropolitan Committee Branch to discuss a Ministry of Health and the Future of the Medical Profession, Town Hall (Whitechapel), Tottenham Court Road, W., 4 p.m.
- 16 Wed. London: Finance Committee, 2.30 p.m.
- 18 Fri. London: Central Ethical Committee, 2 p.m.
- 23 Wed. London: Council Meeting.
- 24 Thur. London: Conference of Local Medical and Panel Committees, Connaught Rooms, Great Queen Street, London, W.C., 10 a.m.
- 31 Thur. Monmouthshire Division, Abergavenny, 3.15 p.m.



# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 19TH, 1918.

## CONTENTS.

	PAGE		PAGE
<b>British Medical Association.</b>		<b>TREATMENT OF DISCHARGED DISABLED SOLDIERS AND SAILORS IN IRELAND</b>	
<b>CURRENT NOTES:</b>		NAVAL AND MILITARY APPOINTMENTS	2
REMUNERATION OF MEMBERS OF PENSIONS BOARDS ...	51	BIRTHS, MARRIAGES, AND DEATHS ...	2
WAR EMERGENCY FUND, ROYAL MEDICAL BENEVOLENT FUND	51	DIARY ...	2
<b>ASSOCIATION NOTICES: MEETING OF COUNCIL.—BRANCH AND DIVISION MEETINGS TO BE HELD</b>			

### British Medical Association.

#### CURRENT NOTES.

##### Remuneration of Members of Pensions Boards.

A MEMBER of a Pension Board (Manchester), who has read in the SUPPLEMENT of October 12th (p. 49) the request of the Medico-Political Committee to pensions referees, asking them to state whether the payment of 5s. for examinations and reports is adequate, desires to draw the attention to the remuneration given to members of the pensions boards instituted by the Ministry of National Service. He states that a fee of £1 1s. is paid per session of two and a half to three hours, and as a minimum of eight cases must be examined and assessed, this works out at 2s. 6d. a case. The work is onerous and responsible, and must be done at a stipulated time and place, to the disarrangement of private work. Our correspondent suggests that if the Medico-Political Committee considers it necessary to inquire whether 5s. is an adequate fee for pensions referees, it ought also to consider whether 2s. 6d. is adequate for similar work done by members of the pensions boards. His answer to the question why medical men do the work if it does not pay is that the fall in the value of the sovereign, the increase in the cost of living, and the absence of bonuses or higher fees, make it necessary for the medical profession to take such work in order to make both ends meet.

##### War Emergency Fund of the Royal Medical Benevolent Fund.

The following further subscriptions have been received from Divisions of the British Medical Association in response to the recent appeal, and have been passed on to the Treasurer of the War Emergency Fund. The names of individual subscribers are published monthly in the advertisement pages of the JOURNAL.

	£ s. d.
Dorset and West Hants Branch, per Dr. F. Fowler, Honorary Secretary	1 14 6
Buckingham Division, per Dr. H. J. Henderson, Acting Honorary Secretary	2 11 0

### Association Notices.

#### MEETING OF COUNCIL.

THE next Meeting of Council will be held on Wednesday, October 23rd, in the Council Room, 429, Strand, London, W.C. 2, at 11 a.m.—By order,

W. E. WARNE,

*Acting Financial Secretary and Business Manager.*

October 3rd, 1918.

#### BRANCH AND DIVISION MEETINGS TO BE HELD.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: MONMOUTHSHIRE DIVISION.—Dr. R. J. S. Verity, Honorary Secretary (Garndiffaith, near Pontypool), gives notice that the next meeting of the Division will be held at Abergavenny on Thursday, October 31st, at 3.15 p.m.

### TREATMENT OF DISCHARGED DISABLED SOLDIERS AND SAILORS IN IRELAND.

THE Insurance Commission (Ireland) has recently forwarded by post a form of agreement to all the medical practitioners in Ireland, inviting them to undertake the treatment of discharged disabled soldiers under a scheme to be administered by the Irish Insurance Commissioners as agents of the Ministry of Pensions. The treatment to be given by the doctor under the scheme is treatment of a kind which can consistently with the best interests of the patient be properly undertaken by a general medical practitioner of ordinary professional competence and skill.

Treatment is to include the provision, by the doctor, of the necessary drugs, medicines, and appliances. These may be provided by the doctor himself directly, or by arrangement with a chemist, druggist, etc., but in either case the cost thereof is to be defrayed by the doctor out of the remuneration payable to him under the scheme. Every invalided man entitled to treatment under the scheme will be supplied with a medical card showing on the face of it his title to treatment.

One of the principles underlying the scheme is that of free choice of doctor by the patient, and of patient by the doctor. Generally speaking, an invalided man entitled to treatment is free to demand and receive treatment from any doctor who has undertaken to give such treatment, provided that the doctor consents to have him as his patient. Similarly, the doctor is entitled to refuse to undertake the treatment of any particular invalided man. Under the terms of the scheme sanctioned by the Treasury for Ireland a lump sum has been allocated which is sufficient to provide payment for medical treatment, medicines, and appliances at a capitation rate of—

- (a) 12s. 6d. in respect of each discharged disabled man living in a county borough or urban district, and
- (b) 15s. in respect of each discharged disabled man living in any other district.

These sums will be paid into a fund ("The Irish Invalided Soldiers, etc., Medical Fund") in respect of each man as from the date on which it is determined that he is entitled to treatment. The fund so created is to cover all liability for the remuneration of doctors in respect of services rendered in connexion with treatment, furnishing reports, etc., and the cost of drugs, etc., supplied to patients. This sum of 15s. or 12s. 6d. is to be paid into the fund in respect of each invalided man resident in Ireland (whether or not he requires treatment under the scheme) to whom a medical card is issued. It is provided that the fund shall be distributed in such manner as the Commissioners, in agreement with the Ministry of Pensions, may from time to time, after consultation with the Irish Medical Committee as representatives of the medical profession, determine. It is therefore open to the Commissioners, by arrangement with the Committee, to vary the method of distribution during the continuance of the agreement. Whatever method of distribution is adopted should provide for the inequalities arising out of the difference in the frequency and importance of the services to be rendered. While the amount of the fund is to be regarded as providing sufficient remuneration in respect of







# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 26TH, 1918.

## THE COVENTRY CASE.

A BRIEF note of Mr. Justice McCardie's judgement delivered on October 15th, appeared in the BRITISH MEDICAL JOURNAL for October 19th. The judgement is of great length, but it has been thought necessary to report it very fully, having regard to its importance to the Association and the profession. A report of the proceedings at the hearing appeared in the JOURNAL for August 3rd, 10th, and 17th, 1918. The action was brought by Dr. Ernest Camden Pratt, Dr. David Holmes, Dr. Andrew St. Lawrance-Barke, and Dr. Charles Hodge Cairns, registered practitioners of Coventry, against the British Medical Association, and Dr. William H. Lowman, Dr. William J. Pickup, Dr. John Orton, and Dr. Thomas Webb Fowler, registered practitioners of Coventry, and members of the Coventry Division of the British Medical Association. The plaintiffs claimed damages for alleged conspiracy to injure them in their profession, and to libel and slander them, and for alleged libels and slanders. The allegations were denied.

### JUDGEMENT.

Mr. Justice McCardie said: This important action was tried before me in July. In order to secure a hearing prior to the termination of the war the plaintiffs submitted to terms which required them to forego their right to a jury. The trial lasted many days. The arguments were full and able. The case is a difficult one. It raises far-reaching points of law and touches questions of deep concern to the medical profession. It is also painful in view of the facts I must narrate and the issue of which I must decide. My profound regard for the medical profession has greatly increased the burden of my duty. The action embraces three distinct heads of claim—namely, conspiracy, libel, and slander. The claim for conspiracy is of infinitely the greatest moment, as the points thereby raised touch every profession, trade, and pursuit. Originally the plaintiffs were four in number—Dr. Pratt, Dr. Holmes, Dr. Burke, and Dr. Cairns. They are now three, for in March last Dr. Cairns died after the litigation had been proceeding for more than three years.

The principal defendants are the British Medical Association. They were incorporated in 1874 under the Companies' Acts then existing. They are a powerful body. They own and publish the BRITISH MEDICAL JOURNAL, which is a weekly paper of great influence. The membership of the defendant Association embraces rather more than 50 per cent. of the medical men in this country. The funds of the Association are large. Its organization extends throughout the United Kingdom and to many parts of the empire. The total membership of the Association is about 23,000, of whom 18,000 are in the United Kingdom and 5,000 in the Colonies.

The Association has performed for many years and in several directions a great and beneficent work in matters of interest and importance to the medical profession and the public. Acts then existing. They are a powerful body. They own and publish the BRITISH MEDICAL JOURNAL, which is a weekly paper of great influence. The membership of the defendant Association embraces rather more than 50 per cent. of the medical men in this country. The funds of the Association are large. Its organization extends throughout the United Kingdom and to many parts of the empire. The total membership of the Association is about 23,000, of whom 18,000 are in the United Kingdom and 5,000 in the Colonies.

The three plaintiffs are duly qualified medical men. They have practised their vocation for many years, and their characters are free from stain apart from the allegations made by the defendants that they acted in a manner which was so contrary to the honour and interests of the profession as to call for bitter condemnation and continuous punishment. In connexion with this allegation the claims of the plaintiffs to damages for defamation arise. As their main answer to such claims the defendants set up the plea of qualified privilege. No defence whatever of justification has been placed upon the record. I may mention that I permitted all such amendments of the pleadings as were asked for and as were necessary to raise the point covered by this judgement. I have not allowed technicalities of pleading to prevent the substance of the case on either side from being dealt with.

The claim of the plaintiffs to damages for conspiracy is based upon a prolonged, deliberate, and pitiless boycott by the defendants. The defendants do not dispute the boycott; they admit it. They assert a legal right to employ it to the utmost extent against the plaintiffs. It constitutes an essential part of their scheme of organization, and is their most potent weapon for enforcing the views and standards they desire to establish. It is admittedly intended to effect the complete ruin of the medical men against whom it is directed. The contention of the defendants that they possess the legal right to exert this powerful instrument at their own will raises one of the most vital questions in the case, namely, whether the acts, methods, and objects of the defendants in the pursuit of their boycott scheme constitute an actionable wrong to the plaintiffs. The word "boycott" is not employed in the actual rules of the defendant Association. They prefer the word "ostracism" for the purposes of those rules. But the word "boycott" is the shorter of the two, and hence I use it in this judgement. The defendants themselves recognize that the word "boycott" is appropriate.

The chief scene of the events arising in the action is Coventry and the surrounding area. The main facts of the case centre around the Coventry Provident Dispensary. This institution was founded some eighty years ago but was not registered as a Friendly Society till 1908. The original circumstances of its creation are not material. The substance of the dispensary scheme consisted in small periodical payments by various manual workers in order to secure as a result of their combined payments the services of certain doctors in respect of medical attendance needed by the members of the dispensary and their families. In its very early days the dispensary may perhaps have been partly charitable so far as the doctors were concerned. But the membership grew rapidly. Its income became steadily larger until the institution became fully self-supporting, and the total of the periodical payments by the members enabled ample remuneration to be given to the medical men who were engaged as dispensary doctors. The growth of the dispensary is shown by the fact that in the year 1905 it possessed a membership of about 20,000. The annual payment of each member in that year amounted to about 4s., so that the total income was about £4,000. A substantial portion of that income was spent upon the supply of drugs, the services of skilled dispensers and assistant dispensers at substantial salaries and the like; a portion was also spent on management expenses. The balance was divided in certain proportions amongst the dispensary doctors. In 1905 those gentlemen were seven in number, and they divided well over £2,000. Each doctor was free to engage in private practice. He possessed the amplest leisure, and the majority of the seven made substantial incomes by their private work. I have taken the year 1905 because the dispensary was then in the fullness of its success. Its career had been one of undisputed beneficence to a great body of workers. It was admirably managed, and it had received the full support of the public men of the city. But in that year the Coventry doctors began to murmur. A year or two earlier the defendant Association had commenced a protest against the impairment of profitable private practice by the existence of what is called contract practice, and against the diminution of the possibilities of fee-earning by medical men by reason of the provision through medical services by clubs, friendly societies, and provident dispensaries to their members through salaried practitioners. Hence the medical officers of the dispensary in 1906 commenced an agitation.

Three main points formed the basis of their complaints. I state them separately:

First, that the dispensary collector (the official who collected the periodical contributions of the members) was paid by commission instead of salary. The gist of this complaint lay in the suggestion that a man who is paid by commission is apt to vigorously canvass in order to increase the membership and thereby to increase the total sum upon which the commission is paid. Inasmuch as canvassing is condemned by the General Medical Council, I think that this point possessed substance at the time. But when this ground of complaint was presented to the governing committee of the dispensary it was at once arranged that the collector's remuneration should be by salary and not by commission, and from the year 1906 onward the collector received a salary only. Hence this ground of complaint ceased to exist.

Secondly, the question of lay control arose. The constitution of the dispensary in 1906 is shown by the printed rules. It was essentially democratic. The dispensary was controlled by a general committee, called the committee of management. This committee consisted of twenty-four elected members (all elected at the annual general meeting) and of certain *ex officio* members—namely, the secretary and all the medical officers.



The medical officers were of course in a minority. The rules provided moreover in substance that in dispensary matters the medical officers should constitute a medical committee, and should have the responsible management of the dispensing department subject to the general control of the committee of management. But the medical officers claimed in 1906 and later a general and absolute control over the whole affairs of the dispensary. To this the dispensary members gave a refusal, for the funds were provided by the members; the organization was theirs, it existed for their benefit, it had grown by their subscriptions. To yield the full control to their medical officers would obviously shatter the scheme and substance of the dispensary organization.

Thirdly, the question of a wage limit arose. [His Lordship dealt with the question of a wage limit of £2 for members of the dispensary, and said that the instances in which members continued to use the dispensary in spite of improved financial position were only isolated. Having pointed out that the management of the dispensary were willing to take any requisite steps for checking an abuse of dispensary membership, he went on:]

Upon the above main points the dispensary doctors met the representatives of the dispensary, and many conferences took place. The dispensary authorities recognized, as I have said, the criticisms of the doctors as to the first point—that of payment of the collector—and they promptly changed the method of remuneration. But they refused to renounce the control of their own institution, although recognizing the privilege of the doctors to deal with medical and allied questions. They declined, moreover, to admit that the absence of a retrospective wage limit led to the abuses alleged. They took the view (and in my opinion they were substantially right) that instances of abuse were isolated only.

The refusal of the committee to yield to demands which they deemed unfounded led to acute feeling on the part of many Coventry doctors, and the climax was reached in the resignation, in the spring of 1907, of five of the seven dispensary medical men. Their names are Dr. Pickup, a defendant in this action, Dr. Hurd, Dr. Heald, and Dr. Arch. The other two of the seven doctors remained. Dr. Pickup, one of the defendants to the action, had been on the dispensary staff from 1832 until his resignation in 1907. So soon as the five gentlemen tendered their resignation in the early part of 1907, and before they had ceased to act as medical officers, they canvassed their dispensary patients in order to induce them to become members of another medical service then founded by those doctors and called "The New Dispensary." It is not necessary to consider the legality of this action. The nature of the canvassing is best indicated by the circular distributed on behalf of the doctors to their dispensary patients. It appears at page 99

of the correspondence. This canvassing campaign has been described by the secretary of the defendant Association as the heaviest blow which could be directed against the dispensary. As a result of the canvassing the Coventry Dispensary lost to the New Dispensary between 25,000 and 7,000 members (in spite of an explanatory circular of the dispensary committee), and the New Dispensary, which was run by Drs. Pickup, Hurd, Penton, and Arch under their own control, gained a substantial and immediate pecuniary success. The resignation of the five doctors did not, however, defeat the Coventry Dispensary. They at once sought for other medical assistance, and on June 25th, 1907, Dr. Burke, one of the plaintiffs, together with Dr. Ellis and Dr. Langley, joined the staff. With respect to these two latter gentlemen, it will suffice to say that they sustained the pressure of the defendants till the middle of 1912, when they yielded to it and resigned their posts.

The appointment of Dr. Burke in 1907 marked the commencement of the boycott. It is necessary to deal with the facts as from that year, for, although they are prior to the period mentioned in the statement of claim, they indicate the procedure adopted, the motive and objects which underlay it, and the results effected. The boycott then carried out was continuously maintained in all succeeding years. The boycott of Dr. Holmes and Dr. Pratt commenced on similar lines in 1912, when they also joined the dispensary staff.

In order to appreciate the significance of the defendants' methods it is necessary to consider the constitution and the actual working of the British Medical Association. They possess the usual Memorandum and Articles of Association and a substantial body of by-laws. The Memorandum states the following as the primary object of the Association: "To promote the medical and allied sciences; and to maintain the honour and interests of the medical profession." The second Article of Association provides that any registered medical practitioner shall be eligible for membership. The ninth Article provides that a member may be expelled by the Council of the Association on the ground that his conduct is detrimental to the honour and interests of the medical profession or the Association; or calculated to bring the profession into disrepute, or on the ground that the member has wilfully and consistently refused to comply with the regulations of the Association or the rules of the Division or Branch of which he may be a member. The tenth Article provides for due inquiry prior to expulsion, and further provides that no person shall be capable of effectively resigning his membership when his conduct is under investigation. The eleventh Article provides that the members of the Association shall be formed into separate local bodies styled Divisions and Branches. Each Division has a local geographical area, and a branch consists either of an important Division or a group of Divisions. [Having described the constitution of the Divisions and Branches, his Lordship went on:]

In 1903 Coventry had become an autonomous Division pursuant to an order of the Council under Article 12. The majority of practitioners in the district happened to be members of the British Medical Association. The nearest and most important adjacent Branch was Birmingham, but various other adjacent Branches and Divisions existed in the Midland Counties.

I must refer to certain rules of the defendants which are of direct importance in the present case. In the year 1904 the defendant Association published what were called "model rules" for a Division. They dealt with such matters as contract practice, appointments under existing contracts, unprofessional conduct of members, refusal of professional recognition, and the like. Each Division was free to adopt those rules or not as it wished. The Coventry Division met in November, 1904, to consider such rules. In substance, all the model rules were adopted with slight variations. They became the rules of the Division. It is desirable to set out Rules "F" and "G" in full.

Rule "F."—"No member of the Division shall, except in circumstances of great urgency, meet in consultation, or hold any professional relations with a medical practitioner who shall have been declared by a resolution of the Division, if a member, to have broken the rules of the Division as to professional conduct, or, if not a member, to have acted after due notice as hereinafter provided) in contravention of the said rules, or who, whether a member of the Division or not, shall have been declared by the Division to have been deemed guilty of conduct detrimental to the honour and interests of the profession or calculated to bring the profession into disrepute: Due notice to a non-member for the purpose of this rule shall be construed to mean one month's notice of any resolution—that is, a resolution passed by the Division."

Rule "G."—"If in circumstances of great urgency a member of the Division shall meet professionally a medical practitioner whom, under Rule 'F,' he could not meet except in such circumstances, he should, at once report the fact with an explanation of the said circumstances to the secretary, who shall forthwith report the whole matter to the Ethical Committee of the Division. If the Ethical Committee shall in any instance not be satisfied that the circumstances were of such urgency as to justify such action, it shall be the duty of the Committee to inquire further into the matter and to report to the Division whether in the opinion of the Committee, Rule 'F' has been broken by the member concerned."

I need not point out the menacing possibilities of the above rules when wielded by the requisite majority of a local autonomous Division against an individual or a small minority. The vagueness or breadth of the rules when considered in the light of the powers of each Division (if supported by the head body) are significant. They form a potent basis for the employment of the boycott, and were so intended. But the above scheme, though itself a powerful instrument, was given a further and most effective extension. General medical practitioners of course find it essential to secure in many cases the opinion of a second practitioner, or the services of a consultant or specialist. Unless such assistance can be obtained the medical man must either refuse or give up (as the case may be) any patient in respect of whom a second opinion or further assistance is required. Such a deprivation is admittedly disastrous to private practice, and in fact it inflicted great injury upon each of the plaintiffs. Coventry lies within easy reach of Birmingham, where a large body of able consultants and specialists have their chambers, and of other large towns such as Leicester, Northampton, and Nottingham, where consultants and specialists are also to be found. The extension of the boycott scheme was effected by what is known as Rule "Z" or Rule 26. This was promulgated as a model rule by the British Medical Association in 1906. It was adopted by the Coventry Division in January, 1907. It is as follows:

"(a) In every case in which the Division shall, after due inquiry in accordance with the rules thereof, have passed a resolution declaring that in the opinion of the Division the conduct of any medical practitioner or practitioners, whether by contravention of the rules of the Division or otherwise, is detrimental to the honour and interests of the medical profession, it shall be the duty of the Executive Committee of the Division to submit a report of the whole of the facts of such particular case to the Central Ethical Committee of the Association, and, subject to the approval of the Committee, or, if the opinion of the said Committee be adverse, subject to the approval of a three-fourths majority of the present and voting in a special meeting of the Division convened to consider the comments of the Ethical Committee, to cause such resolution to be brought directly to the knowledge of every member of the Division by means of a notice in the following form, which notice it shall be the duty of the honorary secretary of the Division to authenticate with his signature:—The form is as follows: 'British Medical Association.—Division, Private and Confidential. Notice. In pursuance of Rule 'Z' of the — Division, notice is hereby given by the Executive Committee of the said Division that at a general meeting held on the — day of —, a resolution in the following terms was duly passed: That, in the opinion of the Division, the conduct of Doctor — is detrimental to the honour and interests of the Medical Profession.'

"(b) In any case in which the Division shall at the time of or subsequently to the adoption of a resolution of the nature contemplated by paragraph (a) of this rule have also resolved that, in the opinion of the Division, it is desirable that such resolution shall be brought officially to the notice of any specified



Division or Branch of the Association, it shall be the duty of the Executive Committee of the Division to submit to the Central Ethical Committee a statement of this fact and of the reason for which such notification is desired, and, subject to the approval of the said Ethical Committee, to cause a copy of the said resolution to be transmitted by the honorary secretary of the Division or Branch to the honorary secretary of the Division or Branch so specified."

The object of Rule "G" was, of course, to render the boycott effective, not only in the immediate Division itself, but also in every neighbouring Branch or Division from which the condemned practitioner might desire any professional assistance or secure any professional recognition.

It may be well to state here that each Division and Branch worked in close co-operation with the head authorities of the British Medical Association; secondly, that every action of the Coventry Division and its officials was either instigated or fully sanctioned by and powerfully supported by such authorities.

Dr. Burke became a registered medical man in 1896. He went from time to time various public appointments. His professional career was free from stigma. In May, 1907, he was appointed a medical officer to the dispensary. Thereupon he received, on May 26th, 1907, from the chairman of the Coventry Division, Dr. White, a letter indicating in clear terms the intended application of the boycott. Dr. Burke had become a member of the defendant Association in 1903, when he was practising at Wolverhampton. But in spite of Dr. White's letter he decided to take up his appointment, and accordingly, in June, 1907, he came from another district to reside in Coventry with his wife and family, and began his duties as medical officer of the dispensary. On June 20th, 1907, the Coventry Division passed a resolution condemning the conduct of Dr. Burke in accepting the post. On July 16th, 1907, the Coventry Division passed a resolution which declared in substance that Dr. Burke had violated the rules and resolutions of the Division (of which he had automatically become a member in taking up residence in Coventry) by becoming a medical officer of the dispensary. On July 20th, 1907, this resolution was communicated to Dr. Burke, and he was invited to explain his position. So far as I can see, the only "rules and resolutions" which Dr. Burke was alleged to have broken was a somewhat ambiguous resolution of the Coventry Division, passed on April 3rd, 1906, amounting in substance to a declaration that no member of the Division should associate himself or continue to be associated with the Coventry Dispensary. On April 29th, 1907, Dr. Burke replied that he was quite satisfied with his position, both professionally and socially. He was then summoned to attend a meeting at the house of Dr. Pickup. He did so, and stated that he saw no ground for thinking that the post was one which he could not properly hold. He was warned by the chairman that if he remained obstinate he would be expelled from the Association. The only charge against him was that he held the appointment of medical officer to the Coventry Dispensary. On August 20th, 1907, the Executive Committee of the Coventry Division unanimously decided to ostracize Dr. Burke "and to make the ostracism as complete as possible." On September 3rd, 1907, the Coventry Division recommended the Council of the Association to expel Dr. Burke, on the ground that he had broken the rules and regulations of the Division by holding the above post and that such conduct was detrimental to the honour and interests of the medical profession. On September 4th, 1907, the Coventry Division communicated this resolution to the Birmingham Branch. In their letter of September 4th, 1907, to such Branch, the Coventry Division used these significant words: "We are having a great fight here in Coventry and wish to strain every nerve to make the position of these men," that is, Dr. Burke and others, "as unpleasant as possible." On December 18th, 1907, the General Secretary of the defendant Association cited Dr. Burke to appear before the Central Ethical Committee to show cause against his proposed expulsion on the ground that he had accepted the post in question whereby (as was alleged) he had broken the rules of the Coventry Division and had acted in a manner detrimental to the honour and interests of the medical profession. On February 13th, 1908, he was expelled from the defendant Association upon the grounds just indicated. Thereupon the Coventry Division at once consulted the head authorities as to the circulation of notices under Rule Z. They pointed out that they particularly desired to notify the Birmingham consultants as soon as possible. On April 7th, 1908, the Coventry Division wrote to the head quarters a pregnant letter stating again that they desired to bring before the notice of all consultants in Birmingham the fact that "the present medical officers of the Coventry Dispensary have been condemned in every possible way by the Association." The letter proceeded: "It seemed to us a great thing to be able to assure the public that no consultant could be obtained from Birmingham, and although Dr. Burke has boasted that he has obtained one, still, when challenged, he has never given any name, and I have proof after proof that consultants have refused to come. It is open to them, the consultants, to say that they do not know who the Coventry Dispensary medical officers are, and this we wish to obviate by notice under Rule Z. We also thought we could prevent consultants or medical practitioners coming from Leamington, Northampton, and Nuneaton if we let them know officially the position, especially as these three had passed a resolution endorsing our actions also, or at least two of them have."

I must call attention to the scheme of widely extended coercive action indicated by the above letter, not only with

respect to consultants and other practitioners, but also with respect to those members of the public who might need medical attendance and feel disposed to invite the services of the dispensary doctors. The British Medical Association duly supplied the necessary forms of notice to the Coventry Division, and thereupon Rule Z was put into effective operation, not only as to Coventry, but also with respect to Birmingham, Nuneaton, Tamworth, Leicester, Northampton, Nottingham, Leamington, and York. London experts, it was pointed out, were beyond the financial range of the ordinary Coventry patients. In substance, all the members of these Branches and Divisions were informed that the conduct of Dr. Burke in accepting the appointment of medical officer of the Coventry Dispensary was detrimental to the honour and interests of the medical profession, and the secretary and members of each Branch and Division were requested to take such steps as would ensure the effective support of such Branch and Division in the boycott of Dr. Burke. It is clear upon the documents that the Birmingham Branch, in order to meet a difficulty in its then rules, was instigated by Dr. Whitaker, the Secretary of the defendant Association, to pass a resolution expressly declaring that the conduct of Dr. Burke was detrimental to the honour and interests of the medical profession. Now it is not disputed that in each of the above-named Branches and Divisions there existed the Rules "F" and "G," which I have here previously set out, and also Rule "Z." It is admitted by the defendants that the effect of such rules and of the scheme and practice I have indicated (together with necessary resolutions passed by the Branches and Divisions in question) was to render it a breach of duty and a violation of the rules for any medical man in any of such Branches or Divisions of a member of the British Medical Association to meet Dr. Burke in consultation or to give him any professional recognition. To so act would, as the defendants state, expose him to a charge of acting against the honour and interests of the medical profession, and, secondly, to the risk and perhaps certainty of expulsion. The same result would follow also in respect of any medical man in any of such Divisions or Branches, although not a member of the British Medical Association, who ventured to meet Dr. Burke. Both classes of practitioners were exposed to the risk of a condemnatory resolution, and secondly, to the grave humiliating peril of being boycotted themselves. It is not really disputed that the boycott of Dr. Burke was effectively enforced by the fear of every medical man, not only in the Coventry Division, but also in the surrounding Divisions and Branches, that if he recognized Dr. Burke as a fellow practitioner, he himself would fall under the doom of ostracism and ruin. The threat of professional ruin may well be a cogent instrument of coercion. The object throughout of notifying neighbouring Divisions was to make the boycott effective. Prior to the boycott, in 1907, doctors of the Coventry Dispensary had obtained in full measure the consultative assistance and advice of other medical men in Coventry and the surrounding Divisions.

I have thus indicated broad features of the scheme by which the boycott of Dr. Burke was effected. The notices sent out under Rule Z became known to every medical man in Coventry and the surrounding regions. The very extent of their publication (together with the admittedly widespread notoriety of the Coventry dispute) must have rendered the effect of the notices known to many members of the public. The "plan of campaign" (I use the defendants' own phrase) had been carefully outlined in advance. It was carried out with merciless rigour; nor was its effect the less by reason of the professional position and energies of those who, either as leaders or active militants, took part in the scheme of operations. The boycott and the resulting acts were continued against Dr. Burke from the time of his appointment up to, and well beyond the date of the writ. The Association and each of the defendants were vigorously engaged in it; their co-operation was active and unceasing. The defendant Association admittedly knew and approved of all that was done. The design was common to all. Their aim never wavered. They strained every nerve to make the position of Dr. Burke "as unpleasant as possible." These, as I have already pointed out, are the very words which appear in the letter of September 4th, 1907, from Dr. Horton to the Secretary of the Birmingham Branch. The boycott was not merely professional but social. The humiliation and the bitterness of the campaign fell not only on the dispensary doctors but upon their wives and families. Both the doctors and the members of their families were ignored at all times and on every occasion, and were deliberately treated as professional and social outcasts. One of the chief objects of the boycott was to punish the doctors who had accepted positions at the Coventry Dispensary.

I may here refer to an incident with regard to Dr. Pratt which illustrates the feeling which prevailed in the minds of the doctors throughout the whole period against all the dispensary doctors. [His Lordship here referred to what took place at an interview between Dr. Pratt and Dr. Kenderdine, at which the latter was alleged to have made the following statement: "If you take on the post, even for a period of three months, you will not only be boycotted for that three months, but if you go to any other town you will be boycotted there, and if you go to the ends of the earth still the British Medical Association is everywhere and they will find you. Even if you go to Australia or South Africa you will find the British Medical Association." His Lordship continued: I am satisfied that what he said represents in substance the views of the British Medical Association and their participants in the scheme of ostracism laid before me at the trial.]



The character of the threats involved in the defendants' notices may be illustrated by an incident with respect to Dr. McVeagh (a name already mentioned by me, who had been a doctor of the Coventry Dispensary for the greater part of his lifetime, and who was widely esteemed and respected. In 1907 he was an old man. He did not resign in that year. Hence he remained a colleague of Dr. Burke until a later date. He was condemned by the defendants in the early part of 1907. For many years he had known a surgeon in Birmingham of the highest professional distinction. They were professional friends. In July, 1907, Dr. McVeagh desired to meet the surgeon in consultation. What then happened is most effectively depicted by the minutes of a meeting of the Coventry Division itself, held on July 16th, 1907, at which the defendants, Dr. Pickup and Dr. Horton (*inter alios*) were present. The following is the relevant extract: "A letter was read from Mr. Gilbert Barling, Birmingham, expressing his regret that the Branch or its Division were not prepared to give a definite subsidy to Dr. McVeagh, and stating that he was prepared to give five guineas or more to any fund that could be raised for the before-mentioned object, as he could not cut Dr. McVeagh professionally after a friendship of many years' standing, but that he was writing to the other members of the dispensary staff to say that he regretted he could not meet them. This matter was fully discussed, and it was generally agreed that although the difficulty mentioned by Mr. Barling was felt even more by local medical men, some of whom had had a longer friendship with Dr. McVeagh than even Mr. Barling himself, still it was impossible to make any exception for the sake of sentiment, and it was proposed by Dr. Snell, seconded by Dr. Moore, that the secretary be requested to write to Mr. Barling, pointing out their feelings in the matter, and drawing attention to the stringency of the Bradford rules adopted by the Division and also by the Birmingham Central Division, which would place Mr. Barling himself in the same position as Dr. McVeagh if the former carried out his written decision to meet Dr. McVeagh in consultation. This was carried *nonne contradicente*." It is scarcely necessary to say that the surgeon did not meet Dr. McVeagh thereafter, nor did he at any time meet Dr. Burke or the other dispensary doctors. The above minute illustrates, in my opinion, the striking general and actual coercive operation and the directly intimidatory character of the defendants' boycotting campaign as carried out in practice.

I may also incidentally mention the references in the defendants' minutes of February 7th, 1908, and April 28th, 1908, to Mr. Jordan Lloyd, also a well-known Birmingham surgeon. It will suffice to give the following brief extract from the minute of April 28th, 1908: "A letter from Mr. Jordan Lloyd was read which enclosed Mr. Burke's card; Mr. Lloyd stating that he ignored Mr. Burke in the matter. The secretary was asked to write to Mr. Lloyd asking him also when seeing Dr. Burke's patients or those of any other members of the Coventry Dispensary to explain to the patient that he should ignore his doctor and his reasons for so doing." I presume that this refers to an attendance by Mr. Lloyd on a case of great urgency within Rule "F." Medical attendance was, of course, refused by the personal defendants and their colleagues to Dr. Burke, his wife and family. As appears by another minute of November 18th, 1908, the means employed by the defendants may be briefly indicated by this incident in connexion with Dr. Suckling. He is a doctor of medicine, a consulting physician at Birmingham, and an honorary consulting physician to a well known hospital in that city. When the Division heard of the consultation between Dr. Suckling and Dr. Burke they at once wrote to the defendant Association. Thereupon Dr. Suckling, who was not a member of the defendant Association, received a warning letter. The letter has been lost, but its menacing character may be gathered from Dr. Suckling's letter to Dr. Burke of December 14th, 1908. It apparently led Dr. Suckling to abstain from further meeting Dr. Burke. The years moved on. Dr. Suckling joined the defendant Association. Then in February, 1914, he again met Dr. Burke in consultation with respect to a patient suffering from a critical illness. The patient was at death's door. It was, as Dr. Suckling said, "a dying case." Thereupon Dr. Suckling was summoned to attend a meeting of the Birmingham Branch on February 25th, 1914. It is clear that before the meeting at which Dr. Suckling was to give his explanation a representative of the Coventry Division saw a representative of the Birmingham Branch and informed the latter that the Coventry Division would not be satisfied with a mere formal acceptance of Dr. Suckling's explanation. Dr. Suckling wrote declining to attend the inquiry, and stating that the patient had been gravely ill. He also tendered his resignation of the British Medical Association. This was refused pending an inquiry into his conduct. It is worth while reading in full the letter he wrote to the Birmingham Branch:

"From Dr. Suckling to the Secretary, Central Division, Birmingham Branch, February 20th, 1914. Mr. Ward yesterday casually mentioned that I had not reported the diagnosis of the case I saw with Dr. Burke. It is a case of pneumonia. Why have I not had the ethical rules about the Coventry affair? Is it a trap? The position seems to be this: 'We will punish these dispensary men, and our consultants and specialists shall not meet them, but we must save our faces in the eyes of the public, and let them have consultations in urgent cases, but we will harass and intimidate any consultant who meets them even then'—a very nice and gentlemanly thing to do. Now I am going to put the matter before the public through the lay press. I have put my case in the hands of Messrs. Shakespeare

and Vernon, solicitors, Colmore Row, from whom you will hear, and they will take prompt measures to deal with any libels or slanders about me such as have been very frequent for years, and the authors of which ought to have been punished long ago. It needs another Charles Reade to deal with medical cruelty. This letter, if necessary, will be published."

After hearing the whole of the evidence in the case, I think Dr. Suckling's letter does not present an incorrect view of the defendants' intention and procedure.

The coercive measures of the defendants upon the dentists of Coventry was, I think, equally pronounced. The following is an extract from Dr. Burke's evidence:

"Q. Did the dentists of Coventry decline to work with you?—A. Yes.

"Q. Or to meet you?—A. Yes.

"Q. When it was a question whether a patient should be treated under gas did the dentists decline to meet you?—A. Yes.

"Q. Did they apply to all dentists?—A. Yes."

The refusal by the dentists to meet Dr. Burke is amply explained, I think, by reference to the defendants' minutes of October 30th, 1908, and November 19th, 1908. The adjacent dentists were invited to meet the defendants, including Drs. Pickup, Lowe, and Orton. The exact conversations which took place have not been revealed, but the result is shown by the subsequent refusal of any dentist to meet Dr. Burke. The methods employed can only be inferred from the last three lines appearing in the defendants' minutes of November 18th, 1908. Apparently Mr. Capes, one of the dentists, had desired to retain his liberty of action. The said three lines of the minute are as follows: "Dr. Lowman proposed that the secretary be requested to write to the secretary of the Dudley Division, British Medical Association, to request him to bring pressure to bear upon Mr. Capes." I infer that the pressure was duly exerted, for Dr. Burke was unable to secure thenceforward the assistance of any dentist.

The defendants sought to apply the boycotting scheme also to nurses as well as consultants and dentists. Fortunately for himself, however, Dr. Burke was able to make such arrangements as sufficed to procure him such nurses as he needed. The efforts and objects of the defendants are, however, indicated by the two following extracts from the minutes of the Coventry Division of the defendant Association. The first is a minute dated August 28th, 1907, of a meeting at which, *inter alios*, the defendants Drs. Pickup and Orton were present. It is as follows: "The Committee recommends that the Division resolve that if nurses are supplied to the Provident Dispensary staff the members of the Division will get nurses elsewhere." The second is a minute dated September 3rd, 1907, of a full and special meeting of the Division. The defendants, Dr. Pickup and Dr. Orton, were present at the meeting. The minute is as follows: "The Secretary read a recommendation to the Committee to supply of nurses from the Coventry Institution to the Coventry Provident Dispensary medical officers. It was proposed by Dr. Arch and seconded by Dr. Davidson that 'The Division hereby resolves that if nurses are supplied from the Coventry Nursing Institute to the medical staff of the Coventry Provident Dispensary the medical men of the Division will procure any nurses they may require elsewhere.' Carried unanimously."

I need mention only two other matters to illustrate the operation of the boycott. The first is the hospital incident. It is the usual and indeed the almost unvarying practice in hospitals that a doctor whose patient has been received at a hospital should be allowed to see that patient at suitable hours. In 1911 Dr. Burke went to the Coventry and Warwick Hospital to visit one of his patients there. He entered the building and proceeded towards the ward. Thereupon he was in substance ordered off the premises by the house-surgeon in charge. During the occurrence of this incident Dr. Hanley, who had taken an active part in the boycotting scheme, was present at the hospital.

The second incident relates to Dr. Kenderdine, who has already been referred to in this judgement, who took an active part in the boycott. In December, 1913, the wife of John Busby was very ill. Both Mr. Busby and his wife were members of the Coventry Dispensary. Dr. Burke had been attending Mrs. Busby, but was himself seriously unwell at that time. Hence Mr. Busby desired the services of another doctor. Dr. Lowman, one of the defendants, would not attend because Dr. Burke had been giving medical attention to the sick woman. At last Mr. Busby saw Dr. Kenderdine, and told him that his wife was gravely ill. Upon hearing that Dr. Burke had been attending her, Dr. Kenderdine refused to come until Mr. and Mrs. Busby had resigned their membership of the dispensary and renounced Dr. Burke as their medical man. Mr. Busby replied that as his wife was then lying unconscious on her bed and medical aid was imperative, he was forced to yield to Dr. Kenderdine's demand. Thereupon Mr. Busby went back to the bedroom of his wife, and there began to write a letter of resignation from the dispensary for his wife and himself. Dr. Kenderdine followed him in a few moments to the house. He entered the bedroom of Mrs. Busby; she still lay unconscious on her bed. Before attending to Mrs. Busby Dr. Kenderdine waited until the letter of resignation was finished. He then picked up the letter, read it, and saw that the resignation from the dispensary and the renunciation of Dr. Burke was made by Mr. Busby and his wife. Then, but not till then, did he go to the bedside to give medical attendance to Mrs. Busby. But the hand of death was already upon her. She expired the next day and the boycott ceased to affect her. Such is an outline of the facts as to Dr. Burke.



I can deal briefly with the facts as to Dr. Holmes and Dr. Pratt. In all essential features the cases of those two gentlemen are admittedly one with the case of Dr. Burke. The difference is in detail and dates only. Dr. Holmes is a Bachelor of Medicine of Edinburgh University. His professional reputation is unsullied save as to the charge suggested by the defendants that he was guilty of offence in becoming a medical officer of the Coventry Dispensary. He has never been a member of the British Medical Association. In May, 1912, he was appointed a medical officer to the Coventry Dispensary, and he came from another part of the country to take up his duties. On June 10th, 1912, he received the following letter from the secretary of the Coventry Division: "Private and confidential. I am directed by the Committee of the Coventry Division to inform you that the Coventry Dispensary, to which I hear that you have been appointed, has been banned by the British Medical Association for the past five years for the following reason: The dispensary was, and still is, carried on in a manner injurious and detrimental to the honour and dignity of the profession. The boycott has been consistently and successfully enforced; the medical officers have not been met by a consultant in Birmingham, nor acknowledged by any doctor practising in Coventry. I may say that you will undoubtedly meet with the same treatment on your taking up the appointment. The same action was taken with regard to the other officers in accordance with Rule Z of the Ethical Rules of the British Medical Association." This letter was not answered by Dr. Holmes. He had never approved or desired to join the defendant Association. He had, moreover, formed a clear opinion that there was nothing in the constitution of the dispensary which was derogatory to the honour of a medical man who became a member of the staff. The members of the Coventry Division met on December 10th, 1912. At this meeting the defendants Dr. Orton, Dr. Pickup, and Dr. Lowman were present with others. Dr. Kenderdine was also present. The meeting passed a resolution condemning Dr. Holmes for becoming a medical officer of the Coventry Dispensary, and declaring that his conduct was detrimental to the honour and interests of the medical profession. They also decided, subject to the approval of the Central Ethical Committee of the defendant Association, to put in force Rule Z with respect to Coventry, Birmingham, and all the neighbouring Divisions. This approval was duly given on March 7th, 1913. Thereupon a notice was, I infer, circulated in all such Divisions in the form I have already set out and stating in substance that the conduct of Dr. Holmes had been detrimental to the honour and interests of the medical profession. The defendants admitted that all the plaintiffs were treated alike. No request whatever was made to Dr. Holmes to attend any meetings of the Coventry Division of the defendant Association to present his case or to indicate his views as to the then existing constitution and working of the Coventry Dispensary. He was condemned without a hearing. He was declared an outcast without a shadow of notice from the tribunal which uttered the decree of his professional ruin. The boycott fell upon him and his family as heavily as on Dr. Burke. He was treated as one beyond the pale of professional or social recognition. His testimony in the witness-box shows clearly he keenly felt and bitterly resented the pressure and humiliation of the continued ostracism. The results were substantially the same in his case as in the case of Dr. Burke. All the dispensary doctors admittedly stood in the same position.

As to Dr. Pratt, the facts are briefly as follows: In May of 1912 he was appointed conjointly with Dr. Holmes as medical officer to the Coventry Dispensary. He came from another part of the country to take up his duties. I have already referred to the interview between Dr. Kenderdine and Dr. Pratt when outlining the facts as to Dr. Burke. On May 31st, 1912, he received a written threat couched in the same terms as the letter to Dr. Holmes which I have already set out. He was condemned by the same resolution on December 10th, 1912, which had inflicted condemnation on Dr. Holmes. He was recommended for expulsion by the Coventry Division. He sought to resign his membership of the defendant Association; his resignation was refused. He presented to the defendant Association his view that the position of a medical officer of the dispensary was in no way inconsistent with the honour and interests of the medical profession. His explanations were rejected. He was then expelled from the defendant Association. It is of interest to mention that when Dr. Pratt appeared before the Central Ethical Committee in London just prior to his expulsion the chairman of that Committee suggested that the medical officers of the Coventry Dispensary were "sweated." Dr. Pratt asked: "How are they sweated? I finish my work, as a rule, at 1 o'clock each day apart from two evenings a week. My remuneration, moreover, works out at over £600 a year. In what way are we sweated?" To this question the Committee returned no answer. Each of the three plaintiffs, I may say, received about £600 a year from the dispensary. The effect of the condemnation and the expulsion was the same with Dr. Pratt as with the other two plaintiffs. Rule Z was put into operation against him. The notices thereunder were circulated in Coventry and the surrounding Divisions. He became an outcast. He suffered the same injury; he endured the same humiliation. The boycott and the threats were as effective in his case as in the other cases. It is admitted that the defendants desired to inflict upon him professional ruin. The policy and objects of the defendants, as I have said, were the same with respect to each plaintiff.

I have thus outlined the main features of the case with respect

to the claim for conspiracy. In substance the facts are not disputed. It may be as well to state, however, that I fully accept the evidence given by and on behalf of the plaintiffs. The documents I have referred to and the incidents I have mentioned need no elaboration—they speak for themselves.

Incidental details of the case need not be set forth.

I am satisfied that the notices circulated by the defendants in Coventry were intended to and did in fact operate coercively. They were more than warnings. They were threats and were meant to be threats. Behind them loomed the power of the defendant Association and the whole machinery of the boycott scheme. They were emphasized by the "Black List" published each week by the defendants in the *BRITISH MEDICAL JOURNAL*, and which I deal with hereafter in considering paragraph 6 of the Statement of Claim. The Coventry boycott had, as was inevitable, become notorious, and the humiliation and loss inflicted on the dispensary doctors was known to the medical world and to many of the public. The notices were meant to so disturb and intimidate the mind of each medical man who received them or had notice of them as to prevent him from exercising a free and voluntary action. They must be read in the light of the defendants' rules and actual methods and objects. How could any medical man, whether a consultant or not, who had become aware of such notices, venture to meet any one of the plaintiffs? If he did so, then he himself would fall beneath the ban and be subject to the boycott and professional ruin. This threat of ruin was admittedly the very point and object of the defendant scheme. It mattered not whether the medical man was a member of the British Medical Association or not. The doom was the same for all who should venture to meet a Coventry Dispensary doctor. I am satisfied that the Rule Z notices were brought to the knowledge, directly and indirectly, of every medical man practising in Coventry and the surrounding Divisions I have previously mentioned, whether members of the defendant Association or not. The publicity of the Coventry boycott and the knowledge possessed by medical men of the procedure and rules of the defendant Association are factors which cannot be disregarded. It was the very object of the defendants that every medical man in the Divisions I have indicated should know the fate which awaited him if he met the plaintiffs. I think that they succeeded in their object. The following passages from the letter dated February 11th, 1907, of the Secretary of the defendant Association to Dr. Snell of the Coventry Division is not without relevance. "My general feeling as regards ostracism has been that the less public fuss we make about it the better. It is possible to make it perfectly effective without issuing any notice that you are going to do it, and the public in my opinion gets to know quite easily through private channels without proclaiming your intention through official documents."

The extent to which the defendants affected the minds of those who would otherwise have assisted the plaintiffs professionally is shown by the fact that although the members of the defendant Association constitute 50 per cent. only of the medical practitioners throughout the Midlands and the country generally, yet the plaintiffs were unable to secure the services of a single practitioner (with the exception of Dr. Sucking in the isolated case I have referred to) throughout the whole period of the boycott. The intimidation was general, effective, and continuous; for if the practitioner was a member of the defendant Association he stood in fear of both expulsion and ostracism. If he was not a member, he yet stood in fear of the boycott and all the misery it involved. No professional man can risk the destruction of his professional repute. The degradations placed upon the plaintiffs were known to all, and the weapons wielded by the defendants were notorious and potent. It was the defendants' own case at the trial that the boycott had been effective to the utmost measure.

I am satisfied that coercive threats were exerted against the dentists of Coventry and the surrounding areas. Unless intimidation was employed, I cannot see why Dr. Burke was unable to receive the assistance of a single dentist. The defendants at the trial suggested no other reason. I conceive that the position was the same with dentists as with medical men, and, as I have just stated, it was the case of the defendants at the trial that medical men dare not meet the dispensary doctors or assist or recognize them in any way. The preceding statement will indicate the basis of the plaintiffs' submission at the trial, that the defendants have fallen within the law of actionable conspiracy. The defendants assert that the boycott they admittedly imposed and the acts and threats involved therein were within the limits of their legal rights. In support of this assertion, Mr. McCall raises a number of important contentions, and with these I must deal in the course of this judgment.

The great importance of the case appears to call for a consideration of the law with respect to actionable conspiracy and the unlawful molestation of another in his business or calling. It is necessary, I think, in dealing with actionable conspiracy to distinguish at once the line of decisions which have established that an action will lie against a man who unlawfully and knowingly procures a person to commit a breach of his contract with another whereby the latter suffers actual pecuniary damage. That such conduct amounts to a well-recognized head of tort was settled in *Lumley v. Gye* (1853) 2 E. and B. 216. This decision is now firmly rooted in our law. Malice in the sense of spite or ill will is not an essential ingredient in such an action. A cause of action may exist under the *Lumley v. Gye* principle independently of any question of conspiracy. An individual can commit the tort as effectively as an aggregate of persons. The effect of a conspiracy to commit a wrong within *Lumley v. Gye* is only of importance in considering the



weight of the acts alleged and the extent of the resultant damage. Persuasion and inducement are more easily effected by many than by one, and the ensuing loss may be the greater. The observations I have just made with respect to the procurement of breach of contract apply in substance to any agreement between two or more to commit any other recognized head of tort, such as trespass, libel, or assault. If such tort be committed, then all who have aided or counselled, directed or joined in the commission are joint tortfeasors. The liability, however, of each is independent of the mere circumstances of combination. Such circumstances, I conceive, are only relevant to the question of the agency of one to bind the other by his acts, and to the point that greater damage may result where the wrongdoers are several or many. Conspiracy is not the gist of the matter.

When I use the word "actionable conspiracy" in this judgment, I exclude, for the sake of clearness, an agreement between two or more to commit, followed by the actual commission of, any of the well-known torts I have mentioned.

The existing law as to actionable conspiracy appears to have sprung from the duty and the power of the courts to protect a man in the lawful exercise of his calling. The protection is necessarily limited, inasmuch as the right of a man to follow his vocation must be co-ordinated with the wide sphere of rights existing in his fellow-men. To reconcile the two sets of rights has ever proved a task of difficulty. In the great majority of recent cases the molestation of another in his calling has been effected by a combination of persons. The reason for this is obvious: for molestation by one may yield but slight result, unless obviously actionable weapons such as defamation or assault be employed; but molestation effected by a combination of many may achieve grave results, even though no specific part of the conduct employed amount in itself to actionable tort. (See, for example, per Lord Lindley in *Quinn v. Leatham*, 1901, A.C. 495, at pp. 538 and 540. This element of combination exhibited in many cases and dwelt upon in so many of the dicta of distinguished judges has, in my humble view, tended perhaps to obscure the true basis of the rules of law which render actionable an unlawful interference with a man's calling. It has almost been assumed occasionally that such interference must spring from a conspiracy ere the law can give relief. The word "conspiracy" has been invoked as an epithet which may convert that which is lawful if done by one into a cause of action if done by several in combination. But a juristic principle cannot rest on a mere appeal to the vocabulary of vituperation. Hence I must endeavour to ascertain the principles which were either discussed or which seemed to be involved in the leading case of *Quinn v. Leatham* *supra*, and to state with the utmost diffidence my views upon them. I realize fully the difficulties which face a judge of first instance in approaching such a task, and in discussing the weighty and somewhat varying dicta which are to be found in the relevant cases.

[His Lordship dealt at considerable length with certain legal authorities, and said:] In my opinion the rule of law is reasonably clear that a single person or a body of persons will commit an actionable wrong if he or they inflict actual pecuniary damage upon another by the intentional employment of unlawful means to injure that person's business, even though such unlawful means may not comprise any specific act which is *per se* actionable.

The rule just stated at once invites and indeed requires a consideration of the meaning of the words "unlawful means." [His Lordship dealt with the authorities on this point, and said:] In every case therefore I must take it to be a question of fact as to whether or not the words used amount to a threat, or constitute a mere warning. The answer to the question must depend on the general circumstance of the case. I desire most respectfully to cite the words of Lord Justice Vaughan Williams when he said that a man may give a notice against the wording of which nothing can be said, but in such a manner and under such circumstances as to constitute a threat.

In the present case I can entertain no doubt that the defendants made their boycott of the plaintiffs effective not by warnings only, but by the employment of actual threats.

The medium by which a threat is conveyed can vary. It may be by spoken words or by writing, or by general conduct, or by all three. Coercion is effected in many ways. The general circumstances must be considered in each case. [Having dealt with a number of other legal authorities his Lordship continued:] I now deal with the question of "just cause." The defendants in the present case asserted that they exercised their coercive acts with the legitimate object of advancing their professional interests, and that therefore they were freed from liability. This is a point of vital importance. The question of "just cause" has arisen in connexion with cases within the *Lumley v. Gye* rule—that is to say, where the defendants have knowingly induced a breach of contract between a plaintiff and a third person. All the decisions in which *Lumley v. Gye* has been considered appear to recognize that "just cause" may be pleaded by a defendant. There is constant recurrence of the phrase in many judgements, but no clear opinion has been expressed as to the facts or circumstances which will constitute "just cause." A father may, I assume, interfere to prevent his daughter from marrying a man of criminal character. This indeed would be the fulfilment of a clear duty. So, too, a defendant who held a prior contract with a third person inconsistent with the plaintiff's contract with that person may, and I assume would, be justified in making a breach of the latter contract. But whatever may be the

difficulty of definition, it is settled that certain facts will not amount to "just cause" for inducing a breach of contract. The matter was thus strongly put by Mr. Justice Darling in *Read v. the Friendly Society of St. James's*, 1902, 2 K.B.D. 95: "No one can legally excuse himself to a man of whose contract he has secured the breach, on the ground that he acted on the wrong understanding of his own rights, or without malice, or bona fide, or in the best interests of himself, nor even if he acted as an altruist seeking only the good of another and careless of his own advantage." The soundness of the view expressed by Mr. Justice Darling, as already cited, was shown by the decision of the House of Lords in the *Chamorgan Coal Case*. There the South Wales Miners' Federation acted honestly, and without malice or ill will towards the employees, and with the object only of keeping up the price of coal by which the wages were regulated. It is clearly settled, therefore, in cases within *Lumley v. Gye*, first, that malice in the sense of spite or ill will is not an ingredient of the action; and, secondly, that no justification exists by reason of the fact that the defendants acted either for the advancement of their own trade interests or for the advancement of the interests of those with whom they were associated.

If such, then, be the rule when the facts are within *Lumley v. Gye*, can any different rules exist where the defendant has caused injury to another's trade by the employment of unlawful means, such as threats, intimidation, or violence; although no breach of actual contract has thereby been caused? To this question I conceive the answer is clearly "No." Honesty or disinterestedness of motive cannot justify the employment of illegal means. That "just cause" may exist in cases within the principle of *Quinn v. Leatham* appears to be indicated by several of the opinions in that case. But I respectfully confess my inability to discover any head of justification which will sanction the employment of violence or of threats. How can mere self-interest be such a justification? To so hold would appear to negative the line of decisions ranging from *Garrett v. Taylor* in 1620 to *Quinn v. Leatham* in 1901.

His Lordship referred to a number of authorities, and continued: In view of the above citations, and as a matter, moreover, of legal principle, I conceive that the employment of legal means for the purpose of injuring another's trade or calling is not excused by proof on the part of a defendant that his conduct was based on the intention to advance the trade interests either of himself or his colleagues.

It may be convenient here to consider the position of the present defendants, and particularly of the defendant Association, in connexion with their contention of "just cause." His Lordship again referred to the objects of the British Medical Association, and continued: Upon the words; "to maintain the honour and interests of the medical profession" has been erected a powerful scheme and machinery throughout and beyond the United Kingdom. I have indicated its substance in the earlier part of this judgement. The coercive force of the defendant Association rests primarily upon what are called the Ethical Rules, of which Rules Z and Rules F and G, or their equivalent, are the relevant examples. These rules have behind them, not merely the local bodies, but the weight and power of the British Medical Association. It is clear, and it is admitted, that the aim of the defendants is to inflict professional ruin upon any medical man who breaks a rule of the local body or any rule which may be made by the local body itself. This grave power is used not only against members of the defendant Association, but also against those who have never belonged to it. The weapons of coercion and punishment are employed against both. It follows that the defendants claim to enforce by boycott, and by the infliction of ruin, their own standard of medical honour and interests throughout the country. This point is momentous; it touches the vital interests of every medical man: He may be exposed to degradation and dishonour at the will of a body which is void of the slightest statutory sanction in that behalf. The character of the medical profession is clearly of the greatest importance. Hence Parliament deemed it well to enact the Medical Act of 1858. [His Lordship referred to the statutory power of the General Medical Council to remove from the Register the name of a man guilty of infamous conduct in a professional respect, and continued:] This power of erasure is a grave one. The doom of a medical man may be pronounced by the Council if that infamous conduct is proved. Hence the Legislature has enacted that the General Council shall be a weighty and widely representative body of responsible men, including five persons nominated by the Crown, upon the advice of the Privy Council. The powers of the body must be exercised after due inquiry and after adequate notice to the person charged. The great powers of the Council and its limitations have been indicated by the Court of Appeal in certain well-known cases. There must be evidence on which the Council could fairly act, and there must be absolute bona fides on their part. The phrase "infamous conduct" is one which has been called for consideration, and in *Allinson's* case the following formula was framed by the Court of Appeal: "If it is shown that a medical man in the pursuit of his profession has done something with regard to it which could be reasonably regarded as disgraceful or dishonourable by his professional brethren of good repute and competence, then it is open to the General Council to say that he has been guilty of infamous conduct in a professional respect." The breadth of this formula is somewhat striking, and I respectfully think that it is desirable to attach full weight to the word "reasonably" therein. If that word receive full effect then the formula may provide a good working rule for the General Medical Council.



A statutory body thus exists to safeguard the honour of the medical profession.

But the British Medical Association has taken to itself a jurisdiction more far-reaching, and perhaps more potent, than that of the General Medical Council. It entrusts to a large extent the standard of the honour and interests of the medical profession to a number of scattered bodies throughout the kingdom, which vary in number, inclination, views, and self-interest. A Branch or Division may make a rule to suit its own local pecuniary interest. If such a rule be broken by a medical man, be he member of the Association or not, then he becomes subject to a declaration that he has acted against the honour and interests of the medical profession. Upon this declaration there follows a local condemnation, and from this local condemnation there may result a malicious boycott with the resultant ruin of the person against whom it is directed. The position created by the defendant Association is well shown by the following brief extract from the cross-examination of Dr. Cox. [His Lordship referred to some passages in Dr. Cox's evidence, and continued:] Now what had the plaintiffs in fact done? They had merely accepted posts as the medical officers of a highly respectable and well-managed dispensary upon terms which gave them ample remuneration, adequate leisure, and a full opportunity of private practice, and a right to claim and exert all the honourable requirements of professional men. Their only fault lay in the fact that their acceptance of the posts prevented the local medical men from achieving their wish to either capture or destroy the Coventry Dispensary. The alleged sin was financial rather than moral in its character. This was frankly admitted by several of the defendants' witnesses. The pecuniary interests of the Coventry doctors lay at the root of the matter. The question of ethics, as that word is ordinarily understood, had nothing to do with the case. The plaintiffs were punished because they defeated the intended overthrow of the Coventry Dispensary. If the Coventry Dispensary had been destroyed as a lay organization then the local doctors could obviously have taken such steps as would have increased their area of private practice and their emoluments would have gained a corresponding expansion. This was the fundamental object of the defendants. The non participation in this aim by the plaintiffs was the head and front of their offending. I may point out here that there is no rule of the profession as to the fees which an ordinary medical practitioner may charge. They may be very high or very low. They vary infinitely. They depend on locality, competition, the status of the patient, the wishes of the doctor, and the particular circumstances of the case. They may be paid at such times and in such instalments as may be agreed, and either as specific charges for attendance or by way of salary or inclusive sum. There is no rule or etiquette whatever on the matter which binds the ordinary medical man. The General Medical Council has established no standard on the point, nor has it indicated any requirement whatever as to the duty of a practitioner with respect to remuneration. The assertion that the plaintiffs had been guilty of conduct against the "honour" of the profession cannot in my view be supported. The honour of the profession is amply protected, I think, by the wide powers entrusted by Parliament to the General Medical Council. I personally cannot view with favour the assumption by the British Medical Association of a co-ordinate jurisdiction and the enforcement of varying views of medical honour with the deliberately framed weapons of ostracism, intimidation, and threat. The results of such an assumption are indicated with painful clearness in the present case, and the sufferings which the plaintiffs have undergone are not, I think, explained, or mitigated, by the phrase quoted by Sir John Tweddie: "It is the lot of minorities to suffer." The British Medical Association may exercise a great and beneficent influence in moulding medical opinion. It may exert the powers of persuasion. It may wield the weapon of moderate argument. If its views be sound they will doubtless be followed in due time by the profession. But the Association will surely gain nothing in the end by the methods of oppression or the utterance of threats. In my view, the plaintiffs were boycotted, punished, and pecuniarily damaged without just cause in law, and I deem it my duty to say upon the facts proved before me that the plaintiffs did not sin against the "honour" of the medical profession, within any fair meaning of that significant word. I may point out that the defendants had a full opportunity of raising as a definite defence to the claim for defamation that the plaintiffs had in fact been guilty of conduct detrimental to the "honour and interests of the profession." Yet they omitted to place any such contention on the record. The plea of justification to the claims for defamation is absent. I several times pointed this out in the course of the trial, but the defendants did not ask for any amendment in that respect. The observations I have made upon the defendants' rules have not hitherto referred to the question of their validity. But having regard to the singular severity of the boycotting rules, and to the restrictions which they involve on the freedom of medical men, it is, perhaps, desirable that I should briefly deal with this point which was raised by Mr. Schwabe. The guiding authority on the broad principles to be considered is still the case of *Nordenfiet* (1894, A.C., 536). The public interests must be regarded conjointly with the interests of individuals when restraint of trade is in question. The doctrine of "restraint of trade" has been applied in many directions. The restraint may exist in a contract between two parties or in rules purporting to bind many individuals.

Upon considering the rules in question I have arrived at the

conclusion that they are in restraint of trade, and are void on the ground of policy. They gravely, and in my view unnecessarily, interfere with the freedom of medical men in the pursuit of their calling, and they are, I think, injurious to the interests of the community at large. It may well be that the opinion I have just expressed will (if upheld) destroy the cogency of the defendants' scheme of boycott. But it leaves them with the safer and more kindly weapons of legitimate persuasion and reasoned argument.

I now consider the question of malice, which has caused me deep anxiety. Two points at once arise. The first is—What is malice? and secondly—Is malice essential to a cause of action based on the pecuniary injury inflicted by the employment of unlawful means to molest a man in his trade?

I take the questions separately. What is malice? It is desirable, I think, to at once exclude that meaning of the word which indicates a merely conventional phrase of lawyers. It is common in libel cases, even where no question of privilege can possibly arise, to allege that the defendant published the defamatory matter maliciously. The word in such a case adds nothing to the allegation of publication. It is a formal assertion only. For the purposes of the present case, therefore, I exclude the purely formal significance (whatever that may be) of the word "malice." But there yet remains the meaning of the word when it is used to indicate the actual state of mind of a defendant when he commits an alleged tort. It is a matter of regret that a full explanation of the meaning of the word "malice" when employed in other than a formal sense is not to be found. Perhaps the word is incapable of complete definition. There appear, however, to be at least two distinct heads of actual malice when that word is used to indicate a state of mind in such actions as defamation or malicious prosecution. The first head is indicated by the words "spite or ill will." This head is well understood by juries, and the proof of a prior insult to and the resultant vindictive feeling of a defendant frequently disposes of the plea of privilege. Lord McNaghten was, perhaps, alluding to this aspect of the words when in *Quinn v. Leatham* (1901, A.C., 495, at pp. 511-513) he said: "The defendants conspired to do harm to Muncie in order to compel him to do harm to Leatham and so enable them to wreak their vengeance on Leatham's servants who were not members of the union."

But the second head is equally important. "Malice in the actual sense may exist even though there be no spite or desire for vengeance in the ordinary sense." The jurist has enlarged the layman's notion of malice. This is observable both in defamation and in malicious prosecution. Chief Justice Earle said, "Malice means any corrupt motive, and wrong motive, or any departure from duty." In *Stuart v. Bell* the point was stated by Lord Lindley as follows: Malice in fact is not confined to personal spite and ill will, but includes every unjustifiable intention to inflict injury on the person defamed; or, in the words of Chief Justice Brett, every wrong feeling in a man's mind (*Clark v. Molynaux*, 1877, 3 Q.B.D., 237, at p. 247). Upon passing from the defamation cases to malicious prosecution I find that a useful illustration of the above dicta is to be found in *Mitchell v. Jenkins* (1833, 5 B. and A.). That decision shows that a prosecution may be malicious in the full sense if it be instigated by a motive which the law does not approve, as for example, the extortion of money. If such motive exists then the defendant may be liable although he honestly believed in the guilt of the person accused.

Is, then, actual malice as indicated by the dicta and decisions I have cited an essential ingredient in the present cause of action for molestation? In my opinion the answer is "No." The word "maliciously" has been employed often in many of the cases cited in this judgement, but I feel that it obscures the gist of the action. If the plaintiff proves his pecuniary damage, and also proves that illegal means, such as violence or threats, have been used, he has established, I think, all that the law requires.

I deem it, therefore, reasonably clear, from those and the other relevant decisions referred to in this judgement, that the absence of actual malice does not justify the employment of unlawful means to injure a man in his calling. I abstain from considering the effect of actual malice in a case where no illegal means at all have in fact been employed, but where the acts causing injury to the plaintiff have been carried out by a combination of persons in pursuit of no other object than to maliciously injure him. But the question, which is a grave one, seems to be still left for judicial determination, as appears from the observations of Lord McNaghten and Lord Shand in *Quinn v. Leatham*. It may be, however, that, contrary to my own view, actual malice will be held by an appellate tribunal to be essential to the maintenance of the cause of action now under consideration. Hence I am unable to avoid the most distasteful and painful duty of deciding whether or not such malice has here been proved against the defendants. I profoundly regret that I am without the assistance of a jury on the point. I must myself, therefore, fulfil the task which I deeply wish could have been discharged by another body. I will assume for the moment that a corporation may be liable for the malice of its agents acting within the scope of their authority. In considering whether the defendants have been guilty of actual malice, I do not forget that the motives, feelings, and objects of the defendants were mixed. Their conduct was doubtless instigated to a large extent by the desire to protect the local pecuniary interests of Coventry doctors, and the general interests of the profession. But on the other hand, it is unhappily clear that the defendants were angrily hostile to the plaintiffs, and unceasingly bitter in their feelings towards



them, that they sought every opportunity of inflicting humiliation, and that they admittedly wished to render the lives of the plaintiffs and their families unbearable.

I am further satisfied that the defendants desired to achieve far more than the mere protection of their interests. They desired to punish the plaintiffs as a separate end in itself, and they meant to make that punishment bitter to the last degree. This, in my opinion, was in any event unjustifiable. Upon the question of punishment I extract the following question and answer from the evidence of Dr. Cox: "Q. Was one of the objects of the ostracism to punish these doctors? A. Undoubtedly." It is admitted, moreover, that the defendants desired not only to punish but to ruin the plaintiffs. The complete professional ruin of the dispensary doctors was the essence and aim of the boycott scheme and of the steps taken by the defendants. This aim, in my opinion, was a wrong motive or purpose, and constituted an unjustifiable intention to inflict injury. I must regard the whole history of the case, and the total body of facts and incidents, and the evidence given before me. I do not feel called upon to pursue a psychological inquiry as to the precise or varying meanings of the words "motive," "purpose," "intention," "object," or the words "indirect," "wrong," or "unjustifiable." I must act as a fair-minded jury would act.

In my opinion there is, as a matter of law, evidence on which a jury could properly find that the defendants acted with actual malice. As a judge of fact I feel compelled with the deepest reluctance and with abiding distress, to come to the conclusion upon the whole material before me that the plaintiffs have established actual malice against all the defendants. I may incidentally add that had it been necessary to decide the point I should hold that where persons are acting in combination to achieve such a purpose as that which is shown in the present case, then the proved malice of one or more may be attributed to the other participants in the combination.

I must now consider briefly the contention raised by Mr. McCall—namely, that actual malice cannot, as a matter of law, be attributed to the defendant corporation. The plaintiffs here seek to make the defendants liable upon the ordinary principle that a man is responsible for the acts of a servant when done within the scope of that servant's employment. The defendant Association admits that the acts of their agents here fell within that scope, and the contention of Mr. McCall amounts in substance to a plea that the malice of a servant or agent cannot in law be attributable to his master. But the rule of law is now well established that a master, whether a corporation or not, may be liable for the actual malice of his servant. For malice as a state of mind rests on the same juristic footing as any other state of mind, and a servant's state of mind may, in appropriate cases, be attributed to his principal.

As with malicious prosecution, so with libel. For it is now clear that in such an action a corporation may be held responsible for the actual malice of a servant acting within the scope of his employment. I agree with the view expressed in *Clerk and Lindsell on Torts* (sixth edition, p. 64) that "actual malice" can be attributed to a corporate body not only with respect to defamation and malicious prosecution but with respect also to any other head of tort of which actual malice may constitute an ingredient. It follows from what I have said that in my view the plaintiffs have established a cause of action against the defendants and each of them for unlawfully molesting the plaintiffs in their profession. I must therefore consider the question of damages. Each defendant has been associated with the wrong done to the plaintiffs for six years prior to the issue of the writ on January 6th, 1915. The defendants are joint tortfeasors and therefore jointly liable. The amount is at large. It was expressly admitted that the defendants had inflicted actual and pecuniary damage upon each of the plaintiffs. [He referred to the evidence on this head and continued:] As to Dr. Burke, I must remember (*inter alia*) the operation of the Statute of Limitations. As to Dr. Pratt, he does not claim damages for his expulsion from the defendant Association. I cannot ignore the deliberate and relentless vigour with which the defendants sought to achieve the infliction of complete ruin. I must regard not merely the pecuniary loss sustained by the plaintiffs but the long period for which they respectively suffered humiliation and menace. I award Dr. Burke £1,000, Dr. Holmes £700, and Dr. Pratt £700.

His Lordship then dealt with the various claims for defamation, which took up thirty-two pages of the statement of claim. He pointed out that the defendants from the first had clearly recognized the risks of legal action to which their boycott scheme exposed them, and that the words complained of by the plaintiffs were published by those who admittedly desired to inflict the utmost injury on the plaintiffs. It was also important to remember that the words complained of were published in connexion with the Coventry dispute, which had become public property. He said: "The main facts were known not only to those who lived in Coventry and the neighbouring districts, but to all who were interested in medical matters. The asperity of the issues had created and broadened public interest. In the fourth place, I again point out that the defendants have, in the most striking manner, abstained from setting up any plea of justification or fair comment. Their only defence, if and so far as the words actually published are defamatory, is privilege."

Dealing with the various paragraphs of the Statement of Claim, his Lordship said that the "Warning Notice" (the title of which in September, 1914, was altered to "Important Notice") published in the BRITISH MEDICAL JOURNAL, had been known to the profession and

many outsiders as the "Black List." A black list might be a powerful weapon of defamation as well as a cogent instrument of coercive molestation. He came to the conclusion that the words were capable of being defamatory, and were in fact defamatory, of the plaintiffs. They meant that the persons who held medical posts at the Coventry Dispensary were acting in a manner inconsistent with the honour and interests of the medical profession. He saw no other meaning which could be given to them by persons reading the BRITISH MEDICAL JOURNAL, who were cognizant of the Coventry dispute. If the words were defamatory, the defendant Association had no answer to the claim for libel, because the plea of privilege was abandoned. It became obvious at the trial that the plea could not be supported with respect to Section 6, the circulation of the JOURNAL, not being confined to the members of the Association or even to medical men. He was not, however, satisfied that the defendants were all liable with respect to this claim. The appearance of the notice was due to the independent action of the defendant Association as owners of the JOURNAL. With regard to this paragraph he awarded damages as follows: To Dr. Burke £150 and £100 each to Dr. Holmes and Dr. Pratt. The prolonged and public opprobrium cast upon the plaintiffs by the warning notice called for substantial damages.

His Lordship then referred to a number of paragraphs of the Statement of Claim. As to two of them he held that no evidence had been given to support them, but as to others he awarded damages to all or some of the plaintiffs. He felt bound to find that every plea of privilege raised in the defence failed by reason of the existence of actual malice on the part of the defendants.

He then dealt with paragraph 25, in which the words occur: "The medical officers who are secured for these posts may be divided into four classes: 1. The failures of the profession, etc." As to this heading: "The failures of the profession" or as persons who lacked the mental and moral qualification of a successful medical practitioner, and further that they were condemned as being men outside the pale of professional recognition. The words complained of are, I think, clearly defamatory. If, therefore, they were reasonably understood to refer to the plaintiffs a cause of action for defamation exists.

Having referred to the case of *Jones v. Hulton*, 1910, A. C. 20, he said: "In the present case I am of opinion, upon the evidence and the general circumstances of the case, that the words complained of by the plaintiffs, including the words 'the failures of the profession,' were reasonably and in fact understood to refer to the plaintiffs. I incline, moreover, to the view that the defendant Association actually meant to refer to the plaintiffs when publishing the words in question. It follows that they are entitled to damages, and I give them each £50 on this head as against the Association only."

He then referred to an announcement, which appeared in the BRITISH MEDICAL JOURNAL for May 2nd, 1914, in which it was stated, under the heading "Expulsion," that the Council had found it necessary to remove from membership two members who had accepted and continued to hold appointments the holding of which was in opposition to the declared view of the Division complaining. As the words must, in his view, have been intended to refer to Dr. Pratt he gave him £50 damages on this head against the Association.

Having dealt with the remaining paragraphs, under some of which he awarded further sums by way of damages to all or some of the plaintiffs, his Lordship said: "I have now dealt with the claims for defamation. Judgement will be entered for the plaintiffs in accordance with the terms of this decision. The plaintiffs must have the costs of the action save in so far as any costs arise upon issues on which they have failed. Such costs must go to the defendants, and will be set off in the usual way."

I have been asked to grant an injunction to restrain the continuance of the libels and slanders, and also against further unlawful molestation. I should be willing to grant both these injunctions if any satisfactory form can be settled in which they can go against the defendants. The action can be mentioned again with respect to the final form of the judgement and the suggested wording of any injunction which the plaintiffs may propose. This concludes my judgement in a most complicated and most difficult and exceedingly painful case.

The damages awarded by the learned judge amounted in all to the sum of £3,810, apportioned as follows: Dr. Burke, £1,420; Dr. Holmes, £1,060; and Dr. Pratt, £1,330.

The entry of judgement was postponed until October 24th.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.

### MARRIAGE.

SYMONS—ALEXANDER.—On October 16th, at the Parish Church of Great Granden, Huntingdonshire, by the Father of the Bride, Temporary Surgeon-Lieutenant Arthur Denis Symons, R.N., formerly Lieutenant of the King's Royal Rifle Corps, second son of E. W. Symons, M.A., Head Master of King Edward VI. School, Bath, and Mrs. Symons, to Phyllis Maude, youngest daughter of E. P. Alexander, M.A., Vicar of Great Granden, and Mrs. Alexander.

### DEATHS.

JAFFE.—On October 12th, Dr. Jacob I. Jaffé, of 123, Manor Road, Stoke Newington, and 25, Stoke Newington Road, N., aged 40.

STARKY.—On October 14th, at 80, Rathmines Road, Dublin, William Starky, M.D., M.Ch., aged 82 years.

## DIARY FOR THE WEEK.

### MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—8.30 p.m. Papers on Rheumatoid Arthritis—Pathology: Dr. T. S. P. Strangeways. Treatment: Dr. A. P. Beppard. Medical officers of the Allied Forces will be cordially welcomed at the meeting.

ROYAL SOCIETY OF MEDICINE.—Section of Otolaryngology: Monday, 7.30 p.m., Presidential Address by Mr. G. G. Campbell. Paper by Mr. George Northeroft. Section of Laryngology: Friday, 4 p.m., Cases and Specimens.



## BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 3, 1913.

## CONTENTS.

## CONFERENCE OF REPRESENTATIVES OF LOCAL MEDICAL AND PANEL COMMITTEES.

METHODS OF CALCULATING REMUNERATION	1	SUPPLY OF MEDICAL MEN BY RURAL PANEL COMMITTEES	3
CONSTITUTION OF INSURANCE ACTS COMMITTEE	2	APPROVAL OF REPORT	3
MILEAGE ALLOWANCE	2	SERUMS AND VACCINES	3
DEMAND FOR INCREASED CAPITATION FEE	2	PARLIAMENTARY REPRESENTATION	3
STUDENT FUND	2	INSURANCE PRACTITIONER'S AID	3

*No Royal Medical Appointments; Births, Marriages, and Deaths; Deaths in the Week.*

## CONFERENCE OF REPRESENTATIVES OF LOCAL MEDICAL AND PANEL COMMITTEES.

*London, Thursday, October 24th, 1913.*

A CONFERENCE of representatives of Local Medical and Panel Committees, called by the British Medical Association, was held at the Connaught Rooms, London, on October 24th. There were present 122 representatives from 127 insurance areas, together with several members of the Insurance Acts Committee other than those who were also attending as representatives. Of the 127 insurance areas in England 100 were represented at the Conference, of the 56 Scottish areas 18 were represented, and of the 17 Welsh areas 9 were represented. Representatives appointed to attend the Conference from 13 areas sent apologies for absence, and a number of constituencies expressed regret at being unable to find a representative on this occasion, owing to the great demand upon the services of medical men due to the epidemic of influenza. Certain Scottish committees, being unable on account of distance to send a representative, nominated members already present at the Conference to represent them.

Dr. H. B. BRACKENBURY, Chairman of the Insurance Acts Committee, announced that Dr. J. A. Macdonald, Chairman of Council, was unable to preside on that occasion. He proposed that Dr. J. R. Drever of Glasgow, one of the senior members of the Committee, should be chairman of the Conference. This proposal was carried unanimously, and Dr. DREVER then took the chair, and moved the standing orders, which were adopted together with two additional orders carrying into effect the resolutions of the 1917 Conference, the first providing that while the Insurance Acts Committee might call a conference at any time it thought necessary, it should call one on being requested to do so by not less than thirty Panel Committees in England, Scotland, and Wales; and the second, that representatives should continue to hold office until the beginning of the next annual conference, unless the committee was notified to the contrary by any local Medical or Panel Committee.

## METHODS OF CALCULATING REMUNERATION.

The Conference at once proceeded to the consideration of the interim report of the Insurance Acts Committee on methods of calculating remuneration (Document M.3). This discussion occupied almost the whole of the morning.

Dr. BRACKENBURY, in moving the reception of this report, said that it was necessary on a subject of such importance to embody in a printed document the arguments and views which had influenced the Committee in its consideration, but he recognized what a difficult document it was to follow. That was, indeed, evidenced by some of the amendments on the paper, which showed a quite pardonable misunderstanding as to the intentions of the proposed schema. If that misunderstanding could be cleared up, he thought they would not only approve the

document, but would welcome it. In view of the resolution of the April Conference, the Committee appointed a small subcommittee to confer with the Commissioners on the distribution of funds and kindred matters. It was really a round-table conference in the sense that both sides went to it with an honest desire to pool their ideas and obtain the best possible result. They soon found that the matter of remuneration was extraordinarily difficult and complicated, but, after discussion, their minds became clearer as to the bearings of the problem. One of their first conclusions was that if they wanted to better the present unsatisfactory state of remuneration it was useless to tinker here and there with the existing system; they must make some radical change. The mere attempt by itself to get better registers would not make the position satisfactory. The only thing to do was to abandon the current register as the basis upon which remuneration was calculated. Their report only went as far as the composition of the Central Pool and its subsequent distribution among the areas. They were not now taking account of the distribution of the area pool among the doctors within that area, though in many respects that was the most complicated and, to the individual practitioner, the most interesting part of the subject. But they were concerned that day with the calculation of the Central Pool and its distribution to areas. At present, even for the purposes of an emergency settlement, the state of the Central Pool was not known until many months had elapsed. They could not under existing conditions expect to be finally paid for work done in January, 1918, until about March, 1920. If there were any method that would do away with that delay, it would be welcomed by all insurance practitioners. He desired to make it clear that in the new method proposed for calculating the Central Pool there was no alteration in the basis of remuneration. That basis, at the rate of nine shillings per insured person per annum, remained constant. In whatever way it might be arrived at, the Central Pool had to correspond with the totals of that sum. The Committee had previously sought the assistance of an actuary who had gone into the matter of the constitution of the Central Pool, and they had all accepted his report that the actuarial results were proper results, and that the Central Pool, calculated on its present basis, did in fact come to the sum stated. But the data actually used for that purpose were not available until this long time after the work had been done, and consequently they could not know until after eighteen months at least what the amount of the Central Pool was. The Government actuary had suggested that if they adopted certain other methods they might arrive at that amount eighteen months earlier than at present. It was clearly an actuarial problem, and it resolved itself into trusting the actuary within his own province. The actuaries guaranteed that, with certain data as a basis, they could arrive at a result which, within a small margin of error, was the same result as would be obtained were it possible to add up the number of sums of 9s. per annum available. The Commissioners had said that they would



be glad to have an actuary appointed by insurance practitioners associated with the Government actuary in order to see that the actuarial problem was in fact solved with justice to the profession. As to the distribution among areas, this was governed at present by the current register. The register for 1913, upon which the remuneration for 1918 would be based, was obviously imperfect, at least until the end of the year. Any results based upon the register of the current year could not be arrived at until the very end of that year, and even then the process of calculation was so laborious that the results could not be available until some months later. Therefore the idea was to abandon the current register and to take the last complete register, or, if preferred, the last two or three complete registers, and make that the basis for calculation. Suppose the scheme came into force in 1920; they would then have the completed register for 1918, and that could be taken as the basis. It would, however, require certain corrections, which would have the effect of increasing or reducing the proportion allocated to areas which showed respectively a rapid increase or diminution of population as between 1918 and 1920. Such small considerations were easily adjustable by an expert actuary, and would have to be allowed for in apportioning the Central Pool among the various areas. The aim would be to get an approximate register for the year under consideration. It was proposed to take the actual number of the register for 1918, or 1919 if possible, on the basis of the sale of insurance stamps, and make such slight adjustments as expert advice on these figures might require in order to arrive at the proper calculation for 1920. The question was affected by the existence of "mushroom" areas, at any rate in war time, whose population might be ten thousand in January and twenty-five thousand in August, but such a condition was not likely to persist for a very long time, and in any case it was quite exceptional. It was intended to reserve a very small proportion—the report stated 5 per cent., but it was much more likely to be 1 or 2 per cent.—of the amount in order to deal with the claims of any area which in the course of the year proved to the satisfaction of the committee of actuaries that it had had an altogether abnormal increase in its insured population. At the beginning of 1920 it would be possible for them to say that a sum of \$100,000 was to be the proportion for a certain area, and \$50,000 the proportion for another, and the doctors in each area would know at the beginning of the year that that was the actual sum which collectively they were going to receive. By a suitable method of distribution within the area it would be possible for every doctor to receive his portion of that sum quarter by quarter instead of receiving amounts on account, with the final settlement postponed eighteen or twenty months as at present. In April, July, October, and January each practitioner would receive his full amount for the previous quarter. If that was to be the outcome, it was most satisfactory, and those who had studied the calculations were unanimously of opinion that they ought to advise acceptance of the scheme.

The reception of the report being agreed to, Dr. BRACKENBURY moved:

That, subject to an actuary engaged on behalf of Panel Committees reporting that the calculations with regard to the formation of the Central Pool are just to the profession, the recommendations contained in paragraph 3 of the interim report of the Insurance Acts Committee be accepted.

Dr. H. G. DAIN (Birmingham) said that as a member of the Methods of Distribution Subcommittee he would like to place before the Conference the considerations that had led him to endorse this proposal. He started with the idea that the scheme on which their remuneration was at present based was perfect in theory, but it suffered from the drawback that it was out of the question to obtain a settlement within a reasonable time. They were satisfied that the Central Pool did hold its theoretical equivalent, and therefore it was easy for him to adopt even enthusiastically any other actuarial method which would give the same result at an earlier date. He desired to anticipate objections by pointing out that when it was stated that one of the chief factors in arriving at the result was the number of stamps sold, this did not mean that other factors were not taken into consideration. With regard to distribution this had always been made on the basis of the index register, which had suffered from inflation. He was satisfied that much of the inflation was due to initial causes which would not recur, and if the registers could once be made accurate, then, given reasonable machinery, they would remain accurate. A great deal of the inflation was due to enlistments; demobilization would reverse the process, and rather than continue the unsatisfactory position of having disturbed registers for the next four or five years, he thought they should accept

gladly the method set forth by which it would be possible for a committee of experts to calculate in advance what would be the correct proportion of the pool to be distributed to each area on the basis of the completed register of the previous year or years.

#### *A Central Clearing House.*

Dr. T. W. H. GARSTANG (Stockport) moved an amendment affirming that the only remedy for the present unsatisfactory position was the establishment of a central clearing house, whereby a correct register would be in operation.

Dr. J. D'EWART (Manchester) said that in his constituency they felt that this was purely an actuarial business upon which they could not themselves decide, but on one or two points they wanted more definite information. They had hitherto failed to get precise details from the Commissioners as to the number of stamps sold and unaccounted for. The number sold in any area depended largely upon the fluctuations of employment, and should the doctors bear the burden of that? In the years immediately ahead there might be considerable unemployment, with the result that the amount of the Central Pool would shrink. The Board of Trade records on employment might be used as one of the relevant factors to rectify the figures, but above all things they must require the fullest information from the Commissioners.

In reply to questions by Dr. W. HODGSON (Cheshire) and Dr. WOOD LOCKET (Wiltshire), Dr. BRACKENBURY said there was no antagonism between the new scheme and the establishment of a central clearing house; indeed, they had the promise of the Commissioners that as soon as circumstances allowed such a clearing house should be set up, which would tend to make the existing registers considerably more accurate than at present. But it would not by itself clear away all the inaccuracies, and the Commissioners had convinced the Committee that under the present system, even given the clearing house, a large proportion of inaccuracies would remain.

Dr. GARSTANG offered to withdraw his amendment, but Dr. A. E. LARKING (Buckinghamshire) protested against its withdrawal, and urged the Conference to approach this question with caution. He had the greatest suspicion of any new calculations. The insurance practitioners would be "had" as they had been in the past. When the war was over, at least ten thousand men would be demobilized every day, and these would go all over the country and disturb all the registers. No accurate estimate could be made as to where a man might go. Further, would the young men, establishing practices, be content to be paid on the basis of the previous year's register?

Major E. R. FOTHERGILL urged that they should not tie their hands either way, but that the whole matter should be left open for further consideration.

Dr. G. G. GARSTANG (Lancashire) said that they had all been agreed that the central clearing house was the ideal method of dealing with the register. But he had always understood that the Commissioners could not establish such a clearing house until after the war. The discussion of the details presented to them was an actuarial matter, and the resolution which Dr. Brackenbury had moved was a vote of confidence in actuaries and nothing more.

On an amendment from the chair, it was agreed not to press the amendment, but to refer it to the Insurance Acts Committee.

#### *Calculation of the Central Pool.*

Dr. H. F. OLDHAM (Lancashire) said that his constituency was quite willing to accept the experiment—for it was only an experiment—that the Insurance Acts Committee had proposed with a view to calculating the Central Pool, but he hoped the motion did not commit them to the acceptance of a hard and fast scheme; it could scarcely do so, for the interim report put forward two alternatives, and obviously they could not approve both; one was the present practice of distribution to the areas on a uniform basis, and the other an assignment on a differential basis. Lancashire strongly objected to the latter. If the motion meant giving an interim approval to an interim report he was satisfied.

Dr. J. BENNETT (Warrington) argued that the scheme should not be accepted blindly. He also asked how those concerned could ascertain at the commencement of the year the sum to be paid to an Insurance Committee.

Dr. BRACKENBURY, replying to questions raised, said that the full amount, less the reserve for "mushroom" areas, would be paid quarter by quarter. The number of persons for whom no stamps were sold was, of course, one of the relevant data which would enter into the actuarial calculations. Corresponding data came into the present calculations. A certain number of persons for whom



calculations had to be made never stipulated their errors. The actuary was relied upon to take account of such persons. Correspondingly there would be persons who would not be represented in the stamps sold, and the actuaries would take this also into consideration. With regard to determining within the year the number of stamps sold, he granted that if the year was taken as from January 1 to December the actual amount to be apportioned to an area could not be given until the following January; but if the actuaries took the period from, say, December 1st to November 30th it would be possible to do what actually needed to be done before the practitioner's working year began, and the sum of money coming, not, indeed, to the individual doctor, but to the area, would be known. The scheme involved no alteration in the basis of the payment or in the basis of the amount which was paid into the Central Pool. By way of analogy he found it useful to employ an astronomical illustration. The distance of the earth from the moon was obviously impossible to measure by any direct method, but scientists could take a certain base-line and certain angles and arrive at the distance within a small margin of error, and there was nothing to prevent them taking another base-line and other angles and making a speedier calculation with the same result. They could never measure the Central Pool by direct calculation, but by taking a base-line they could make a sufficiently exact calculation, and now, by taking another base-line, make a different set of calculations which would produce the same result, but earlier than in the first instance. Of course, the amount in the Central Pool would vary in accordance with the number of insured persons, and that number would vary with the state of employment. In times of brisk employment not only were there fewer unemployed, but many more people went freshly into employment, and consequently into insurance; and when trade was slack many stayed at home and did not seek employment at all. Thus the number of persons insured varied from year to year, and what they had to make sure was that the Central Pool corresponded to the number of insured persons.

Dr. D'EWART said it was not only the number of insured persons that was in question but the number of the stamps; some placed forty five and some thirty-five on their cards.

Dr. BRACKENBURY answered that those were relevant data which were taken into account. He added that his motion involved approval of both parts of the scheme; they would gain nothing by approval of the method of calculation unless they also approved the method of distribution among areas.

Dr. P. L. GIUSEPPI (East Suffolk) asked whether the sum represented by the "margin of error" would subsequently be divided among the practitioners, and whether "temporary residents" would be abolished under this scheme.

Dr. H. J. CARDALE (London) said that much discussion had taken place on the question of "other relevant data," which, he admitted, were actuarial, but which included many things of the utmost importance, such as the medical benefit given to disabled persons and to persons over 70. Most of them were well aware that all these points were taken into consideration by the actuaries in the constitution of the Central Pool, but many insurance practitioners had never been told this, and he thought it would facilitate acceptance if these facts were placed clearly before the general body of panel men.

Dr. F. B. THORNTON (Surrey) asked whether another conference would decide finally as to this scheme. He gathered that the details would be submitted to local conferences of areas; but would not that Conference have an opportunity of again considering the scheme when further elaborated?

The CHAIRMAN said that if the principle was approved that day the Committee would proceed to further discussions, and the scheme would come, probably in a final form, before another conference.

Dr. BRACKENBURY explained that his proposition involved provisional acceptance of all the suggestions in document M. 3. The suggested assignment to areas on a differential basis was only put forward as an alternative in case the profession showed a strong preference for such a scheme, but, in the absence of any indication to the contrary, the present practice of distribution to areas on a uniform basis would be followed. With regard to the "margin of error," there was no error which could afterwards be determined and adjusted. Actuaries calculated by taking all relevant data in the particular problem into consideration. Most of those relevant data were not themselves directly calculable, and consequently there always remained a "margin of error," which was never

exactly discovered, or else they would not have actuaries, they would have mathematicians. The margin of error in this case was within  $\frac{1}{2}$  per cent. The existing pool in any year might be  $\frac{1}{2}$  per cent. too much or  $\frac{1}{2}$  per cent. too little. One of the advantages of the scheme when ultimately worked out would be that the laborious effort to calculate, individually or collectively, for the temporary residents would be done away with. As to details, clearly the actuarial report, when they got it, must be a detailed report. They would take it that the profession desired to have a detailed report on these actuarial points set out as clearly as possible. What he asked for that day was a provisional acceptance. The Committee would have further reports to present on this subject. They had already arranged for other conferences with the Commissioners between now and Christmas; probably one or two more would be held in January, but early in the new year they should be able to present a final report. It was proposed to send these reports to all Panel Committees and to call local conferences within the several groups of areas, and then, as a result of all that local consideration, to come to the Conference next year, whether the ordinary October Conference or a special one, and if the Conference did not like the whole business as finally set out, it could agree upon rejection. In the meantime it was necessary to have a provisional acceptance in order to proceed to further discussions.

The motion by Dr. Brackenbury was then put to the Conference and carried with one dissentient.

#### *Distribution to Areas on a Differential Basis.*

Dr. A. LINNELL (Northamptonshire) moved:

That the distribution of the Central Pool to areas on a single basis of the insured population is inequitable and should be replaced by a system which takes into consideration the varying conditions of practice in the different areas.

He suggested that it was inequitable to give a grant on the one capitation basis to areas which differed from one another in respect to density of population within wide limits—perhaps as much as between one and four or five. In the distribution to the areas there should be some variation which took account of the conditions of practice. The differences in density of population were enormous, and as there was no material difference in the incidence of sickness as between rural and urban areas it followed that the conditions bore hardly on the rural practitioner. It was as easy to see fifty persons in a thickly populated town as to see five in a country district, and the difficulty was by no means entirely met by mileage concessions. He believed some simple scheme could be devised to cover the whole question and lead to a more equitable distribution of the Central Pool.

Dr. F. RADCLIFFE (Oldham) said his constituency was quite ready to assist the rural practitioners in redressing inequities, but he pleaded that they should not start dividing themselves into groups of differentiated areas. Dr. H. F. OLDHAM (Lancashire) also spoke against sectional divisions.

Dr. H. G. DAIN (Birmingham) said that if this amendment was put forward to discriminate in favour of rural practitioners on the ground of the work they did, it was obvious that no facts were available upon which a differential distribution could be made. The Insurance Acts Committee was now in consultation with the Commissioners on the matter of travelling allowances, and, if the Northamptonshire resolution aimed at nothing more than that, it might be left to the Committee to deal with.

Dr. GENGE (Croydon) opposed any alteration in the distribution of the grants. The right method of procedure was to get increased travelling allowances where these were justified, but the uniform basis of the capitation fee should remain.

Dr. J. HOLMES (Bury) asked the representative of Northamptonshire to withdraw his amendment, and views contrary to the amendment were expressed by Dr. G. A. JOHNSTON (Westmorland), who said he represented the most sparsely populated area in England; Dr. R. HARDING (Radnorshire), who said that in his district the insured persons were fewer than twelve to the square mile; and Dr. J. P. WILLIAMS-FREEMAN (Hampshire), who thought it would be a mistaken policy to try to distinguish between the amount of attendance in areas. For the actual professional work done the payments should be the same throughout the whole profession, but the additional mileage and expenditure of time in rural areas should be met by special grants. He thought it possible to estimate accurately what those grants should be.

Dr. LINNELL withdrew his motion, and consented to leave to the consideration of the Committee a further motion in his name, instructing the Committee to prepare



a model scheme of guidance in the distribution of funds within areas.

#### *Consideration at Local Conferences.*

Dr. BRACKENBURY then moved two resolutions consequent upon his first:

1. That the Insurance Acts Committee be given authority to employ the services of an actuary to investigate with the Government actuary the suggested new method of calculating the Central Pool and to report to the Committee thereon.
2. That, with regard to the further reports promised, the Conference is of opinion that it is desirable that these should be considered at local conferences of Local Medical and Panel Committees within the areas of their constituent groups, and that representatives of the Insurance Acts Committee and of the Insurance Commissioners should be invited to attend these conferences.

The first of these motions was carried *unanimously contra-dictio*. On the second,

Dr. CARDALE (London) moved that Insurance Committees should be included among the bodies participating in the local conferences, especially as the conferences would have to deal with the registers of the committees. This was seconded by Dr. ETHEL BENTHAM (London).

Major E. R. FOTHERGILL objected that the subject matter of these conferences was purely for medical men, while Insurance Committees were lay bodies.

Dr. GENGE (Croydon) could not see the point of having these conferences at all; if the distribution were left to local option, it was no concern of Croydon, for instance, what London did with its money.

Dr. E. CLAUDE TAYLOR (London) held that the conferences were of use in enabling the practitioners in a district to know what was proposed. He thought, moreover, that as medical men were so intimately associated with Insurance Committees in administration it would save friction if they made sure, from the outset, of the willing co-operation of those bodies in whatever was decided.

Major J. ORTON (Warwickshire) added his protest against the policy of including Insurance Committees among the conferring bodies.

Dr. J. HOLMES (Bury) pointed out that representatives of the Insurance Commissioners were to be present, and they overrode the committees, so that there would be no necessity for the participation of the latter.

The amendment was lost by a large majority.

Dr. I. G. MODLIN (Sunderland) moved to omit all the words after "groups" (which would have the effect of excluding representatives of the Insurance Acts Committee and of the Commissioners from the conferences), but Dr. BRACKENBURY resisted this, pointing out that the object of including such representatives was purely to make the proposals understood by the local committees, which might not be the case had they nothing but the printed document to go upon.

The amendment was lost, and the original motion carried.

#### CONSTITUTION OF INSURANCE ACTS COMMITTEE.

Dr. H. J. CARDALE (London) moved:

That, inasmuch as membership of the British Medical Association is definitely stated to be the qualification for nomination of direct representatives on the Insurance Acts Committee, and whereas this qualification restricts the choice of Panel Committees of their representatives on the panel on a body which is ostensibly formed to represent the whole panel profession, this Conference instructs the Insurance Acts Committee to endeavour to secure the removal of this qualification before another election.

He suggested that this would commend itself to all the representatives present. Their object had been to obtain a body entirely representative of the panel profession to carry on negotiations with Government departments, and there should be no restriction of choice with regard to membership of that body.

Dr. GENGE (Croydon) said that it had astonished him to see that any such stipulation was made. The qualification of membership of the British Medical Association should be abolished, at any rate before the next election, for it was the function of the committee to represent every sort of panel practitioner, irrespective of his connexion with other organizations.

Dr. BRACKENBURY, speaking as representative for Middlesex, heartily supported the London motion. What they had to aim at was the proper constitution of the central body representing Panel Committees. They had arrived at a satisfactory compromise as to the numerical constitution of that body, but there remained this one restriction which ought as soon as possible—that is, before

next year—to be removed. It was not a new restriction, and it applied to all committees of the British Medical Association. But it was possible for committees of the Association to have subcommittees which included non-members of the Association, and, indeed, their own Scottish Subcommittee included such members. There was no logic now in maintaining the restriction. They wanted to have the partnership between the Panel Committees and the British Medical Association as whole-hearted and unsuspicious as possible. He saw no objection from the British Medical Association side or from their own to the removal of the restriction. It would probably fall to his lot to present a similar proposition to the British Medical Association authorities. He hoped, however, that the words "panel profession" might be removed from the motion. There was no such thing as a panel profession, any more than there was a Poor Law profession. (Hear, hear.)

Dr. E. H. M. STANCOMB (Southampton) thought it was an astonishing thing that the restriction should be there at all. It was nothing more or less than an endeavour on the part of the Association to use the committees for the selfish and self-gainful purpose of strengthening its own organization. ("No.")

Major FOTHERGILL said that he represented the other side. Dr. Genge was surprised to find the restriction, but the surprising thing would be to find any association which did not insist upon some such provision. It was natural that an association should see that its several committees were formed of individuals who helped to pay for the association and had a voice in its policy. If non-members really wished to make use of the Association and its staff by way of the Committee, was it asking them too much to pay two guineas and enrol themselves among its members? (Hear, hear.) Why did they not join? If they did not join because they did not need the Association, then why did they want to come on to the Insurance Acts Committee? If they did not join because they were antagonistic to the Association, why, again, did they want to use its office, its personnel, and its experience? The Association gave a great deal for two guineas, and had done much for insurance practitioners. Was it expecting too much of those who had participated in these benefits that they should join the Association? That was a point which would come up at the Representative Meeting next July. The position of the upholders of this motion might be logical, but it was scarcely fair play.

Dr. S. HODGSON (Salford) said that the suggestion would shortly come before every Panel Committee that panel practitioners in any area, whether members of the Association or not, should be asked to contribute to the support of the Insurance Acts Committee. He agreed that it was desirable that those who were non-members should join the Association, but this was not the place or the time to start propaganda on the Association's behalf.

Dr. J. BENNETT (Warrington) asked whether it was not the easiest way to bring non-members into the Association by throwing open the door of the Insurance Acts Committee to the widest possible extent.

Dr. J. STEED (Herefordshire) pointed out that the majority of the members of this Committee would be direct representatives of panel constituencies. If the motion were carried they might have the illogical position of a committee of the Association containing a majority of non-members of the Association.

The motion was put to the meeting and carried by a considerable majority, and the mover consented to "camouflage the panel profession" by substituting the words "insurance practitioners as a body."

#### *The Grouping of Constituencies.*

Dr. W. HODGSON (Cheshire) complained that in the grouping of constituencies for the election of a representative to the Committee certain counties and boroughs under different Commissioners—Welsh and English—had been associated, and that this was unsatisfactory, and should be altered. The particular case to which he referred was Group E, consisting of eleven Welsh and two English counties, with certain boroughs.

Dr. BRACKENBURY said the difficulty of grouping had been extreme, and the most difficult of all concerned the county of Cheshire. Originally it was placed in another group with certain English areas, but there were protests at the unwieldiness of the group, and all they could say was that they had tried in this final grouping to make the best of a bad job. It was not possible to get eighteen ideal groups.

Dr. E. LEWIS-LLOYD (Merionethshire) recognized that the Committee had no alternative. At the same time Wales had its own national problem, and at present it was apportioned in two groups in this system, in each case



with certain English counties. The consequence was that the Welsh Commissioners would be interfering with two sets of English counties—Dr. BRACKENBURY: It is a question of the Joint Commission—in the one case Gloucestershire, Herefordshire, and Worcestershire, and in the other Shropshire and Cheshire. Wales should have made its own group because it was a national unit, its interests were fairly homogeneous, and it had its own commissioners.

Dr. BRACKENBURY said that if Wales could contrive a grouping which would result in a Welsh entity it would be carefully considered on its merits. Dr. LEWIS-LLOYD said that this should be done, and Dr. HODGSON withdrew a motion which he had put forward on the subject.

#### MILEAGE ALLOWANCE.

Dr. T. S. TAYLOR (East Sussex) drew attention to the increasing travelling expenses of rural practitioners, who, he said, had a distinct grievance. His committee then put a mileage capitation payment in rural and semi-urban areas of 2s. a mile for every mile beyond two miles should be pressed for.

Dr. J. P. WILLIAMS-FREEMAN (Hampshire) believed that the amount suggested by the previous speaker was approximately that which would be arrived at when mileage had been threshed out, but it would be idle to pretend that the question was threshed out yet. He thought a fair basis for an increased travelling grant could be calculated, but in the meantime he moved:

That this Conference recognizes that the present special mileage allowance is insufficient to cover the extra time and money spent in travelling by country practitioners, and demands an immediate revision of the scale of payment without waiting for the general resettlement of the conditions of insurance practice.

The Chancellor of the Exchequer had told them that he would not consider any resettlement of the mileage question pending a general resettlement. That meant that rural practitioners might have to wait a very long time, and he did not think it right to sit down under this injustice. When previously they talked about mileage rates, were met with the grant of an increase which in his district worked out at 42 per cent. of the existing mileage rates, but even this increase did not half cover the out-of-pocket expenses of the rural practitioners, nor take any account of the time spent in transit. The "timeage" was a very serious matter also. If the authorities would not meet them, it was too much to ask the whole profession to go on strike over the grievance of a minority, but it was even so the rural practitioner to go off the panel for patients living beyond a distance of four or five miles. No doubt the answer would be that insured persons outside this radius would be allowed to make their own arrangements.

Dr. DAIN (Birmingham) hoped the Conference would not sanction any of the drastic proposals of Dr. Williams-Freeman. The whole question of travelling would have to be considered in connexion with the new arrangements, and he hoped they would arrive at conditions which would satisfy the rural practitioners.

Dr. LEWIS-LLOYD (Merionethshire) held that the type of road ought to be taken into consideration as well as the distance. There was a good deal of difference between a Hampshire road and a Welsh pass. A satisfactory "timeage" would be 1s. 6d. a mile for a good road, 2s. 6d. for a difficult road, and 4s. for a road so bad that the practitioner had to walk. The Welsh Commissioners had recognized the justice of this point, and he thought local committees should put forward their proper claim, supported by actual figures.

Dr. F. C. FISHER (Hertfordshire) said that his practice covered a number of scattered villages, and the expenses of travelling had largely increased. The present mileage scheme was not adequate.

Dr. W. RADCLIFFE (Oldham) thought that if rural practitioners refused to undertake cases beyond a certain distance the persons concerned would fall, not into the "own arrangements" category, but into the unallotted list, and the doctors to whom they were subsequently allotted would have to take them willy-nilly.

Dr. G. J. B. CANDLER-HOPE (North Riding), and Dr. J. GORE (Lanarkshire) described the mileage arrangements in their respective districts. In replying on the discussion, Dr. WILLIAMS-FREEMAN maintained that a doctor had a perfect right to put himself off the panel for distances over five miles, and the answer of the Insurance Committee would be that the insured persons must make their own arrangements.

The amendment was carried.

Dr. WILLIAMS-FREEMAN further moved:—

That this Conference cannot recommend a scale of mileage allowance for rural practitioners and soldiers and sailors and to refer only to patients and to allow the same scale to be adopted as that recommended for visits to serving soldiers.

He said the general mileage question was a matter as to which the Insurance Fund had a perfect right to give or to withhold, but the mileage scale for sailors and soldiers was on a different footing. It was their own money, that is to say, money paid out of the Central Fund, and the Conference would be well within its rights in demanding that the scale be raised. The Commissioners granted a scale of 1s. a mile for every visit paid at a distance of over three miles—in one direction, of course—and if motor expenses were reckoned at 6d. a mile the whole of the money was absorbed in travelling expenses, and even with the additional mileage given the expenses were no more than covered.

Dr. BRACKENBURY pointed out that the course proposed by Dr. Williams-Freeman with regard to the Central Fund involved subtraction as well as addition. The matter needed to be gone into thoroughly, and he suggested that it be referred to the Committee, who would pass it on to the Rural Practitioners' Subcommittee.

Dr. WILLIAMS-FREEMAN said he would like it to go to the Committee with a mandate from that Conference. Had it such a mandate? (No.) The Subcommittee would like a little backing, but if urban practitioners did not feel inclined to give such backing there was nothing more to be said.

It was agreed to refer the amendment to the Committee.

#### DEMAND FOR INCREASED CAPITATION FEE.

Dr. I. G. MODLIN (Sunderland) moved:

That this Conference requests the Insurance Acts Committee to take immediate and active steps to secure an increase of capitation fee, and that all resolutions of the Conference to the contrary be rescinded or amended in order to give effect to this resolution.

Dr. Modlin said that in the north there was a growing distrust of the officials of the British Medical Association. Officials lay down to insults from Sir Edwin Cornwall and Mr. Bonar Law. ("No" and "Hear, hear.") Panel practitioners were the only body of people in this country who had withheld their hand from fear of embarrassing the Government. The friendly societies and the Insurance Committees had appealed for increased funds and the Treasury had opened to them. But when the doctors put forward their claim they were told that they were asking for something which they had no right to claim.

Dr. E. H. M. STANCOMB (Southampton), in supporting the motion, objected to the legitimate aspirations of the medical profession being stultified by an appeal to patriotism. It was nonsense to maintain that the claim of the medical profession to an increased remuneration owing to the rise in the cost of living would embarrass the Government. The Government could easily find the money to satisfy their demands. It was not that he was desperately anxious at the moment for a capitation fee of 10s., but he objected to the continual side-tracking of the profession owing to its insufficient organization.

Dr. P. L. GIUSEPPI (East Suffolk) said that at the last Conference he had moved that should they prove their case for increased payment, the payment ought to be made retrospective, and the Chairman ruled it out of order—he had no idea why.

Dr. GENGE (Croydon) said that now was the time for a big push. He suggested that the Commissioners be asked to submit the matter to arbitration, and if this was refused the public would be with the profession in any strong line it adopted.

A Lancashire representative complained of the weakness of attitude shown by Midland and Southern practitioners.

Dr. S. HODGSON (Salford), who supported the motion in the name of his committee, said the trouble was that the medical profession collectively had no voting power, whereas the trade unions had. Nevertheless, it had the power to strike or to employ passive resistance.

Dr. J. BENNETT (Warrington) said that in April the country was in a very serious condition, and they stayed action, but now the circumstances were different. To have pressed their motion in April would have been to cut the corn when it was green, but now it was ripe.

Dr. R. J. ROBERTS (Isle of Wight) said his area was heartily in sympathy with the north, and held that if a thing was worth having it was worth fighting for.

Dr. H. LARD P. ARSON (Birkenhead) said that on the last occasion, impressed by a speech from the London representative, they held their hands but now the



situation had changed. Those of them who relied entirely upon emoluments from panel work must be suffering severely.

Dr. H. F. OLDHAM (Lancashire) maintained again that the important work medical practitioners were doing for the nation deserved at least recognition as marked and as certain as that accorded to any other class of workers. They could now quite fairly go to the Government and say that they were prepared to help to the best of their ability in improving the health and physique of the people, but they were not going to be paid the wage of scavengers for doing it.

Dr. BRACKENBURY pointed out certain practical issues that would arise if this resolution was carried. In April they held, as they held now, that as a matter of justice they were entitled to a larger grant, but because of certain circumstances they held their hand. Those circumstances were not the condition of the country in April—they were not panic-stricken in April; on the contrary, they took their action deliberately and after prolonged debate—but the fact that then, as now, we were engaged in war. To his mind the position had not changed with regard to the Government's attitude, or to the arguments which the Committee could bring to bear. The Chancellor of the Exchequer put up to them certain facts and arguments, and nothing had occurred since then to alter his position. If they went to him again they would receive the same answer. [Dr. STANCOMB: Yes, if you go in the same way.] This was moved by Sunderland as a vote of censure upon the Insurance Acts Committee. ("No.") Supposing this attitude were taken by the Conference what would they have to do? On November 19th next—within three weeks' time—they were all to say that they would refuse service under the Insurance Acts. The first thing that would happen would be that all their chances of war bonuses and increased travelling allowances would go by the board.

Dr. STANCOMB: What do they amount to?

Dr. BRACKENBURY: They amount to the granting of the demand which the Conference in April made. The Conference then said that in the circumstances it would not press for an increase of the capitation fee, but it would ask for two increases—an increase for men with smaller professional incomes and an allowance for increased practice expenses.

Dr. Brackenbury went on to say that one speaker had mentioned arbitration. But if they went to arbitration they would have to prove their case. Their case was not simply proved by showing that seven shillings a few years ago had not the value of seven shillings now. ("Why?") Because it was maintained by a section of public opinion and a section in the House of Commons that seven shillings was too much. If they called for arbitration the Government would say that this question could not be opened on one side only. Insurance practitioners had not only to prove that they ought to have more; they had to prevent other people proving that they ought to have less. Sunderland meant that they should strike on November 19th. The answer of the Government would be the suspension of medical benefit. Had representatives a mandate from their constituents to take action which would involve a strike on that date? With the suspension of medical benefit all the income of the medical profession from the Insurance Acts stopped on January 1st, including the incomes of the men now serving in France. He asked the Conference not to be carried away by an enthusiasm which, rightly directed and forthcoming at the proper time, they would all share, but which at the present moment might have perilous results.

Dr. STANCOMB asked upon what authority Dr. Brackenbury stated that the answer of the Government would be the suspension of medical benefit.

Dr. BRACKENBURY replied that he was unable to name his authority, but he had—he was going to say the best of reasons—at any rate a very strong reason for believing that that would be the answer.

Dr. CARDALE (London) said that as the mover of the resolution at the April Conference that they should waive their claim for the time being he stood up that day in no repentant mood. But the circumstances had considerably altered since April. The arguments in favour of an increased capitation fee were even stronger to-day than they were then. The Government had practically admitted this by raising the level at which a bonus was payable to civil servants with incomes between £500 and £1,000. Dr. Brackenbury's remarks were an admission of the impotence of the British Medical Association to carry out their demands for an increased capitation fee.

Dr. J. DEWART (Manchester) said that in his area, having adopted the system of payment for work done,

they were able to demonstrate that the present system was hopelessly inadequate; moreover, they found no tendency on the part of those who a few years ago thought them overpaid to think them overpaid now. At present they were only getting 75 per cent. of the nominal fee of 2s., and their work had diminished by one-third. The withdrawal of medical benefit was not such a dire threat as it appeared. If medical benefit were withdrawn to-morrow every practitioner in Manchester would rejoice. But would there be withdrawal of medical benefit? What about the imminent general election? Dare any Government do it? Another threat which might be more practicable was to call up every practitioner under 56 into the army, but he did not know any of his neighbours who would not rejoice in that also, for to go into the army would be an absolute holiday compared with the strenuous and harassing life they were living now.

Major J. ORTON (Warwickshire) reminded the Conference that it was drifting into the position of throwing over all it did in April. If they went back on that they were placing the Committee in an impossible position. The arguments in favour of what they did in April were as cogent now as they were then. He felt sure that few of them came up with any mandate to vote for the reversal of the April policy. He was absolutely certain that the required 80 per cent. of practitioners could not be got to enter into a general strike at the present time.

Two or three representatives, from their experience in their own areas, endorsed this last statement.

Major FOTHERGILL urged that definite information should be got together, on the lines of that which Manchester had obtained, for the use of the Committee in order that in due course it might present its case.

Dr. JOHN DIVINE (Kingston-upon-Hull) remarked that the Sunderland motion had been interpreted as a direct vote of censure upon the Insurance Acts Committee. An amendment for which he was responsible, pressing the demand for increase because of the huge advance in all living and professional expenses, was certainly not drafted in that spirit. The capitation fee, if adequate at the time it was settled, was far from adequate now, and his committee held that if they were ever to put up a fight, now was the time, when the cost of everything had so enormously increased. If they allowed the present period of inflated prices to pass without protest, that would be a very strong argument on the other side to show that seven shillings, having been enough in these days, was sufficient when times became more normal. It was necessary to consider the future, not only of the practitioners remaining in civil life, but of those serving with the forces. He ended with a tribute to the Insurance Acts Committee, which, he said, had made the work under the Insurance Acts worth while, and was the only responsible body likely to better it in the future.

Dr. A. E. LARKING (Buckinghamshire) said the constituencies had never been directly asked whether they were ready for a strike or not. Now was the time to take a direct vote. He thought Dr. Brackenbury had spoken in terms of unjustifiable pessimism. His own belief was that they had the public on their side. If the Government suspended medical benefit, insured persons would blame the Government, not the doctors.

Dr. W. T. D. ALLAN (Liverpool) recorded the opinion of his committee that a successful strike could not be organized in Liverpool, and a strike unless successful would be suicidal. Let them recall their feelings when they opened their newspapers and read of the engineers striking. Ought those who dealt with questions of the life and death of men and women to go on strike in this country at the present time?

Dr. W. HODGSON (Cheshire) asked whether the Committee was really declining to take any active steps to secure an increased grant. The construction he placed upon Dr. Brackenbury's speech was that nothing more would be done.

Dr. F. RADCLIFFE (Oldham) said that in April the Conference told the Committee to do nothing. They had done it. (Laughter.) But that decision should not prevent their action now. They were told that the representatives had no mandate. His own committee always gave him a mandate to get anything more than they had got under any possible conditions and on any kind of grounds. (Laughter.)

Dr. P. SLACK (Rotherham) pointed out that while they had no mandate for a strike in November, they had a mandate to press for an increased capitation fee.

Dr. DAIN (Birmingham) said that what the Insurance Acts Committee wanted was intelligent and consistent support. It was quite easy to vote for an increased capitation grant, but the Committee needed evidence on which to base its claim. It was quite up to Lancashire to say it



was not satisfied, and to take the appropriate action if it felt so inclined. The midlands and the south had perhaps fared better, but at any rate the practitioners there were not sufficiently dissatisfied to press the claim rather than carry on.

Dr. A. CAMPBELL (Gloucestershire) said that not twenty doctors in his county could be got to go on strike.

Dr. A. FORBES (Sheffield) declared that by supporting the demand for an increased capitation fee they would not stultify themselves in the least; the conditions had changed since their previous decision.

The CHAIRMAN, speaking as a representative, deprecated loose talk around this question. On what grounds did any section of the community obtain an increase of wages during the war? Either because they were able to prove that economic hardships pressed upon them so severely that they could not maintain existence, or because they were able to hold a pistol at the head of the Government. On which ground were they proposing to approach the Government? He did not know the position in the South of England, though he had heard a fair amount of opinion that day to the effect that representatives were not authorized to vote for a strike; but as for Scotland, if a strike were proposed to-morrow, not 1 per cent. of the insurance practitioners would support it.

Dr. MODLIN, replying on the debate, denied that his motion was intended as a vote of censure on the Insurance Acts Committee. In moving the resolution he had not mentioned the word "strike," nor the date, November 19th.

The CHAIRMAN, on being asked for a ruling as to whether the motion was a vote of censure, said that as this had been denied by the mover it must be regarded as not having such an implication.

Dr. BRACKENBURY accepted the statement that those who moved this resolution and supported it did not intend it as a vote of censure on the Committee, but he regarded it as an invitation to the Committee to break faith with the Commissioners—a situation which he personally could not tolerate.

The motion was then put to the Conference, and there voted:

In favour of the Sunderland motion	..	29
Against .. .. .	..	53

Dr. H. F. OLDHAM (Lancashire) then moved:

That the Conference again direct the Government's attention to the widespread dissatisfaction among insurance practitioners with the inadequate remuneration paid by the Insurance Commissioners. The Conference advises that only by appeal to the patriotism of members of the medical profession has it been possible to maintain the panels in many areas, and urges that the services the profession has rendered to the Government and the country are ill repaid by an injustice which could not be enforced but for that patriotism.

He thought it would be unwise to allow the Conference to close without emphasizing the view that the present fee was inadequate.

Dr. BRACKENBURY, as representative for Middlesex, welcomed the resolution, though he would prefer the term "some areas" to "many areas." (The alteration was agreed to.)

Dr. STANCOMB protested against the Chairman's recent remarks, which he understood were to the effect that a claim could not be pressed unless they were able to prove that their emoluments were below subsistence level. [The Chairman indicated dissent.] A dignified and educated profession ought not to have to plead poverty. It was sufficient for them that since they made the contract the conditions had altered in their disfavour.

The CHAIRMAN declared the resolution carried unanimously.

#### *Allowance for Increased Practice Expenses.*

The MEDICAL SECRETARY then detailed the steps which had been taken to carry out the resolution of the April Conference with regard to an allowance for increased practice expenses. The Committee had encountered much inability or unwillingness on the part of practitioners to supply the information which the Conference had resolved that they should be required to furnish in order to sustain the claim. No case for increased remuneration could be put up which they relied on to prove their case unless practitioners were prepared to furnish the figures now or at any time.

Dr. ETHEL BENTHAM (London) said that the report they were required to send in was extremely difficult to complete. Her own return, giving figures, showed an absolute increase in expenditure of 50 per cent., and yet there was a great deal which could not be set down. Not only had

petrol largely increased in price, but repairs could hardly be done, tyres were difficult to replace, and the renewal of a car was quite impossible; even railway and bus fares had gone up, as also had the price of shoe leather. Many of these things were impossible to state in actual figures, but they were well known to the Commissioners.

Dr. BRACKENBURY explained that the method adopted was not the Commissioners' method, but the method of the Insurance Acts Committee. The Commissioners consented to twelve returns only being prepared from each of the three classes—urban, rural, and semi-urban. The case for the urban practitioners had been abandoned in the absence of proper returns.

A motion by Major J. ORTON that the proper method of investigating the increase in the working expenses of rural practitioners would be for a deputation from the Committee to make personal inquiry of representative practitioners was lost, and the CHAIRMAN suggested that it was not quite the right thing to ask the Committee to do work for practitioners when the practitioners themselves had failed to co-operate.

Dr. WILLIAMS-FREEMAN thought the British Medical Association ought to have a statistical department, in charge of a clerk whose business it would be to go round to the different areas and tabulate figures.

It was agreed that this matter might be brought up in the Committee.

#### *The 1919 Agreement.*

Dr. MODLIN (Sunderland) moved a resolution describing the changes in the new agreement as "puerile and altogether unworthy of the British Medical Association." He said that the Committee had brought forth "a miserable triplet."

Dr. BRACKENBURY hoped somebody would elect Dr. Modlin a member of the Insurance Acts Committee, for that would bring him in contact with the realities of the situation. If it were puerile and unworthy to reduce controversial matters to a minimum at the present time, then the Insurance Acts Committee pleaded guilty. Of the changes, two were made at the request of that Conference and the third at the request of women practitioners.

Dr. MODLIN withdrew his motion.

#### *DEFENCE FUND.*

Dr. BRACKENBURY made a statement on the establishment of a fund

for the general organization and protection of the interests of insurance practitioners and of the profession in connexion with the administration of the Insurance Acts.

On the previous day the Council of the British Medical Association considered the revision of the terms of trust of the Central Insurance Defence Fund and endorsed the proposals of the Committee. The bulk of this fund, amounting to some £12,500, would, it was hoped, form a very useful nucleus for a much larger fund which they were going to ask insurance practitioners and Panel Committees to support. The Council passed several resolutions. One was that the new fund be established as a National Insurance Defence Trust; another that it be vested in the Insurance Acts Committee as reconstituted under the recent arrangements; and a third, that its object should be to assist in defraying the expenses of any doctor who might suffer through following out a policy endorsed and approved by that Conference. An endeavour would be made to induce subscribers to the old fund to allow their balances to be transferred to the new fund.

Dr. H. F. OLDHAM (Lancashire) said the statement just made was very satisfactory to the Conference. It was because he felt there might be some hitch that he had put down a resolution approving the establishment of such a fund, and pledging those present to support in their committees resolutions under which each committee would contribute each year to the fund, by quarterly instalments, a sum equal to one penny for every twenty insured persons on their index register. In response to the Chairman's suggestion, he modified the latter part of his motion, so that the plan was referred to the Committee for consideration, and in this form it was carried, as was the first part, approving the establishment of the fund.

Dr. STANCOMB (Southampton) asked whether, if this sum were invested in the custodianship of the Insurance Acts Committee, that Committee would have the right and the power to use it in any direction that could be interpreted as being in restriction of trade. If at any period their interests should demand a withdrawal of service, could the money be legally used to reimburse them for their loss?

Dr. BRACKENBURY, while unwilling to give any such assurance, said there were many advantages in a trust,



and that money could properly be used for the purposes for which it was held in trust. The Council's resolutions had been drawn up and passed under the specific advice of the solicitor to the Association.

#### SUPPLY OF MEDICINES BY RURAL PRACTITIONERS.

Dr. GIUSEPPI (East Suffolk) moved:

That no pressure should be placed upon a medical practitioner to dispense, but if so pressed and agreeing to dispense he should have preferential treatment in the matter of payment as compared with the pharmacist, having regard to the greater value of his time as a medical practitioner compared with that of a pharmacist.

Dr. W. McD. ELLIS (Surrey) pointed out that doctors who did their own dispensing were not allowed the same discount by the wholesale druggists as the chemists were, while in other respects the doctors' expenditure on dispensing was necessarily greater.

Dr. BRACKENBURY said the whole question of rural dispensing was now under consideration. The motion suggested one broad solution. If the practitioners in any rural area did not wish to dispense they were quite at liberty not to. It then rested with the Insurance Committee, under the advice of the Commissioners, to make whatever alternative arrangements they thought best. In view of public opinion he did not think the motion was one they could put forward.

Dr. F. B. THORNTON (Surrey) asked whether they could advise their constituents not to dispense. ("Certainly.")

Dr. J. SPEED (Herefordshire) pointed out that if a doctor dispensed for one patient who lived over a mile from the chemist, he would have to dispense for all his insured patients who lived beyond that distance, or, at least, that was the Commissioners' interpretation of the regulation, and it might be an irksome stipulation.

Dr. R. HARDING (Radnorshire) produced figures relating to country dispensing. A doctor who had undertaken the work on the capitation system at 2s. per head received in one year £80; he was then asked if he would accept the system of payment per prescription, which he did, with the result that, instead of £80, the amount he received was just over £10.

The motion of East Suffolk was put to the meeting and lost.

Dr. BRACKENBURY referred to the section of the Committee's report dealing with this subject and detailed the Committee's proposals for getting the regulations altered. If an insured person in a rural area, who would in the ordinary way get his medicines from the doctor of his choice, wished to get them from a chemist he should be at liberty to do so, provided that the doctor gave his consent to that arrangement—a consent which should not be unreasonably withheld—and that the Insurance Committee of the area believed such an arrangement was in the interests of the insured person.

#### APPROVAL OF THE REPORT.

This concluded the discussion on the several matters contained in the report of action taken by the Committee since the previous Conference. In proposing general approval of the report,

Dr. BRACKENBURY referred with great satisfaction to the statement of contributions by Local Medical and Panel Committees towards the expenses of the Central Pool investigation. The one drawback was the position of Scottish and Welsh committees, to which he drew the attention of representatives of those countries. (Five Scottish and two Welsh committees were among the contributors.)

The Conference then unanimously approved of the report.

#### SERUMS AND VACCINES.

Dr. BRACKENBURY brought forward the memorandum of the Committee together with the reply of the Commissioners (M. 7 and 7a) on the supply of serums and vaccines for insured persons. He said that the judgement in the case of Dr. F. C. Fisher v. the Hertfordshire Insurance Committee raised certain questions, and many of them felt that the judgement ought at least to have been expressed differently. (Hear, hear.) On going into the matter, however, they did not feel that they were in a position to contest the judgement in this instance. The Committee did not raise this matter dogmatically, and it was ready, of course, to abide by and to urge upon the Commissioners any course the Conference saw fit to take. The Commissioners had sent a reply to their memorandum, and they proposed again replying to the Commissioners. They did not consider that the Commissioners' reply settled the matter; they thought the Commissioners had not properly apprehended the point of

view submitted to them. The point of view was this: under the Insurance Acts themselves there was practically no limitation to what an insured person could demand as medical benefit. There were three exceptions: he could not have certain instruments supplied unless they were in a given list; he could not have dental treatment; and an insured woman could not have treatment in connection with a confinement. In practice, however, the kinds of treatment available had been much more restricted. The Insurance Committee, for instance, had entered into an agreement with pathologists to do pathological work, or with operating surgeons to perform major operations. The Committee maintained that neither had arrangements ever been made for the supply of serums and vaccines. It was not denied that under the Acts themselves treatment with serums and vaccines might be held to be included in medical benefit, and when the Commissioners in their reply took that point up they were misunderstanding the Committee's position. The Committee contended that under the regulations and agreements which Insurance Committees had made with individual practitioners and druggists the supply of serums and vaccines was not included. The Committee believed that such supply ought to be included, but when the Commissioners entered into arrangements with them, especially with rural practitioners who undertook dispensing, and with pharmacists for the supply of drugs, the Committee did not consider that proper arrangements had been made for the supply of serums and vaccines. Under existing arrangements these could not properly be supplied at the cost of the Drug Fund.

Dr. J. D'EWART (Manchester) moved:

That steps be taken to obtain a supply of vaccines and serums by the Commissioners through the Insurance Committees, without having a charge on the medical fund.

He said that Dr. Brackenbury had put forward practically the view which he was instructed to lay before them. The Commissioners made certain rules and regulations, and the trouble was that practitioners who differed from the Commissioners had no appeal. Practitioners felt strongly that vaccines and serums should be available for insured persons. According to their agreement they had to treat certain individuals under special arrangements. The way out of this particular difficulty would be to have a special arrangement with Insurance Committees, just as in the case of a soldier, for example, if they considered that he acquired any additional benefit, they could instruct him to get that benefit. That principle should be extended to the whole of the insured population.

The CHAIRMAN pointed out that it was one thing for a doctor, considering that his patient required serum, to get it from some other fund than the Medical Benefit Fund, and administer it himself, and quite another thing for him to send his patient to some institution where he could get the special treatment.

Dr. T. WOOD LOCKET (Wiltshire) moved an amendment to the Manchester motion:

That it be an instruction to the Insurance Acts Committee when reconsidering the terms of service with the Commissioners to insist that the cost of supplying serums and vaccines shall not be a charge upon the Drug Fund, but shall be dealt with under the proposed provision of pathologists and laboratories and specialist services.

He regarded this as part of a much larger subject; it was bound up with the question of supplying laboratories and specialist services for insured persons, and all this should be considered together. It was very important that these new treatments should be available for insured persons, and there were three factors which at present militated against their availability—the absence of local laboratories, the absence of pathological assistance, and the high price of the substances in question. Hence practitioners might well hesitate before undertaking any line of treatment involving serum or vaccine therapy. He underlined the word "insist," because a stand should be taken on this question. The supply of these articles should not be placed upon the Drug Fund, but should be the subject of a special arrangement.

Dr. A. E. LARKIN (Buckinghamshire) supported the Wiltshire arrangement. In the course of his connexion with the British Medical Association and his knowledge of the Insurance Acts Committee he had never read such a document as M. 7. He could not make head or tail of it, and the Commissioners in their reply showed great dialectical skill in playing upon its weak points and tearing it to pieces. What ought to have been said was that the rural practitioners absolutely refused in any circumstances to pay the cost of serums and vaccines out of the sum of 2s. per patient.

Dr. E. CLAUDE TAYLOR (London) held that the main



points to insist upon were that serums and vaccines were not drugs, and that insured persons were entitled to any benefit to be gained from serums and vaccines in particular cases.

Dr. F. C. FISHER (Herefordshire) said that the recent case in which he was concerned, *versus* the Hertfordshire Insurance Committee, turned wholly upon the question whether the serum was a drug or not. Expert evidence and written authorities were produced to show that it was a drug, and the Commissioner would not listen to any contention to the contrary. He (the speaker) had accepted his contract as meaning that he must supply such drugs as were commonly used by medical practitioners, and he was under the impression that serums and vaccines were absolutely distinct from these. It had been suggested to him that if serums or vaccines were required in a particular case, it might be necessary to have a pathologist's opinion before they were used. But what steps were to be taken in an emergency?

Dr. BRACKENBURY, while welcoming the Wiltshire amendment, objected to the phrase "specialist services." It ought not to be suggested that specialists were needed to administer treatment. Dr. WOOD LOCKET consented to delete the words.

In reply to questions, Dr. BRACKENBURY explained that the rural practitioner could refuse to dispense or he could accept dispensing either on the capitation system or on the system of payment per prescription. The figures just given by Dr. Harding in the discussion on a cognate subject tended to show that payment on the capitation system left an ample margin.

Dr. D'EWART accepted the Wiltshire amendment, which was then put to the meeting and carried.

#### GENERAL MOTIONS.

The Conference then turned to consider certain general motions on the agenda, but some of these, which opened out wide questions of policy, were not proceeded with, or were referred to the Committee, as it was felt to be inexpedient to make binding decisions at a late hour when many representatives had left.

#### Parliamentary Representation.

Dr. L. H. M. SPANCOMB (Southampton) moved:

That this Conference realizes the paramount importance of direct parliamentary representation of the medical profession, and cordially supports efforts made to attain this end.

He said that medical practice was gradually evolving into a more or less co-ordinated national health service. In view of the imminence of a Ministry of Health Bill which might throw the whole of the resolutions of that Conference into the melting pot, it was necessary that a policy should be formulated wider than anything that could be conveyed by resolutions as to remuneration and the like. He was glad to know that the British Medical Association was fully alive to the importance of medical men possessing themselves of political power. Mr. Bonar Law had told them that in the period of reconstruction the Government must have expert medical advice; and over and above such advice there ought to be direct representation of medicine in Parliament. The time was ripe for a new orientation in the politics of this country. He believed that health would be the fundamental basis of the politics of the future. He was trying to focus opinion in his own district, where they might run an independent health candidate.

The motion was carried unanimously.

On a motion by East Suffolk, asking the British Medical Association, in view of a recent judgement, to reconsider its position with the object of forming a trade union, the CHAIRMAN said that the Council had decided to appeal against the judgement, so that the matter was *sub judice*. The motion was withdrawn, as was a somewhat similar one by Sunderland.

#### Insurance Practitioners' Agreement.

On a motion by Manchester that a new form of agreement be drafted and submitted to Panel Committees forthwith,

Dr. S. HODGSON (Salford) argued that the so-called agreement under which they served at present had never been discussed by any responsible committee. It was thrust upon practitioners at the beginning, and it had been assumed that non-objection was equivalent to acceptance. He maintained that so far they had been serving on a void agreement, which they would be at liberty to break without legal penalty. A new and equitable agreement—definite as between the two contracting parties—should be drawn up in the light of counsel's opinion.

The SOLICITOR said that the legal question was not new; it had been raised before, and he had gone closely into it.

He had always held the opinion that the agreement was a legal and binding contract, and he was fortified in that opinion by the attitude of courts in which the agreement had been upheld as a contract. The opinion of counsel in the North of England had also been elicited on this specific point, and he had upheld the legality of the contract. The Insurance Commissioners were in rather a peculiar position under the agreement: they had given practitioners the right to determine it within a certain period, but they had reserved no such equivalent right for themselves.

Dr. BRACKENBURY denied that the agreement had not been considered. It had been the subject of several memorandums by the Insurance Acts Committee, which had published the solicitor's opinion as given on a previous occasion. The Commissioners had recognized definitely that there must be an alteration in the agreement, and this matter would be dealt with in the discussion with the Commissioners and reported upon by the Committee.

It was agreed to refer this and cognate motions to the Committee.

#### Remuneration.

Dr. D'EWART moved that the Commissioners be requested to increase the amount payable to doctors in advance from £72 to £84 per 1,000. The Commissioners had been retaining in their own hands a quarter of the doctors' money, which they might reasonably be expected to disburse.

Dr. RADCLIFFE (Oldham) thought the motion might be ruled out, as it had been covered by the decision as to methods of remuneration. Dr. LAURISTON SHAW (London) objected. The London Insurance Committee had that day decided to pay an amount equal to what Manchester was now asking for, and if it could be done in London it might be done all over the country.

The motion was carried, as was also a motion by Northumberland, urging the strongest measures to be taken to remove the peculiar hardships imposed upon insurance practitioners by the withholding of arrears due to them by Insurance Committees.

#### Dispensary Treatment of Tuberculosis.

Dr. J. STEED (Herefordshire) drew attention to the ineffectiveness of dispensary treatment of tuberculosis, at least in country districts, where it was largely wasted effort and wasted money. He asked the Committee to inquire into this matter and report to the next Conference.

Dr. BRACKENBURY, in accepting the instruction, said the important thing was that the Committee should have material to go upon, and he hoped it would be forthcoming from more than one country area.

#### Invalided National Service Workers.

Dr. D'EWART moved that invalided national service workers, such as members of the W.A.A.C. and W.R.N.S., should be included in the scheme for attendance upon invalided soldiers. In Manchester they found that the invalided soldier required three or four times as much treatment as the ordinary insured person, and national service workers, when invalided, would presumably show a similar incidence, and ought to come under the same agreement.

Dr. BRACKENBURY remarked that this proposal came from Manchester, where there was a system of payment by attendance. The objection to a general departure from the capitation fee had been very vocal in the past, and he asked the feeling in other areas.

Representatives from Oldham, Lancashire, and Gloucestershire gave general support to the proposition, but Dr. LAURISTON SHAW (London) and Dr. GERRARD (Croydon) said their constituencies were by no means converted to the principle. The matter was not pressed.

On the motion of Dr. HOLMES (Bury), a vote of thanks was accorded by acclamation to the Chairman, and the Conference ended at 7.30 p.m.

## Naval and Military Appointments.

#### ROYAL NAVAL MEDICAL SERVICE.

The following appointments are announced by the Admiralty—  
Surgeon-Lieutenants (Temporary): J. Stephens, A. H. J. Smart, R. H. O. B. Robinson, E. G. T. Holden, J. C. Brown, W. A. W. Parkes, H. S. Le Marquand, and H. P. Warren, to *Haslar Hospital*; H. L. Prithard, J. H. L. Ewen, C. C. B. Boring, and G. Mular to *Chatham Hospital*; E. M. Lauder to the *Essex*; S. C. Woodhouse and C. R. Cade to *Phoenix*; E. Pratt, A. B. Kennedy to the *Bader*; F. C. S. Brown to *Shirley* and *Queens*; C. E. L. Hoemston to the *Sussex*.

#### ROYAL NAVAL VOLUNTEER RESERVE.

To Lie Surgeon-Sublieutenants (Temporary): J. A. Lister, D. MacKenzie, M. T. Smith, A. E. Phillips, P. R. Kemp, J. H. Dunn, D. W. G. Tomlin, L. W. Evans, D. J. Hancock, W. L. Jenner, H. Hall, J. A.



## ARMY MEDICAL SERVICE.

The undermentioned are placed on retired pay: Major-General Sir W. G. A. Bedford, K.C.M.G., C.B.; Colonels J. Meek, C.B., B. J. Innes.

Temporary Colonel Sir F. Treves, Bt., G.C.V.O., C.B. (honorary Colonel R.A.M.C., T.F.), relinquishes his temporary commission on reposting.

Temporary Colonel Howard H. Tooth, C.B., C.M.G. (Lieut. Colonel R.A.M.C., T.F.), relinquishes his temporary commission on reposting, and is granted the honorary rank of Colonel.

Captain (temporary Major) D. W. C. Jones, R.A.M.C. (T.F.), to be temporary Colonel whilst specially employed.

## ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel F. McLennan to be acting Colonel whilst employed as Assistant Director of Medical Services of a Division.

Major D. G. Marshall, I.M.S. (ret.), to be temporary Lieut.-Colonel whilst specially employed.

Major H. F. Shea, D.S.O., to be acting Lieut.-Colonel whilst specially employed.

Temporary Major A. F. Hurst to be acting Lieut.-Colonel whilst specially employed.

To be temporary Majors: G. E. Waugh, W. P. S. Branson, F. N. G. Starr.

Temporary Captains relinquish the acting rank of Major on reposting: R. O. H. Jones, M.C., C. R. Willis, H. C. W. Allott, D. F. O'Kelly.

To be acting Majors: Captains T. F. P. Egan, H. L. Howell, M.C., H. C. Todd, F. C. Cowtan, T. J. Hallinan. Temporary Captains C. C. Court, W. E. Hallinan, T. F. Higgins, J. M. Repton. Lieutenant (temporary Captain) E. L. Ritchie. Temporary Lieutenant A. T. Mackenzie.

Whilst specially employed: Captain E. G. H. Cowen. Temporary Captains E. McCulloch, A. C. Norman, H. M. Gray, H. E. Gamlen, P. K. Henderson, H. D. Robb, M.C., R. Milne, W. N. Parker, D.S.O., N. C. Lake, W. S. McGowan, D. I. Anderson, T. Russell.

Temporary Captain (acting Major) E. E. Herga, M.C., to be acting Lieut.-Colonel whilst in command of a medical unit, from August 14th to 18th, 1918, when he reverts to the acting rank of Major.

Captain D. Pottinger, M.C., relinquishes the acting rank of Major on reposting.

Temporary Captain W. V. Robinson relinquishes the temporary rank of Major on reposting.

The rank of temporary Captain C. G. Seligman is as now described and not as in the *London Gazette* of June 27th, 1918.

Temporary Captain (acting Major) J. O'D. Egan to be acting Lieut.-Colonel whilst specially employed.

Late temporary Captains granted the honorary rank of Captain: W. Clow, M. B. Arnold.

The notifications in the *London Gazette* of January 28th and February 14th, 1916, regarding temporary Captain R. S. Berry are cancelled.

The notifications in the *London Gazette* of August 28th, September 25th, and October 7th, 1917, regarding Captains R. R. Tweed and W. Rogerson and temporary Lieutenant A. W. Musson respectively are cancelled.

Officers relinquish their commissions: Temporary Major E. C. Stahlb (having ceased to be employed at the Manor County of London) War Hospital; temporary Captains (acting Major) H. Dudley, L. E. Lovell-Reays and H. G. Burbridge on account of ill health, and are granted the honorary rank of Captain; I. Vandenberg, R. C. Pitt, A. D. Clench, W. G. Thomas, A. H. Clough, W. C. W. Glenn (on account of ill health, substituted for notification in the *London Gazette* of April 4th, 1918), J. Morlet, J. F. C. O'Donoghue, H. L. H. Greer, J. M. Kelly, G. A. Lyons, M.C., G. Munro, O. Barton, A. R. O. Milton, Lieutenant R. B. Fletcher (on account of ill health contracted on active service and is granted the honorary rank of Lieutenant); temporary Lieutenants M. Briscoe, N. Beattie; temporary honorary Lieutenant C. F. Larson (substituted for notification in the *London Gazette* of September 17th, 1918).

To be temporary Captains: A. G. Payne, J. B. Orr, D.S.O., M.C., F. W. Twort, W. C. Mayo, P. G. Simpson, W. W. Linnington, H. T. Thomson, H. R. Phillips, P. A. Lykes, P. W. Ashmore, G. R. Lawless, F. H. Cooke, W. H. Weir, temporary honorary Captain D. M. Stone, A. Higwell-Foodley, F. P. Grove, E. A. Morgan, H. H. Fairfax, temporary Lieutenants J. Menzies, S. G. Traill, A. L. White, E. Reivley, S. Adams, J. E. Richards, W. T. McCutcheon, A. Brown, J. A. O'Regan, G. R. Hallinan.

P. N. Smith to be temporary honorary Captain.

The notification in the *London Gazette* of August 28th, 1918, regarding temporary Captain Frank D. Johnson is cancelled.

To be temporary Lieutenants: A. R. Wade, W. Anderson, P. P. Galea, J. A. Martin, E. S. Littlejohn, T. Wallace, C. A. Whitfield, R. Walker, R. L. Wilcox, D. C. Macaskill, F. C. S. Bradbury, R. H. Wace, S. G. Platts, C. W. Branson, W. H. Brooks, R. Tibbary, M. J. Gibson, A. J. Beattie, D. J. Crowley, R. F. Higgin, W. H. Croly, J. E. G. Calverley, C.M.G., G. E. Froggatt, E. Campbell, J. Eadie, A. W. G. Clark, B. G. Reynolds, G. S. Ward, M. Wheeler, G. H. Winch, J. D. Russell, W. F. Waugh, J. Shaw, W. L. Stuart, W. H. Jones, C. P. Lankester, G. Holman, J. D. Walker, J. W. Clyne, J. Dwan, M. D'Alton, A. R. Moore, W. Knapp, J. E. Rea, W. F. Murphy, A. S. L. Biggart, H. W. Hackett, A. J. Hynd, J. Craig, E. Walsh, D. I. McNaughton, R. P. Parker, D. Ferguson, B. F. Howes.

The notification in the *London Gazette* of June 27th, 1918, regarding temporary honorary Lieutenant D. E. Carter is cancelled.

To be temporary honorary Lieutenants: R. McL. Gibson (whilst serving with No. 11 Stationary Hospital), H. A. Towns (whilst employed with British Red Cross in France), P. A. E. Shapland.

## SPECIAL RESERVE OF OFFICERS.

## ROYAL ARMY MEDICAL CORPS.

Captain (acting Major) J. G. McCutcheon to be acting Lieut.-Colonel whilst in command of a medical unit.

Captain S. J. A. H. Walshe, D.S.O., to be acting Major.

Captain F. W. Edwards relinquishes his commission on account of ill health and is granted the honorary rank of Captain.

Lieutenants to be Captains: H. B. Dyles, D. McK. Sutherland, E. N. P. Martland, S. Kleit, R. D. Aylward, W. Blinnow, D. S. Phillips, W. D. Mackinnon, E. J. Coothe, J. Berry, R. F. C. H. Buchanan.

To be Lieutenants: J. H. E. Moore, from Leeds University Contingent O.T.C., B. Sergeant, from Durham University Contingent O.T.C., Second Lieutenant F. Holmes, from Unattached List, T.F., W. G. Burns, from Glasgow University Contingent O.T.C., D. A. Dyer, from University of London Contingent O.P.C., T. Colley, D. S. Towne, and F. L. Williams, from Manchester University Contingent O.T.C., honorary Lieutenant K. Graham, C. C. H. Cua, G. P. S. Richardson.

## ROYAL AIR FORCE.

## MEDICAL BRANCH.

Lieutenant F. H. Wallace to be Captain.  
Granted temporary commissions: As Captains: H. A. Howat (late temporary Surgeon R.N.), H. T. H. Butt, H. Greenwood (late Captain R.A.M.C.). As Lieutenants: T. D. J. A. Fuller, D. Croome, H. Hilliard, W. Inman.

The initials of Captain W. T. Williams are as now described and not as in the *London Gazette* of October 6th.

## TERRITORIAL FORCE.

## ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel (honorary Colonel) H. H. Tooth, C.B., C.M.G., is restored to the establishment on relinquishing his temporary commission in the V.M.S.

Major R. Griffith to be acting Lieut. Colonel whilst commanding a field ambulance.

Major T. W. A. Daman relinquishes his commission on account of ill health, and is granted the honorary rank of Major.

Captain W. G. Pages to be Major.

Captains (acting Lieut.-Colonels) H. A. Macmillan, M.C., and H. B. Pope relinquish the acting rank of Lieut. Colonel on ceasing to command a field ambulance and revert to the acting rank of Major, with precedence from April 5th and January 4th, 1918, respectively.

Captain (acting Major) A. C. F. Turner, D.S.O., to be acting Lieut.-Colonel whilst in command of a medical unit.

Captain A. Ramsbottom, M.C., to be acting Lieut.-Colonel whilst commanding a field ambulance.

Captains (acting Majors) relinquish their acting rank on ceasing to be specially employed: D. W. Reese, A. B. P. Smith.

Captain (acting Major) J. Patrick is now seconded whilst holding a temporary commission in the R.A.M.C.

Captain (acting Major) A. G. Hebblethwaite, D.S.O., relinquishes his acting rank on vacating appointment as Deputy Assistant Director of Medical Services.

Captains to be acting Majors whilst specially employed: A. M. Davie, W. Scott, J. L. M. Symes, J. A. Morris, J. J. H. McHugh, G. B. Gill, D. G. Kennedy, T. B. McKee, R. W. MacKenna (and reusued seconded), S. English, E. L. D. Dewdney.

## APPOINTMENTS.

COGHLAN, J. V., L.A.H. Dubl., District Medical Officer of the Lincoln Union.

DEAN, L. T., M.B., B.C. Camb., Certifying Factory Surgeon for the Spilsby District, co. Lincoln.

MACALPINE, J. B., M.B., Ch.B. Vict., F.R.C.S., Surgeon to the Salford Royal Hospital.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.

## BIRTH.

YOUNG.—On 13th October, 1918, to Ina, the wife of W. A. Young, B.Sc., M.B., B.S., Captain R.A.M.C. (S.R.M.), a son.

## MARRIAGES.

GRIFFITH—SORANZO.—On the 28th October, at Palazzo Vidoni, Cremona, Italy, Arthur D. Griffith, M.B., B.S., F.R.C.S., Brevet Major R.A.M.C. (T.F.), to Aurora, daughter of Count Tommaso Mocenigo Soranzo and the late Principessa De Soranzo Vidoni, of Cremona.

MELVILLE ANDERSON—INNES.—At St. Giles's Cathedral, Edinburgh, on the 19th October, 1918, by the father of the bridegroom and the Rev. George Gardiner, D.D., Kirkcaldy Parish, G. A. Melville Anderson, M.B., B.A., Surgeon-Lieutenant H.M.A.S., elder son of the Rev. J. A. Anderson, LL.D., and Mrs. Anderson, West Calder, Midlothian, and Bethia Amelia (Amy), daughter of the late R. S. Innes and Mrs. Innes, 17, Salisbury Road, Edinburgh.

WALKER—NOSWORTHY.—On the 21th October, at Derby, Ernest H. Walker, M.B., Ch.B. Manchester, to Alice E. Nosworthy, of Torquay.

## DEATHS.

DEMETRIADI.—On the 26th October, at Southport, in his 56th year, after a long illness contracted while on active service, Louis P. Demetriadi, Lieut.-Colonel R.A.M.C., T.D., M.D., F.R.C.S.E., late in command West Riding Casualty Clearing Station, T.F., B.E.F., dearly-beloved husband of Alice Demetriadi, Queen's Road, Huddersfield.

HARVEY.—On October 26th, at Hill Rise, Witney, Oxon., Christopher Patey Harvey, M.R.C.S., L.R.C.P., of clensury, following influenza, aged 38 years, beloved husband of Sybil Harvey (née Holford).

## DIARY FOR THE WEEK.

## TUESDAY.

R. B. SOCIETY, 8.30 p.m., Arts, 18, John Street, Adelphi, W.C.—8.15 p.m., The General Widespread, illustrated by lantern slides, by Dr. G. B. Batten.

ROYAL COLLEGE OF PHYSICIANS, Pall Mall East, S.W.—Tuesday, 5 p.m., Howard Dobell Lecture by Dr. F. H. Reade: Bacterial Toxins. Thursday, 5 p.m., Bradshaw Lecture by Colonel W. Aldren Turner, C.B.: Neuroses and Psychoses of War.

ROYAL SOCIETY OF MEDICINE—Section of Ophthalmology: Wednesday, 8.30 p.m., Presidential Address by Mr. W. T. Holmes: Some Papers.—Dr. J. B. Christopherson and Major Archibald: Neuroses of the Cerebral Gland. Major Fenwick: Brittle Bones and Blue Sclerotics. Section of Obstetrics: Thursday, 8 p.m., Presidential Address by Mr. J. D. Malcolm: Developments in Abdominal Surgery since 1884. Paper.—Mr. John Adams: Two Treatment of Ante-natal and Post-natal Syphilis. Section of Epidemiology and State Medicine: Friday, 5.30 p.m., Captain J. W. Captain Eoskins, and Captain Member (F.S.A. 1904). Military Fever: Outbreak of Typhoid Fever in Inoculated Soldiers.



# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 9TH, 1918.

## CONTENTS.

	PAGE		PAGE
<b>British Medical Association.</b>			
CURRENT NOTES:		NAVAL AND MILITARY APPOINTMENTS ...	72
FEES FOR NOTIFICATION OF INFECTIOUS DISEASES ...	71	APPOINTMENTS ...	72
CONSTITUTION OF INSURANCE ACTS COMMITTEE ...	71	BIRTHS, MARRIAGES, AND DEATHS ...	72
ASSOCIATION NOTICES ...	71	DIARY FOR THE WEEK ...	72

### British Medical Association.

#### CURRENT NOTES.

##### Fees for Notification of Infectious Diseases.

PURSUANT to the instruction of the Annual Representative Meeting, the following letter has been sent to the President of the Local Government Board and to the Chancellor of the Exchequer by the Medical Secretary of the Association:

On the instruction of the Annual Representative Meeting of the British Medical Association, I beg to bring to your notice the question of the fees payable to medical practitioners in respect of notification of infectious diseases.

In March, 1916, when it was ascertained that the suggestion of the Retrenchment Committee that the fee of 2s. 6d. then paid to medical practitioners for notification of infectious diseases be reduced to 1s. had been incorporated in the Local Government (Emergency Provisions) Bill, the Association approached the Board protesting against this suggestion and asked that representatives of the Association should be allowed an opportunity of placing their views before the President. On April 6th, 1916, on behalf of the then President, you met a deputation from our Association at the House of Commons, when you will remember we laid before you at some length the reasons for our dissent. Our protests were unavailing and the Bill went through, but not before the President in a letter dated April 19th had stated that he agreed with our suggestion that at any rate the doctor should not be required to bear the cost of postage of the notification forms.

On May 1st, 1916, we again approached the President, urging that at the last moment, while the House of Commons was considering the amendments made in the bill by the House of Lords, the proposed reduction should be dropped. We pointed out that our post had shown how hotly the great majority of the general practitioners of the country resented the reduction. We went on to say that the Association was unwilling to make the task of the Government more difficult in war time by raising any organized opposition on such a question, but that the absence of such organized opposition did not indicate any want of strong feeling on the subject. That letter was simply acknowledged and the bill became an Act.

In 1917 the Annual Representative Meeting of the Association passed a resolution, which was forwarded to the Board, against what it termed the "mean action of the Government" in reducing the fee for the notification of infectious diseases. The Representative Meeting renewed its protest in July last and instructed the Council of the Association to approach the Government once more.

So far as we are aware this is the only instance on record where, since the war, remuneration for services rendered has been decreased, and the medical profession is unable to understand why it should have been singled out for such treatment. As you are aware the cost of every commodity has increased very greatly, and medical practitioners, like other sections of the community, have found it necessary, where possible, to increase their charges. The Association fails to understand why the Government should expect to have its work done at a greatly decreased rate, and why such a demand should be made on the medical profession alone. Moreover, I would point out that, in spite of the sympathy expressed by the then President of the Board regarding the deduction from the fee for the postage of the notifications, no relief has been given.

The Association is convinced that the rankling sense of injustice left on the minds of a body of men which has fully met the very exacting claims made upon it by the country during the war, far outweighs the trifling saving to the Exchequer resulting from the reduction. The Association therefore urges most respectfully, but most strongly, that the subject should receive your immediate attention and that as a matter of simple justice to the medical profession, the old fee should be restored.

##### Insurance Acts Committee.

THE following is the constitution of the Insurance Acts Committee for the session 1918-19:

1. *Members ex officio.*—Sir T. Clifford Allbutt, K.C.B. (President, British Medical Association); Dr. J. A. Macdonald, LL.D. (Chairman of Council); Dr. T. W. H. Garstang (Chairman of Representative Body); Dr. G. E. Haslip (Treasurer).

2. *Members Elected by Representative Meeting, 1918 (England and Wales).*—Dr. G. H. Dain (Birmingham); Dr. J. E. P. Davies (Llanelli); Major E. R. Fothergill (Hove); Dr. W. B. Crawford Treasure (Cardiff).

3. *Direct Representation of Local Medical and Panel Committees.*—Scotland: Dr. John Hunter (Motherwell). Ireland: Dr. J. Singleton Darling (Lurgan).

Group "A."—Dr. J. R. Drever (Glasgow); Dr. J. Goff (Bothwell).

Group "B."—Dr. H. L. Rutter, M.B.E. (Newcastle).

Group "C."—Dr. A. Forbes (Sheffield); Dr. P. V. Fry (Sowerby Bridge).

Group "D."—Dr. S. Hodgson (Salford); Dr. H. F. Oldham (Morecambe).

Group "E."—Dr. W. Hodgson (Crewe).

Group "F."—Dr. T. Ridley Bailey (Bilston).

Group "G."—Dr. A. J. Campbell (Dursley, Gloucestershire).

Group "H."—Dr. T. Wood Locket (Melksham, Wilts).

Group "I."—Dr. J. P. Williams-Freeman (Andover).

Group "J."—Dr. G. G. Genge (Croydon).

Group "K."—Dr. H. B. Brackenbury (Hornsey); Dr. H. G. Cowie (Denmark Hill); Dr. C. H. Panting (Leyton).

Group "L."—Dr. A. Linnell (Paulerspury).

Group "M."—Dr. C. J. Palmer (Mansfield Woodhouse).

4. *Acting Representatives of Outside Bodies.*—Dr. A. Withers Green, London (Poor Law Medical Officers' Association). Professor A. Bostock Hill, Birmingham (Society of Medical Officers of Health). Dr. Mabel Ramsey, Plymouth (Medical Women's Federation).

### Association Notices.

#### CONSTITUENCIES FOR ELECTION OF REPRESENTATIVE BODY, 1919-20.

##### (a) Provisional Home Constituencies.

NOTICE is hereby given that, pursuant to By-law 33, the Council has provisionally grouped the Home Divisions for election of Representatives in the Representative Body, 1919-20, in the same way as for 1918-19, except that the Isle of Wight is grouped with the Southampton Division. The list of provisional constituencies is being forwarded to the Divisions.

Any Division objecting as regards itself to the proposed grouping is requested to notify the Medical Secretary of such objection, with alternative proposal, not later than December 19th, 1918.

##### (b) Oversea Constituencies.

The Council has made each Oversea Division and Division-Branch possessing an Honorary Secretary and the necessary organization, an independent constituency for election of a Representative.

##### (c) Time and Mode of Election of Representatives.

Under By-law 35 the Representatives are required to be elected not more than nine months nor less than four weeks before the Annual Representative Meeting (which will probably commence on July 24th, 1919). The names of the Representatives must be notified to the Head Office by at latest July 3rd, 1919.

\* The count has been verified by Miss M. M. Green, acting on behalf of the Proportional Representation Society.



The Council desires to draw the special attention of all concerned to the fact that under By-law 35 it is entirely within the discretion of each constituency to decide whether the election of its Representative or Representatives shall be carried out by a general meeting of the constituency, or by postal vote.

By order of the Council,

ALFRED COX,

Medical Secretary.

October 21st, 1918.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

The following notifications are announced by the Admiralty:— Surgeon-Lieutenants to rank as Surgeon-Lieutenant-Commanders: H. E. Perkins, E. C. Holton, C. F. Willis, J. G. Danson, G. J. Carr. Surgeon-Lieutenants (temporary): F. P. N. Parsons to Cranham Hospital, W. L. Berry to Haslar Hospital, W. H. Dupre to the *Egmont*, W. H. S. Hodge to R.N. Hospital, Queensferry.

### ROYAL NAVAL VOLUNTEER RESERVE.

To be honorary temporary Surgeon-Lieutenant: N. L. Stevenson.

### ARMY MEDICAL SERVICE.

Colonel R. H. Luce, C.B., C.M.G., T.F.Res., to be temporary Major-General.

Colonel J. M. F. Shine, C.B., is placed on retired pay.

Lieut.-Colonel (temporary Colonel) G. W. Tate, D.S.O., from R.A.M.C., to be Colonel, Dec. 26th, 1917 (substituted for notification in the *London Gazette* of June 12th, 1918).

### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel G. M. Goldsmith to be acting Colonel whilst employed as Assistant Director of Medical Services of a Division.

Temporary Major A. M. Leake, V.C., relinquishes the acting rank of Lieut.-Colonel on reposting.

Majors to be acting Lieut.-Colonels: R. W. D. Leslie (whilst employed as Assistant Director of Medical Services), A. H. McN. Mitchell (whilst in command of a medical unit).

Captain (temporary Major) R. H. H. Smith to be acting Lieut.-Colonel whilst in command of a field ambulance, Aug. 22nd, 1916 (substituted for notification in the *London Gazette*, Jan. 14th, 1917).

A. E. Morrison to be temporary Major whilst employed at Sunderland War Hospital.

The under-mentioned relinquish the acting rank of Major on reposting: Captains G. O. Chambers and J. Y. Moore, temporary Captains A. K. Cosgrove, H. H. White, C. C. Court, and D. I. Anderson.

Temporary Captain F. G. W. Deane to be acting Lieut.-Colonel whilst specially employed.

To be acting Majors: Captains H. G. Trayer, R. E. Gibson, O.B.E., C. R. Dudgeon, M.C., J. R. Lloyd; temporary Captains J. L. A. Grout, M.C., J. Jack, M.C., C. F. Knight, A. W. Dennis (from June 5th to August 18th, 1918), R. Warren, F. Henderson, M.C., A. M. Crawford, W. Anderson. Whilst specially employed: Temporary Captains A. Dingwall-Fordyce, C. H. Fennell.

Officers relinquish their commissions: Temporary honorary Major W. P. S. Bracon, on ceasing to be employed with No. 1 Red Cross (Duchess of Westminster's) Hospital. Temporary Captains: J. Brown, A. W. Brodribb, S. J. McC. Bradshaw, F. W. Stone, C. L. McDonagh, C. T. Galbraith, M.C., E. C. Arnold, W. F. Moore.

Temporary honorary Captains: E. D. Busby and G. W. Cottis, on ceasing to serve with No. 22 General Hospital; J. S. Hurn, J. Eriank, J. W. Nunn, and D. M. Stone, on ceasing to be employed with No. 1 Red Cross (Duchess of Westminster's) Hospital. Temporary Lieutenants: L. G. Allan, B. Blackwood, P. Biston. Temporary honorary Lieutenants: W. M. Findley and J. E. Bloomer, on ceasing to be employed with No. 22 General Hospital.

Late temporary Captains granted the honorary rank of Captain: F. M. Murray, H. C. Smyth.

The notification in the *London Gazette* of July 25th, 1918, regarding temporary Captain M. Donaldson is cancelled.

To be Captains: Lieutenants (temporary Captains) R. D. Davy, M.C., R. L. Ritchie, R. B. Myles, E. S. Cuthbert.

To be temporary Captains: Temporary Lieutenants J. R. Hewitson, H. J. Starling.

Temporary honorary Lieutenant S. B. Meaker to be temporary honorary Captain.

### ROYAL AIR FORCE.

#### MEDICAL BRANCH.

To be acting Majors: Captains H. A. Treadgold (while employed as Major), A. H. Todd (while specially employed).

Granted temporary commissions: As Captains: W. Lessey (late Captain R.A.M.C., substituted for notification in the *London Gazette*, Oct. 11th), G. Fehrsen, W. Lumley (late Captain R.A.M.C.). As Lieutenants: R. E. Burns, M. Hyman, N. O. Cooper, S. R. E. Davies, J. Gorsky, K. D. F. Waters.

### SPECIAL RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Captain H. M. Williams relinquishes the acting rank of Major on reposting.

Captains to be acting Majors: R. Mackinnon, J. A. Ryle (from May 6th to 22nd, 1918), P. J. Gaffikin, M.C.

Captain A. J. Clark, M.C., relinquishes the acting rank of Major on reposting, and relinquishes his commission.

Captain G. K. Aubrey, from temporary retired pay, relinquishes his commission on account of ill health contracted on active service, and is granted the honorary rank of Captain.

The name of Captain James R. R. Hobbs is as now described and not as in the *London Gazette* of May 15th, 1918.

Lieutenants to be Captains: W. L. Yell, J. B. D. Galbraith, I. M. Robertson, T. R. Wilson, J. P. White, J. Macleod, A. Riddell, J. J. A. Scott, E. J. Harvey, D. J. Valentine, S. H. de G. Pritchard, F. W. A. Watt, W. M. Jones, A. G. P. McArthur, S. W. Fage, I. K. Lecker, M. Edwards, A. McI. Pickup, O. C. Carter, W. U. Longford, M. J. Hilton, C. S. Baxter, W. Staushfield.

To be Lieutenants: J. Lipsy, from Glasgow University Contingent O.T.C., L. J. Schwartz, from University of Manchester Contingent O.T.C., M. Melvin, from Edinburgh University Contingent O.T.C., W. M. Savery, from University of London Contingent O.T.C., T. McS. Wilson.

### OVERSEAS CONTINGENTS.

#### CANADIAN ARMY MEDICAL SERVICE.

Temporary Colonel M. MacLaren, C.M.G., C.A.M.C., relinquishes his appointment as Deputy Director of Medical Services.

#### CANADIAN ARMY MEDICAL CORPS.

Temporary Major R. St. J. MacDonald to be acting Lieut.-Colonel whilst employed as O.C. stationary hospital.

Temporary Major S. Paulin to be temporary Lieut.-Colonel.

Temporary Major R. H. M. Hurdisty, M.C., to command a field ambulance and to be acting Lieut.-Colonel.

Captains to be temporary Majors: D. B. Kennedy, M.C., J. A. Briggs, H. Hart, M.C.

Temporary Captains to be acting Majors: D. A. Murray (while employed as surgical specialist), H. M. Barrett, F. W. Lees, M.C., E. Douglas, M.C., and L. C. Palmer while employed at a Canadian Field Ambulance, F. J. Tees, M.C. (while employed as surgeon), J. McCulloch (while employed as a surgeon at a Canadian General Hospital), D. P. Hanington (while employed as Registrar, Canadian General Hospital).

### TERRITORIAL FORCE.

#### ROYAL ARMY MEDICAL CORPS.

To be acting Colonels whilst employed as Assistant Directors of Medical Services, with precedence from the date shown against their names:—Lieut.-Colonels: C. T. Green (Jan. 15th, 1915), E. V. Gostling, D.S.O. (April 17th, 1916), A. M. McIntosh (Nov. 25th, 1915), G. H. Hawkins, D.S.O. (April 12th, 1917), H. Collins, C.M.G., D.S.O. (May 20th, 1917), J. Mackinnon, D.S.O. (March 1st, 1918), F. Kelly (April 30th, 1917), N. A. Matthews, D.S.O. (Jan. 11th, 1918), E. C. Montgomery-Smith, D.S.O. (Feb. 8th, 1918), E. A. Wraith (May 25th, 1918), R. Pickard, C.M.G. (July 24th, 1917), J. Clay (June 5th, 1918). Majors: T. Kay, D.S.O. (Sept. 22nd, 1917), D. Rorie, D.S.O. (Dec. 24th, 1917), H. Richardson, D.S.O. (May 2nd, 1917), C. H. Lindsay, C.M.G., D.S.O. (Aug. 26th, 1917).

Lieut.-Colonel T. Fraser, D.S.O., to be Assistant Director of Medical Services and to be acting Colonel whilst so employed, July 23rd, 1918 (substituted for announcement in the *London Gazette* of Sept. 21st, 1918).

Lieut.-Colonel E. B. Dowsett to be Assistant Director of Medical Services and to be acting Colonel whilst so employed.

Lieut.-Colonel P. Mitchell is restored to the establishment.

To be Lieut.-Colonels: Lieut.-Colonels E. J. Jawess, from T.F. Res. (precedence Sept. 19th, 1914), E. M. Callender, from General Hospital (precedence March 15th, 1912).

To be acting Lieut.-Colonels whilst specially employed, with precedence from the date shown against their names:—Majors: A. C. Goodwin (Sept. 24th, 1915), A. W. Moore (Feb. 14th, 1916), A. E. Kild (Jan. 26th, 1916), J. Wood, D.S.O. (April 23rd, 1916), R. Coffey, D.S.O. (Aug. 19th, 1916), J. W. Bird, D.S.O. (May 13th, 1916), E. Torton (Sept. 11th, 1915), J. Gray (July 8th, 1915), F. Whalley, D.S.O. (Sept. 19th, 1916), T. Donovan (Dec. 24th, 1915), H. T. Samuel (Dec. 22nd, 1915), J. Evans (Sept. 22nd, 1915), T. P. Puddicombe, D.S.O. (Aug. 29th, 1915), (Brevet Lieut.-Colonel) E. B. Bird, D.S.O. (July 4th, 1916), A. P. Swanson (Feb. 25th, 1915). Captains: A. T. Fawcasser, D.S.O. (Nov. 27th, 1915), G. T. Willan, D.S.O. (Sept. 19th, 1915), H. G. G. Mackenzie, D.S.O. (May 21st, 1915), J. Barley (Aug. 11th, 1915), J. Bruce (Feb. 2nd, 1917), J. Young (Aug. 22nd, 1916), T. A. Green, D.S.O. (Aug. 22nd, 1916), O. W. Eames (Sept. 17th, 1915).

### APPOINTMENTS.

BROWN, R. Dods, M.D., F.R.C.P. Edin., Medical Superintendent, Aberdeen Royal Asylum.

DEBRI, H. M., D.Ch.O. Liverpool, Surgical Officer in charge of the Durham County and Sunderland Eye Infirmary.

### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.

#### DEATHS.

McCaw.—On October 26th, at Lambeth Infirmary, London, of influenza pneumonia, Hugh John McCaw, M.D., F.R.C.S.P., second son of H. McCaw, Esq., M.B., Invercargill, New Zealand.

Williams.—On November 2nd, at Eerton Lodge, Wrexham, after a short illness, Gwendolen, the dearly loved wife of R. Geoffrey Williams.

### DIARY FOR THE WEEK.

#### MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—8.30 p.m., Discussion on Reconstruction and the Practice of Medicine, to be introduced by Colonel H. J. Waring, R.A.M.C.(T.), F.R.C.S.

#### THURSDAY.

MEDICO-LEGAL SOCIETY, 11, Chandos Street, W.1.—8.30 p.m., Presidential Address by Dr. F. J. Smith: Pensions and their Allocation.

ROYAL COLLEGE OF SURGEONS, Lincoln's Inn Fields, W.C.—5 p.m., Bradshaw Lecture by Lieut.-Colonel D. Atcy Power: Cancer of the Tongue.

#### FRIDAY.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, W.1.—5.30 p.m., Sanitary and Insanitary Makehifts in the Eastern War Areas, by Lieut.-Colonel Andrew Balfour, O.B., C.M.G.

ROYAL COLLEGE OF PHYSICIANS, Pall Mall East, S.W.—Tuesday and Thursday, 5 p.m., FitzPatrick Lectures by Dr. Arnold, Chaplin: Medicine in England during the Reign of George III.

ROYAL SOCIETY OF MEDICINE.—General Meeting of the Lipoma of Honorary Fellowship to Sir Alfred Keogh, C.B. Discussion on "Influenza, with particular reference to the Epidemiology, Pathology, Clinical Aspects, and Complications," to be opened by Sir Arthur Newsholme, K.C.B., M.D., Section of Neurology: Thursday, 8.30 p.m., Presidential Address by Dr. Henry Head, F.R.S.: Some Principles of Neurology. Section of Otolaryngology: Friday, 5 p.m., Cases. Sections of Electro-Therapeutics, Clinical Medicine, and Surgery: 8.30 p.m., Dr. E. I. Spriggs: On the Radiography of the Vermiform Appendix.



## BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 16TH, 1913.

## CONTENTS.

	PAGE		PAGE
MINISTRIES OF HEALTH BILL: FULL TEXT ..	73	NAVAL AND MILITARY APPOINTMENTS ..	75
ASSOCIATION NOTICES ..	75	APPOINTMENTS ..	75
NATIONAL INSURANCE:		BIRTHS, MARRIAGES, AND DEATHS ..	75
A REMEDY FOR LOW PANEL FEES ..	75	DIARY FOR THE WEEK ..	75
AMOUNT OF ADVANCE PAYMENTS: THE "FLOATING SIXPENCE" ..	75		

## MINISTRIES OF HEALTH BILL.

A BILL to establish a Ministry of Health and a Board of Health to exercise in England and Wales, and in Scotland, respectively, powers with respect to Health and Local Government, and for purposes connected therewith.

BE it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:

1. *Establishment of Minister.*—For the purpose of promoting the health of the people throughout England and Wales, and for the purpose of the exercise of the powers transferred or conferred by this Act, it shall be lawful for His Majesty to appoint a Minister of Health (hereinafter called "the Minister"), who shall hold office during His Majesty's pleasure.

2. *General Powers and Duties of Minister in Relation to Health.*—It shall be the duty of the Minister to take all such steps as may be desirable to secure the effective carrying out and co-ordination of measures conducive to the health of the people, including measures for the prevention and cure of diseases, the treatment of physical and mental defects, the collection and preparation of information and statistics relating thereto, and the training of persons engaged in health services.

3. *Transfer of Powers and Duties to and from Minister.*—(1) There shall be transferred to the Minister—

(a) all the powers and duties of the Local Government Board;

(b) all the powers and duties of the Insurance Commissioners and the Welsh Insurance Commissioners;

(c) all the powers of the Board of Education with respect to attending to the health of expectant mothers and nursing mothers and of children who have not attained the age of five years and are not in attendance at schools recognized by the Board of Education;

(d) all the powers of the Privy Council and of the Lord President of the Council under the Midwives Act, 1902;

(e) such powers of supervising the administration of Part I. of the Children Act, 1903 (which relates to infant life protection), as have heretofore been exercised by the Secretary of State:

Provided that—

(i) The power conferred on the Insurance Commissioners by the proviso to subsection (2) of section sixteen of the National Insurance Act, 1911, of retaining and applying for the purposes of research such sums as are therein mentioned shall not be transferred to the Minister, but the duties heretofore performed by the Medical Research Committee shall after the commencement of this Act be carried on by or under the direction of a Committee of the Privy Council appointed by His Majesty for that purpose; and

(ii) In such matters of a judicial nature under the National Insurance (Health) Acts, 1911 to 1918, as may be prescribed under those Acts, the powers and duties of the Insurance Commissioners and the Welsh Insurance Commissioners by this Act transferred to

the Minister shall be exercised by the Minister through a special body or special bodies of persons constituted in such manner as may be so prescribed.

(2) It shall be lawful for His Majesty from time to time by Order in Council to transfer to the Minister—

(a) all or any of the powers and duties of the Board of Education with respect to the medical inspection and treatment of children and young persons;

(b) all or any of the powers and duties of the Minister of Pensions with respect to the health of disabled officers and men after they have left the service;

(c) all or any of the powers and duties of the Secretary of State under the Lunacy Acts 1890 to 1911, and the Mental Deficiency Act, 1913.

(3) It shall be lawful for His Majesty from time to time by Order in Council to transfer from the Minister to any other Government Department any of the powers and duties of the Minister relating to the matters specified in the First Schedule to this Act.

(4) His Majesty may by Order in Council make such consequential and supplemental provisions as may be necessary or expedient for the purpose of giving full effect to any transfer of powers or duties by or under this section, and may make such adaptations in the enactments relating to such powers or duties as may be necessary to make exercisable by the Minister and his officers or by such other Government Department and their officers, as the case may be, the powers and duties so transferred.

(5) In connection with the transfer of powers and duties to or from the Minister by or under this Act, the provisions set out in the Second Schedule to this Act shall have effect.

4. *Consultative Councils.*—(1) It shall be lawful for His Majesty by Order in Council to establish consultative councils for giving in accordance with the provisions of the Order advice and assistance in connection with such matters affecting or incidental to the health of the people as may be referred to in such Order.

(2) Every such council shall include persons of both sexes, and shall consist of persons having practical experience of the matters referred to the Council.

5. *Provisions as to Wales.*—The Minister may establish in Wales an office in such town in Wales as he may determine, for the exercise and performance in Wales, through such officers as the Minister may appoint for the purpose, of any of the powers or duties transferred to the Minister by this Act from the Welsh Insurance Commissioners.

6. *Staff and Remuneration.*—(1) The Minister may appoint such secretaries, officers, and servants as the Minister may, subject to the consent of the Treasury as to number, determine.

(2) There shall be paid out of moneys provided by Parliament to the Minister an annual salary not exceeding five thousand pounds, and to the secretaries, officers, and servants of the Ministry such salaries or remuneration as the Treasury may from time to time determine.

(3) The expenses of the Ministry, including payments to members of consultative councils, to such amount as may be sanctioned by the Treasury, shall be paid out of moneys provided by Parliament.

(4) There shall be transferred and attached to the Ministry the persons employed under the Local Govern-



ment Board, the Insurance Commissioners and the Welsh Insurance Commissioners, and such of the persons employed under any other Government Department in or about the execution of the powers and duties transferred by or under this Act to the Minister, as the Minister and Government Department, with the sanction of the Treasury, may determine.

(5) The Minister may from time to time distribute the business of the Ministry amongst the several persons transferred or attached thereto in pursuance of this Act, in such manner as he may think right, and those officers shall perform such duties in relation to that business as may be directed by the Minister:

Provided that such persons shall be in no worse position as respects the tenure of office, salary, or superannuation allowances than they would have been if this Act had not been passed.

**7. Seal, Style, and Acts of Minister.**—(1) The Minister may sue and be sued, and may for all purposes be described, by the name of the Minister of Health.

(2) The Minister shall have an official seal, which shall be officially and judicially noticed, and shall be authenticated by the signature of the Minister, or of a secretary, or any person authorized by the Minister to act in that behalf.

(3) Subsections (2) to (4) of section eleven and section twelve of the New Ministries and Secretaries Act, 1916, shall apply to the Minister and the Ministry of Health, and to the office of the Minister of Health and in like manner as they apply to the Ministers and Ministries mentioned in those sections.

**8. Provisions as to Orders in Council.**—(1) Any Order in Council made under this Act may be revoked or varied by a subsequent Order.

(2) Before any Order in Council under this Act is made, notice of the proposal to make the Order and of the place where copies of a draft of the Order can be obtained shall be published in the London Gazette, and in such other manner as the Minister thinks best adapted for insuring publicity, and a draft of the Order shall be laid before each House of Parliament for not less than thirty days on which such House is sitting.

(3) In the case of an Order providing for the transfer to another Department of powers and duties in relation to the regulations of procedure at elections of local authorities, or the supervision of the registration of electors, the Order shall not take effect until both Houses by resolution have adopted the same [and shall take effect subject to any modifications and adaptations which may be agreed to by both Houses] and in the case of any other Order if either House before the expiration of such thirty days presents an address to His Majesty against the draft, or any part thereof, no further proceedings shall be taken thereon, without prejudice to the making of any new draft order.

**9. Application to Scotland.**—This Act shall apply to Scotland, subject to the following modifications:—

(1) Section one of this Act shall apply to Scotland as it applies to England and Wales with the substitution of a Scottish Board of Health (hereinafter referred to as the Board) for the Minister; and accordingly references in this Act to England and Wales shall be construed as references to Scotland, and references to the Minister or the Ministry shall, so far as applicable, be construed as references to the Board.

(2) The Secretary for Scotland shall be substituted for the Secretary of State, and the Local Government Board for Scotland and the Scottish Insurance Commissioners shall respectively be substituted for the Local Government Board and the Insurance Commissioners, and in subsection (2) of section three the Scotch Education Department shall be substituted for the Board of Education.

(3) The Board shall, in the first instance, consist of such members of the Local Government Board for Scotland (not being members thereof *ex officio*), and such Scottish Insurance Commissioners, respectively holding office at the passing of this Act, as the Secretary for Scotland shall appoint, and shall at all times comprise a member of the Faculty of Advocates of not less than seven years' standing, and a registered medical practitioner who is

also registered on the Medical Register as the holder of a diploma in sanitary science, public health or state medicine, under section twenty-one of the Medical Act, 1886. Subject as aforesaid, the Board shall consist of not more than six members whom it shall be lawful for His Majesty to appoint as vacancies occur on the recommendation of the Secretary for Scotland. The Chairman of the Board shall be such member thereof as the Secretary for Scotland, with the approval of His Majesty, shall appoint. The Chairman and other members of the Board shall receive such salary or remuneration as the Treasury may from time to time determine: Provided that persons qualified to be in the first instance appointed members of the Board shall whether so appointed or not have the like right of transfer as, and upon such transfer shall be deemed to be, persons transferred and attached to the Board in pursuance of this Act.

(4) The Board shall in the carrying out of their powers and duties conferred or imposed by this or any other Act, act under the directions of the Secretary for Scotland and comply with any instructions issued by him.

(5) The Midwives (Scotland) Act, 1915, shall be substituted for the Midwives Act, 1902, and the Edinburgh Gazette for the London Gazette. References to the Welsh Insurance Commissioners shall not apply.

(6) Section twelve of the New Ministers and Secretaries Act, 1916, shall not apply, but a parliamentary under secretary may be appointed by the Secretary for Scotland, and there shall be paid to any under secretary so appointed such remuneration as may be fixed by the Treasury. The office of an under secretary so appointed shall not render the holder thereof incapable of being elected to, or sitting or voting as a member of, the Commons House of Parliament.

**10. Consequential Modifications of Insurance Acts.**—(1) The Irish Insurance Commissioners, in the carrying out of their powers and duties under the National Insurance (Health) Acts, 1911 to 1918, shall, except in such matters of a judicial character as may be prescribed under those Acts, act under the directions of the Chief Secretary, and further appointments of persons to be Irish Insurance Commissioners shall, subject to the consent of the Treasury as to numbers, be made by the Chief Secretary; but, save as aforesaid, or as otherwise expressly provided in this Act, nothing in this Act shall affect any of the powers or duties of the Irish Insurance Commissioners.

(2) The National Health Insurance Joint Committee shall consist of the Minister of Health, who shall be chairman, the Secretary for Scotland, and the Chief Secretary for Ireland, together with one other person appointed by the Minister, being a person having special knowledge and experience of national health insurance in Wales, but save as aforesaid nothing in this Act shall affect the constitution of that Committee or the incorporation thereof:

Provided that—

(a) regulations under section eighty-three of the National Insurance Act, 1911, shall be made by the Committee instead of by the Treasury, and subsection (4) of that section shall apply to regulations made by the Committee in like manner as it applies to regulations made by the Treasury, but nothing in this provision shall affect the validity of a regulation made by the Treasury under that subsection before the commencement of this Act with respect to the powers and procedure of the Committee, and any such regulation shall continue in force, until altered or revoked by regulations made by the Committee in pursuance of this provision; and

(b) regulations made by the Committee under the said section eighty-three as amended by this section shall provide for the appointment of deputies to act for the several members of the Committee at meetings of the Committee at which such members are unable to be present.

**11. Short Title, Commencement, and Repeal, and Interpretation.**—(1) This Act may be cited as the Ministries of Health Act, 1918, and shall come into operation upon



such day or days as may be appointed by Order in Council, and different days may be appointed for different purposes and provisions of this Act:

Provided that the day appointed for the transfer of the powers of the Minister of Pensions shall not be earlier than one year after the termination of the present war.

(2) The enactments mentioned in the Third Schedule to this Act are hereby repealed to the extent specified in the third column of that Schedule.

(3) The expression "Government department" includes the Insurance Commissioners, the Scottish Insurance Commissioners, the Welsh Insurance Commissioners and any other public department and any minister of the Crown who is President of a Government department.

# SCHEDULES.

## FIRST SCHEDULE.

*Matters, the Powers and Duties in relation to which may be Transferred from the Ministry to other Departments.*

Public libraries,  
Museums and Gymnasiums,  
Fire Brigades,  
Piers and Harbours,  
Light railways,  
The use of heavy locomotives on highways,  
Regulation of motor cars,  
Steam whistles,  
Emigration,  
The subject matter of the Unemployed Workmen's Act, 1905,  
Appeals under enactments relating to old Age Pensions,  
Regulation of procedure at elections of local authorities,  
Supervision of the registration of electors.

## SECOND SCHEDULE.

*Transitory Provisions.*

1. In the construction and for the purposes of any Act of Parliament, judgment, decree, order, award, deed, contract, regulation, bylaw, or other document passed or made before the transfer to or from the Minister from or to any other Government Department of any powers or duties by or under this Act, but so far only as may be necessary for the purpose of such transfer, the name of the Minister or of the other Government Department shall be substituted for the name of the other Government Department or of the Minister, as the case may require.

2. Where anything has been commenced by or under the authority of any other Government Department or the Minister before the transfer to the Minister or another Government Department of any powers or duties by or under this Act, and such thing is in relation to the powers or duties so transferred, such thing may be carried on and completed by or under the authority of the Minister or the other Government Department as the case may be.

3. Where at the time of the transfer of any powers or duties by or under this Act any legal proceeding is pending to which any Government Department or the Minister is a party, and such proceeding has reference to the powers and duties transferred by or under this Act, the Minister or the other Government Department shall be substituted in such proceeding for the other Government Department or the Minister, as the case may be, and such proceeding shall not abate by reason of the substitution.

## THIRD SCHEDULE.

*Repeals.*

Section and Chapter.	Short Title.	Extent of Repeal.
31 and 35 Vict. c. 70.	The Local Government Board Act, 1871	Sections three, four, five, and six.
57 and 53 Vict. c. 53.	The Local Government (Scotland) Act, 1894	Sections three, four, five and six.
1 and 2 Geo. V. c. 55.	The National Insurance Act, 1911	Paragraph (b) of and the proviso to subsection 2 of section sixteen, subsection (1), 2, 3 and (4) of section fifteen, and section fifty eight except so far as these sections are applied to the Irish Insurance Commissioners. In paragraph (1) of section eighty-one the words "shall be appointed by the Treasury," and subsections (1) and 2 of section eighty-two. In subsection (1) of section eighty-three, the words "as soon as may be after the passing of this Act, in accordance with regulations made by the Treasury," and the words from "of the several bodies of Commissioners" to the end of the subsection.

## Association Notices.

### NOTICE TO MEDICAL OFFICERS ATTACHED TO THE FORCES OF THE DOMINIONS AND UNITED STATES.

THE Council of the Association invites medical officers attached to the Forces of the Dominions and United States, temporarily resident in the United Kingdom, to make use of the Office of the Association, 429, Strand, London, W.C.C., including the Library. The Council is obliged to medical officers, through the efforts of the Association, any information or assistance in its power.

Medical officers attached to the Forces of the Dominions and United States temporarily resident in the United Kingdom are also invited to get into touch with the Honorary Secretaries of the Divisions or Branches of the Association in the areas of which they reside, with a view to their being enabled to attend, where possible, the Division or Branch meetings, or to offer them such professional hospitality as may be possible in the circumstances. On application the Medical Secretary will be glad to send any such officer the name and address of the Secretary of the local Division or Branch.

ALFRED COX, O.B.E., M.B.,

October 30th, 1918.

Medical Sec. Gen.

## INSURANCE.

### A REMEDY FOR LOW PANEL FEES.

NONENTITY writes: Under Section 2 of the County Panel Agreement for 1915, it is agreed well to agree to make payments for visits, and the doctor is the needed to the patient's house. If many doctors have such agreements with their patients?

If a doctor can charge and does not charge, the authorities know that he is sufficiently well paid or sufficiently foolish for them to agree to his payments.

If the patient lives too far from the nearest doctor, the doctor can let the committee go through the process of compelling the acceptance. In towns let each doctor refuse to accept transfers within a certain section or above a certain distance. Tell the patient quietly that you "can no longer afford" and a law case will be the result. The number of such cases is an index of the need for mileage grants and the sufficiency of panel fees.

If a man will not release a small part of his fees, he will not refuse the whole by resigning or going on strike.

November is the time for removing distant patients from your list, and thus testing yours. It is to see how you will enjoy a struggle with the Government. Only those who express regret at your finding it necessary to do this need be told that they can make a new agreement in January.

### AMOUNT OF ADVANCE PAYMENTS: THE "FLOATING SINKING."

At the meeting of the London Panel Committee on October 22nd it was reported that the amount of balance of the Practitioners' Fund to be distributed as final settlement for 1917 was £103,907. It was pointed out that a larger sum might with advantage have been distributed by way of advance payments during the year. If the second instalment in each quarter had been 8d. instead of 7d., there would still have been a considerable balance in hand to cover possible errors. Under the present instructions of the Insurance Commissioners the Insurance Committee is not empowered to distribute a larger sum, and it was decided to press for a reconsideration of the position. It was further reported that in 1917 the average cost of medicines for insured persons in the county was 1s. 6d., as compared with 1s. 9d. for 1916. The amount to be transferred from the Drug Fund to the Practitioners' Fund was £31,195, and the whole amount derived from what was known as the "floating expence" was thus available for the first time for distribution amongst practitioners.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

The following appointments are announced by the Admiralty:—Green D. (temporary); D. M. Arnold to the *Proteus*; W. L. G. to the *Chicopee*; W. A. Bailey to the *Bradford*, for Successor Barracks and Yard.

### ROYAL NAVAL VOLUNTEER RESERVE.

To be Surgeon Sub-Lieutenants: J. V. Williams, G. L. Stanley, et. A. S. Peacock, W. B. Burke, J. McD. S. Sater, J. K. Milward, T. Harrison, A. F. Whyte.

### ARMY MEDICAL SERVICE.

Colonel Sir W. B. L. Smith, K.C.M.G., C.B., F.R.S., K.H.P., to be Major-General, vice Major-General Sir G. A. Bedford retired.

The notification in the *London Gazette* of October 21st, 1918, regarding the retirement of Colonel James Neek, C.B., is cancelled.

### ROYAL ARMY MEDICAL CORPS.

Major relinquish the active rank of Lieut. Colonel on reposting: T. B. Moriarty, D.S.O., C. G. Browne, D.S.O.

To be acting Lieut. Colonels.—Whilst employed as Assistant Directors of Medical Services: Major (Brevet Lieut. Colonel) H. V.



Bagshawe, D.S.O., temporary Captain W. Angus. Whilst in command of Medical Units: Majors G. De la Cour, J. J. O'Keefe, M.C., A. W. Gator; Captains A. C. Elliott, J. F. Grant, S. J. Higgins, E. A. Strachan (from May 2nd to 26th inclusive).

Temporary Major W. Murray (Lieut.-Colonel R.F.A., T.F.) to be temporary Lieut.-Colonel.

To be temporary Majors: Temporary Major W. F. L. A. Holcroft, from S.A.M.C.; Major H. S. White, from N. Rhodesian M.C.

Captains T. J. Kelly, M.C., and W. F. Christie relinquish the acting rank of Major on reporting.

Temporary Captains H. T. H. Butt and C. L. T. Arthur relinquish the acting rank of Major.

To be acting Majors: - Captains: P. A. Opie, F. P. Rankin, H. W. Carson, D.S.O., T. P. Kennedy, H. P. Rudolf, J. P. Litt, C. E. G. Dick, M.C., D. W. Pailthorpe, M.C., H. Beddingfield, D.S.O. Temporary Captains: W. Edmondson and P. McNeil whilst specially employed.

G. D. Laing, K. C. Middlemiss, A. E. Quine, R. B. Roe, W. W. Forbes, G. F. Bird, M.C., J. S. Stewart, A. Ryland, A. B. Cardew, M.C. Temporary Lieutenant T. E. Coulson.

To be temporary Captains: Captain T. S. Keith, from R. W. Surrover Regiment (T.F.), Captain A. Wallrugh, S.A.M.C., J. Humphreys, C. W. J. Dunlop, T. Sheehan, A. E. Gravelle, C. V. Cornish. Temporary Lieutenants: W. Fletcher Barrett, W. B. Dove, W. V. Naish, B. R. Vickers, J. A. C. Smith, F. W. Mannell, W. Dalgleish, C. H. A. Alderton, J. Robertson, W. F. Pitt, J. B. Burt, R. E. Moxes, H. Walker, V. T. P. Webster, J. J. Smith, M. J. Landy, J. M. Sheridan, W. T. Thomson, F. J. Cutler, J. Feldman, Capt. W. Murray, E. Clarke, W. H. Richardson, E. A. Miller, J. McCausland, H. M. Gilbertson, A. Evans, F. W. K. Lawrie, W. S. Gibson, T. C. Graves, H. Love, W. H. Condell, H. F. Penman, W. H. Ogilvie, G. Hoffmann.

The notifications in the *London Gazette* of June 4th and July 3rd, 1918, regarding Lieutenant (temporary Captain) Rhys T. Jones are cancelled.

To be temporary honorary Captains: D. R. W. Crile, J. S. Burn (whilst employed with St. John Ambulance Brigade Hospital).

Officers relinquish their commissions—Temporary Major A. M. Leake, V.C. Temporary Captains: A. N. Collier and L. G. White (on account of ill health), M. J. Mulligan, W. H. Howat and (acting Major) C. Roche (on account of ill health contracted on active service, and are granted the honorary rank of Captain), H. A. Cecil (on account of ill health and is granted the honorary rank of Lieutenant), E. S. Hall, J. H. Wilks, W. Lumley, B. Lyons, J. G. Milne, R. G. Abercrombie, T. E. Mulvaney. Temporary honorary Captain A. Renshaw (on ceasing to be employed with Welsh Hospital, Netley). Temporary Lieutenants H. N. Maret, G. E. J. Greene.

To be temporary Lieutenants: G. S. Livingstone, W. J. G. Johnson, T. W. Lumsden, S. A. Bontor, H. G. Watters, B. Herley, H. H. McClelland, W. J. N. Todd, A. Linn, M. Rust, S. J. Healy, P. Carroll, G. A. Valentine, M. Cahill, J. N. McTurk, C. A. D. Bryan, J. Morton, W. H. M. Smith, C. B. Gervis, G. A. Fothergill, R. J. Smith, T. T. Smith, J. D. E. Williams, A. Shearer, A. E. Ainscow, H. H. Patrick, S. T. Rowling, W. C. Morton, B. Dunlop, D. A. Johnstone, F. Anderson, D. M. Barroff.

To be temporary honorary Lieutenants: A. H. Miller (whilst serving with Welsh Hospital, Netley), C. H. Backus.

#### ROYAL AIR FORCE.

##### MEDICAL BRANCH.

F. F. Muecke (temporary Major R.A.M.C.) is granted a temporary commission as Major, and to be acting Lieut.-Colonel whilst employed as Lieut.-Colonel, April 1st, with seniority next below T. Haugerston (substituted for notification in the *London Gazette*, May 28th).

Granted temporary commissions—As Captains: G. C. Hall (Surgeon-Captain ret. I.M.S.), R. J. Aherne (late Captain R.A.M.C.). As Lieutenants: L. T. McElligott, W. C. A. Ovey.

The initials of Lieutenant N. L. Smallbone are as now described, and not as stated in the *London Gazette*, June 28th.

#### SPECIAL RESERVE OF OFFICERS.

##### ROYAL ARMY MEDICAL CORPS.

Major G. Lane is placed on the retired list on account of ill health contracted on active service.

Captain R. G. Bannerman relinquishes his commission on account of ill health contracted on active service, and is granted the honorary rank of Captain.

Captain L. L. Newell relinquishes the acting rank of Major on reporting.

Captain D. Dempster relinquishes his commission on account of ill health, and is granted the honorary rank of Captain.

To be Lieutenants: J. M. Melvin, from Glasgow University Contingent O.T.C.; G. H. Middleton, from Edinburgh University Contingent O.T.C.

#### QUEEN MARY'S ARMY AUXILIARY CORPS.

To be Controllers of Medical Services: Jane H. Turnbull (Oct. 1st, 1917), Laura S. Sandeman (Oct. 12th, 1917).

To be Medical Controllers: Irene C. D. Eaton (Oct. 17th, 1917), Mabel A. D. Crawford (Oct. 22nd, 1917), Cicely M. Peake (Oct. 27th, 1917), Grace E. Soltan (Nov. 17th, 1917), Mary G. McCullough (Ore Caskey) (Dec. 1st, 1917), Katherine J. S. Claik (Dec. 1st, 1917), Alice Stalker (Dec. 1st, 1917), Eleanor E. Bourne (Jan. 2nd, 1918), Agnes H. Nicholl (August 12th, 1918).

To be Recruiting Medical Controllers: Adeline M. Roberts (Oct. 1st, 1917), Julia V. Christie (Oct. 1st, 1917), Anne M. Watson (Oct. 8th, 1917), Elizabeth Budd (Oct. 8th, 1917), Eleanor A. Montgomery (Oct. 8th, 1917), Hester M. Henderson (Oct. 15th, 1917), Mary B. Ferguson (Oct. 18th, 1917), Amy Hodgson (Nov. 7th, 1917), Charlotte A. F. Sturm (July 5th, 1918).

To be medical officials: Hannah K. Alton (Oct. 1st, 1917), Marjorie McMillen (Nov. 14th, 1917), Celia M. C. Macneil (Nov. 27th, 1917), Amy F. Nash (Nov. 27th, 1917), Adeline H. Campbell (Jan. 25th, 1918), Alice Ratnay (Feb. 7th, 1918), Stephanie P. L. H. T. Daniel (Feb. 22nd, 1918), Margaret E. Douglas (April 12th, 1918), Olive M. Anderson (May 1st, 1918), Annie S. Robertson (May 1st, 1918), Lillian M. W. Grant (May 3rd, 1918), Agnes M. Cowan (May 7th, 1918), Rosalie Holmes (June 17th, 1918), Hilda W. Esson (September 7th, 1918), Jessie H. Gellatly (Sept. 18th, 1918).

#### TERRITORIAL FORCE.

##### ROYAL ARMY MEDICAL CORPS.

Major (Brevet Lieut.-Colonel, temporary Lieut.-Colonel) J. Smart relinquishes his temporary rank on ceasing to command a general hospital.

Major (temporary Lieut.-Colonel) J. M. G. Brenner relinquishes his temporary rank on ceasing to command a field ambulance.

Major (acting Lieut.-Colonel) R. T. Hughes to relinquish his acting rank on ceasing to be specially employed.

Majors C. A. Leedham-Green and A. H. Buck relinquish their commissions on account of ill health, and are granted the honorary rank of Major.

Major (Brevet Lieut.-Colonel) F. E. A. Webb, from General List, to be Lieut.-Colonel on the permanent personnel.

Temporary Majors to be Majors, with precedence from the date shown against their names: V. Howard (Jan. 17th, 1918), J. Med. Nicoll (April 24th, 1918), J. W. Shaugher (June 27th, 1918), A. R. Hinchley (July 14th, 1918).

Temporary Majors (temporary Lieut.-Colonels) E. Turton, J. Gray, and J. Evans to be Majors, precedence from June 15th, 1918, August 23th, 1918, and April 24th, 1918, respectively, and to relinquish their temporary rank.

Captain (acting Lieut.-Colonel) D. H. Weir to be Major and to retain acting rank of Lieut.-Colonel.

To be acting Majors whilst specially employed, with precedence from the date shown against their names: Captains: J. W. McIntosh (Dec. 16th, 1914), T. G. Buchanan (Sept. 24th, 1915), H. G. Magrath (March 26th, 1915), R. Waterhouse (Aug. 8th, 1915), R. Phillips (March 6th, 1915), J. Turtle (April 10th, 1915), J. D. Fiddes, M.C. (Jan. 14th, 1915), J. F. Macintosh (Dec. 26th, 1914), T. H. Peyton, D.S.O. (Jan. 5th, 1915), W. D. Sturrock (Sept. 11th, 1915), O. H. Williams (Jan. 15th, 1915), E. Knight (Aug. 14th, 1915), E. L. Kowse (May 1st, 1915), W. C. Macaulay (Sept. 13th, 1914), A. C. F. Turner, D.S.O. (Aug. 20th, 1915), A. A. Hington (Nov. 10th, 1914), H. B. Smart (Oct. 19th, 1915), R. J. Dunbar (April 30th, 1915), G. P. D. Hawker (Oct. 29th, 1914), R. Eager (Sept. 28th, 1915), H. O. Adams (Nov. 6th, 1915), F. E. Stokes (Nov. 13th, 1915), J. W. Kemp (July 13th, 1915).

Captain A. McGilivray to be Major.  
Captain (acting Lieut.-Colonel) G. E. G. Mackay, M.C., reverts to acting Major on ceasing to command a field ambulance, precedence from Jan. 4th, 1918.

Captains to be acting Lieut.-Colonels whilst commanding a field ambulance: A. G. Hebblethwaite, D.S.O., O. W. D. Steel, M.C., P. Moxey, (acting Major) W. D. Sturrock, D.S.O.

Temporary Captain W. H. Broad to be temporary Major.

Captains to be acting Majors whilst specially employed: H. W. Bayly, A. Leggat, D.S.O., L. P. Harris, S. F. St. J. Steadman, J. Chalmers, R. O. Sibley, J. H. Wood, M.C., W. F. Corfield, A. S. M. Macgregor, R. Prondfoot, A. B. Sloan, H. R. Dive, P. S. Martin, M.C., T. W. H. Downes, B. Hughes, D.S.O., W. B. Marshall (and to remain seconded), R. W. Swayne, E. W. Matthews, H. F. W. Boedicker, L. Rawes, H. F. Everett.

Temporary Captains (acting Majors) to be Captains, precedence from the date shown against their names, and to retain their acting rank: A. J. Blaxland (March 26th, 1915), M. Coplans (Sept. 1st, 1914), T. J. T. McHattie (Sept. 2th, 1914), H. B. Low, M.C. (April 9th, 1915).

Temporary Captains to be Captains, precedence from dates shown against their names: W. Fitzpatrick (Jan. 23rd, 1915), J. Muir (Sept. 22nd, 1914), W. H. Broad (May 26th, 1915), R. R. Macnicol (July 20th, 1915), G. Moore, M.C. (Sept. 7th, 1915), C. E. Whitehead (Sept. 24th, 1914), J. H. Jones (Oct. 1st, 1914), F. Ward (Oct. 8th, 1914), J. S. Hudson (Nov. 10th, 1914), H. M. S. Turner (Sept. 22nd, 1915), C. S. Young (Jan. 24th, 1915), H. G. L. Alford (April 26th, 1915), E. A. C. Pagan, M.C. (Nov. 28th, 1915), C. O. Lavinton (Nov. 13th, 1915), J. A. Mathers (June 19th, 1915), A. G. Hendley (Aug. 11th, 1915), H. W. Bayly (Sept. 4th, 1915), R. Verel (Sept. 1th, 1914), H. Wade, D.S.O. (Sept. 10th, 1914), A. Mowat (Dec. 1st, 1914), R. W. C. Macdonald (Sept. 26th, 1915), L. Colledge (Dec. 1st, 1914), G. H. Hunt (Nov. 27th, 1914), A. W. Nuthall (Jan. 11th, 1915), H. C. Adams (Oct. 28th, 1914), J. Cook, M.C. (July 2nd, 1915).

#### EXCHANGE.

CAPTAIN R.A.M.C., Southampton, wishes to exchange stations with M.O., R.A.M.C. in London.—Address, No. 4450, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

#### APPOINTMENTS.

DUNLOP, D. J., L.R.C.P. and S. Edin., L.R.F.P.S. Glasg., Medical Officer of the Newbury Union Workhouse.

DISTRICT MEDICAL OFFICERS—W. E. Baker, M.R.C.S., L.R.C.P. (Rochford Union), J. V. Coehlan, L.A.H.Dub. (Lincoln Union), A. G. C. Findlay, L.S.A. (Swindon and Highworth Union), R. A. Hosegood, L.R.C.P. and S. Edin. (Credon Union), G. J. Meikle, L.R.C.P. and S. Edin. (Glary Union), H. W. Price, M.R.C.S., L.R.C.P. (Manchester Union), B. Suggit, M.B., Ch.B. (Hitchin Union).

#### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.

##### BIRTH.

GILBERT SCOTT.—On November 2nd, at 6, Bentinck Street, W., to Alice, the wife of S. Gilbert Scott, M.R.C.S., L.R.C.P., a daughter.

##### DEATHS.

FISHER.—On November 6th, at King's Langley, of pneumonia, Frederick Charles Fisher, F.R.C.S., aged 60.

LOGAN.—On October 31st, at Stone, Aylesbury, from influenza, Thomas Stratford Logan, L.R.C.P., L.R.C.S. Edin., D.P.H. Lond., Assistant Medical Officer, Bucks County Asylum, elder son of the late William Logan, M.D., and of Mrs. Logan, Whitehead, co. Antrim.

McCLINTOCK.—November 11th, at The Chestnuts, Loddon, Norfolk, of pneumonia following influenza, Lawson Tait McClintock, M.B. Edin., Ch.B., Captain R.A.M.C.(V.), dearly beloved husband of Maud Louise McClintock.

#### DIARY FOR THE WEEK.

ROYAL SOCIETY OF MEDICINE.—General Meeting of Fellows: Tuesday, 5 p.m. Section of Psychiatry: Tuesday, 4.30 p.m. Presidential Address by Dr. William McDougall, F.R.S.: The Position in Clinical Psychology. Section of History of Medicine: Wednesday, 5 p.m. Dr. Raymond Crawford: Antonius Musa; Dr. Cunnison: Celsus's Operation of Lithotomy. Section of Dermatology: Thursday, 4.30 p.m., Cases. Section of Disease in Children: Friday, 4.30 p.m., Cases.



# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 23RD, 1918.

## CONTENTS.

	PAGE		
<b>British Medical Association.</b>			
<b>CURRENT NOTES:</b>			
STATUS OF INDIVIDUAL MEMBERS IN THE MANAGEMENT OF THE AFFAIRS OF THE ASSOCIATION ... ..	77	NAVAL AND MILITARY APPOINTMENTS ... ..	77
MEDICAL DEMOBILIZATION ... ..	77	APPOINTMENTS ... ..	78
PAY OF MEDICAL OFFICERS OF THE TERRITORIAL FORCE AND SPECIAL RESERVE ... ..	77	BIRTHS, MARRIAGES, AND DEATHS ... ..	78
		DIARY FOR THE WEEK ... ..	78
		DIARY OF THE ASSOCIATION ... ..	78

### British Medical Association.

#### CURRENT NOTES.

##### Status of Individual Members in the Management of the Affairs of the Association.

At the last meeting of the Council of the Association the Organization Committee reported that it had received information from several quarters to the effect that there exists to some extent among members, and more especially among non-members, an impression that individual members of the Association have practically no voice in the conduct of its affairs, especially when, as is often the case at present, the individual is unable to attend a Division meeting or record his or her vote by post. The Committee accordingly proposed in communicating with the Divisions and Branches to draw special attention to the fact that under By-law 35 it was within the power of constituencies to elect their representatives by postal vote. This recommendation, which was agreed to, gave rise to some discussion, and eventually, on the motion of the Treasurer, seconded by Dr. Domville, it was resolved to instruct the Organization Committee to report on the possibility of the extension of the use of the postal vote in the administration of the affairs of the Association.

##### Medical Demobilization.

In view of the cessation of hostilities the Central Medical War Committee has been in communication with the Ministry of National Service, and through it with the War Office, as to the possibility of immediately relieving the strain upon the medical profession in England and Wales, due to the epidemic of influenza, by the release of a certain number of medical men from military service. The War Office has promised its assistance, and although the number of medical officers who can be released in the near future is comparatively small, it is hoped that they will relieve the pressure on areas where the risk of breakdown in attendance on the civil population is substantial.

The Committee has addressed a letter to the Local Medical War Committees in England and Wales, asking each to consider the condition of its area, to ascertain whether any particular district in it is seriously depleted of medical men as to be in danger, and to select from the list of medical men from any such district now on service those most likely to meet the risk. It is pointed out that as the intention is to relieve the urgent pressure on the medical profession men should not be nominated who are serving on distant fronts, and that in the emergency due to the epidemic of influenza, questions of personal hardship and length of service should not be taken into account, except in cases in which the return of one of two doctors would equally relieve the difficulty in a particular district. Should it be found that no medical officer now on service belonging to the district is available the Committee is asked to notify this, so that steps may, if possible, be taken to relieve the situation. The Local Medical War Committees are asked also to prepare second lists of medical officers whose release from military service will preclude the possibility of future breakdown, and also to take into consideration the position of hospitals and

other institutions in the area not under a Government department. With the information asked for in its possession the Central Medical War Committee will appportion the medical officers that can be released by the military authorities among the local committees, in accordance with the urgency of the situation in each area.

The two points upon which the local committees are asked to advise may be summarized under the two heads, of relieving existing danger and securing future safety. Application should be made only from such districts in which real difficulty exists or is anticipated.

##### Pay of Medical Officers of the Territorial Force and Special Reserve.

The Naval and Military Committee of the Association has enlisted the active interest and co-operation of Commander Carlyon Bellairs in the effort to obtain more equitable treatment of the junior officers of the R.A.M.C. (T.F.) and Special Reserve who joined before the war. Failing to obtain satisfactory official replies to the various questions which he has asked in the House on the subject, Commander Bellairs has recently circularized every member of Parliament asking whether they are prepared to support the recommendation of the Departmental Committee on Promotion and Pay of Officers of R.A.M.C. Special Reserve and Territorial Force—namely, that officers of the R.A.M.C.(T.F.) and Special Reserve who joined before the war should be put on a level with temporarily commissioned contract officers as regards pay, allowances, and gratuities, where they would gain thereby. Over 160 favourable replies have been received, and Commander Bellairs has been asked to press the matter further at the earliest opportunity.

### Naval and Military Appointments.

#### ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commander R. Hughes to the *Neptune*. Surgeon Lieutenant Commander: A. R. Davidson to the *London*, L. F. Cope to the *Europa*. Surgeon Lieutenants (temporary): W. L. Colbourne to Haslar Hospital, J. H. Sheldon to Chatham Hospital, T. F. Ashley to the *Crescent*, V. I. Smith to the *Lancaster*. To be Surgeon-Lieutenant (temporary): J. T. Johnston.

#### ARMY MEDICAL SERVICE.

##### ROYAL ARMY MEDICAL CORPS.

The notification in the *London Gazette* of October 3rd regarding temporary honorary Lieut.-Colonel Sir John Bland Sutton is cancelled.

To be acting Lieut.-Colonels whilst in command of a medical unit: Temporary Captain (acting Major) F. R. Thornton, M.C., Lieutenant (temporary Captain) A. J. Hickey, M.C., temporary Captain J. G. Bruns, M.C., temporary Major C. V. MacLay, Major F. A. Stephens, D.S.O.

Captain F. C. Moore, R.A.M.C.(T.F.), to be temporary Lieut.-Colonel whilst specially employed.

The following relinquish the acting rank of Major on reposting: Captain E. Cafford, temporary Captains H. F. Wilson, M.C., W. S. Martin, M.C., T. P. Cole.

Temporary Captain H. Dodgson to be temporary Major.

Temporary Captains to be acting Majors:—Whilst specially employed: G. H. Darlington, P. A. Leighton. Whilst commanding troops on a hospital ship: W. A. Clayton.

To be acting Majors: Captain D. C. G. Ballingall, M.C., temporary Captains D. MacIntyre, M.C., H. J. Pickering, C. S. E. Wright, R. G. Riches, J. S. Hall.

Temporary Captain B. H. Mellon from A.V.C. to be Captain. Lieutenants (temporary Captains) to be Captains: J. M. McKenzie, M.C., R. R. Thompson, M.C., acting Major A. E. Richmond, acting Lieut.-Colonel A. J. Hickey, M.C.



A. D. Clinch, late temporary Captain, is granted the honorary rank of Captain.

Officers relinquish their commissions:—Temporary Captains: W. H. Wishart, on account of ill health, and is granted the honorary rank of Captain; V. G. Best, T. B. Sellers, P. A. Hall, G. R. Gray, J. Washon, on account of ill health contracted on active service, and is granted the honorary rank of Captain; temporary honorary Lieutenant S. A. Joor.

Officers relinquish their commissions, on transfer to the R.A.F.: Temporary Captains: W. H. Anderson, F. H. Bowen, E. Brown, J. D. Butler, E. R. Bastard, L. C. Blandstone, W. Bannerman, J. L. Cable, J. E. Cox, E. P. Chen, E. P. Carmody, G. W. Clark, L. G. Davies, A. J. Davoren, R. H. Dixon, R. A. G. Elliott, J. Gardner, H. M. Holt, P. H. Holfield, H. Harvey, R. J. Hearn, A. E. F. P. Hennesman, T. R. Hunter, F. Irvine, F. C. Jobson, W. M. Jeffreys, J. Keenan, W. R. Kemp, A. Lindsay, E. W. Longdon, W. B. Loveless, G. Lewin, C. E. Lowe, T. E. Mulvaney, F. C. Morgan, A. E. McCulloch, P. W. McKear, W. R. Nasmyth, H. J. Orr Ewing, J. J. O'Mallane, W. H. Payne, A. W. P. Pirie, H. W. Pigeon, T. S. Rippon, H. Y. Riddell, J. I. Russell, A. F. Rook, L. C. Rivett, R. H. Robbins, A. B. Rooke, T. E. Regan, R. L. Roe, D. Ranken, J. J. Sinclair, H. B. Smith, C. Salkeld, J. B. Stevenson, M. C. A. E. B. Sim, W. A. Simpson, F. O. Spensley, C. E. Thwaites, A. Thompson, C. Visger, A. W. Weston, A. J. O. Wilmore, D. Wilson, J. L. Whately, W. F. Walker, H. E. Whittin-burn, H. N. Wright, L. A. Walker, W. P. Wippen, A. H. Wade, M. R. Bobson, M. Hocken, O. May, C. Peacock, G. P. Strong, A. H. L. Thomas. Temporary Lieutenants: C. J. Mier, C. T. Costel, O. J. A. Johnson, P. M. Roberts.

Temporary Lieutenants to be temporary Captains: J. B. J. L. Dalby, F. G. Beatty, J. Walker, H. A. R. E. Unwin, A. Y. Hutchinson, D. A. H. Moses, M.C., E. Evans, C. Watson.

#### ROYAL AIR FORCE. MEDICAL BRANCH.

Major (acting Lieut.-Colonel) H. C. T. Langdon retains the acting rank of Lieut.-Colonel whilst employed.  
J. T. T. Forbes is granted a temporary commission as Lieutenant.

#### OVERSEAS CONTINGENTS. CANADIAN ARMY MEDICAL CORPS.

Temporary Major J. S. Carruthers to be temporary Lieut.-Colonel.  
Temporary Captain (acting Major) C. F. Martin to be acting Lieut.-Colonel whilst specially employed as Officer in Command of a Medical Division.

Temporary Captains to be acting Majors: R. N. W. Shillington (while specially employed in a hospital ship), W. A. Wilson (while specially employed at a general hospital).

Temporary Captains to be temporary Majors: H. J. Shields, T. F. Cotton, T. L. Towers, H. W. Whytock, M. C. G. E. McCartney, K. E. Hollis, J. L. Over, (acting Majors) O. S. Waugh, W. G. Lyall, W. L. Mann, H. J. Williamson, and J. B. Goodall.

Temporary Captain C. A. Yates is cashiered by sentence of a general court-martial, September 24th, 1918.

Honorary Captain H. J. Testar to be honorary Captain with pay and allowances.

Temporary Captain C. J. Charpentier is dismissed the service by sentence of a general court-martial, September 29th, 1918.

#### BRITISH WEST INDIES REGIMENT.

Temporary Surgeon-Lieutenant A. G. McKenley to be temporary Surgeon-Captain.

#### TERRITORIAL FORCE. ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel (honorary Surgeon-Colonel) A. Thorne is retired on completion of tenure of command, and is granted permission to retain his rank and to wear the prescribed uniform.

Major A. J. Hall to be Lieut.-Colonel, and is restored to the establishment.

Captain (Brevet Major) H. F. Horne to be Major, and to remain seconded.

Captain J. M. Bowie to be Major.

Captains to be acting Majors whilst specially employed: A. Rodger, J. McL. Macfarlane, M.C., J. B. P. Wilson.

Temporary Captain (acting Major) G. E. St. C. Stockwell to be Major (temporary), May 19th, 1918 (substituted for announcement in the *London Gazette* of July 11th, 1918).

Captain (acting Major) R. S. Taylor, D.S.O., is granted precedence in his acting rank from May 29th, 1915.

Captains F. M. Robertson and F. R. H. Laverick relinquish their commissions on account of ill health contracted on active service, and are granted the honorary rank of Captain.

Captain E. T. Roper relinquishes his commission on account of ill health, and is granted the honorary rank of Captain.

Officers seconded: Captain (temporary Major) D. W. E. Jones (whilst holding a temporary commission in the A.M.S.), Captains W. B. Secretan, J. E. Adams, and A. J. Walton (for service overseas), G. Wright (for service with a general hospital), J. P. I. Harty (for duty with R.A.F.), A. H. Evans, F. C. Moore (whilst holding a temporary commission in the R.A.M.C.).

The announcements regarding temporary Captains W. H. Broad, Charles Butler, and Alexander Anderson, published respectively in the *London Gazette* of October 30th, 1918, October 6th, 1914, and October 23rd, 1914, are cancelled.

Captain (temporary Major) F. D. S. Jackson relinquishes his temporary rank, and is restored to the establishment.

Captain (acting Major) G. L. Chiene relinquishes his acting rank and is restored to the establishment.

Captains (acting Majors) relinquish their acting rank on ceasing to be specially employed: F. E. R. Humphreys (March 31st, 1917), R. Proudfoot, G. A. Auden, W. T. Torrance.

Major C. H. Usher and Captain N. Milner are restored to the establishment.

Captain H. A. T. Fairbank, D.S.O., is restored to the establishment on relinquishing his temporary commission in the R.A.M.C.

Captains H. M. Davies, P. J. Sheedy, G. White, and M. W. Williams relinquish their commissions on account of ill health and are granted the honorary rank of Captain.

Lieutenants to be Captains: R. S. Moon, A. C. Swanston-Thomas, A. G. Yates, R. McKenzie.

Attached to Units other than Medical Units.—Captain A. G. T. Hanks to be acting Major whilst specially employed.

#### TERRITORIAL FORCE RESERVE.

To be Captains: Captains (acting Major) B. B. Hyde, A. Burgess, and J. McE. Deuchars, from R.A.M.C., R. J. McConnell from a field

ambulance, N. P. Laing from Attached to Units other than Medical Units.

Captain T. Porter relinquishes his commission on account of ill health, and is granted the honorary rank of Captain.

#### APPOINTMENTS.

**LEEDS INFIRMARY.**—The following honorary appointments have been made.—Obstetric Surgeon: Carlton Oldfield, M.D., B.S. Lond., F.R.C.S. Aural Surgeon: W. Maxwell Munro, M.B., Ch.B., F.R.C.S. Pathologist: Matthew J. Stewart, M.B., M.R.C.P., Surgeon in Charge of Out-patients: Harold Colinson, Ch.B., D.S.O., M.S., F.R.C.S.

**ST. THOMAS'S HOSPITAL.**—The following appointments have been made:—Casualty Officers and Resident Anaesthetists: W. H. Palmer, B.A. Cantab., M.R.C.S., L.R.C.P., G. A. Gooden, B.A. Cantab., M.R.C.S., L.R.C.P., R. S. Foss, J. J. MacDonnell, M. Beary, Resident House-Physicians: P. Lloyd Williams, A. L. Ward, G. R. Hull, E. A. Walker. Resident House-Surgeons: C. F. McLean, B.A. Cantab., W. M. Anthony, A. T. Spoor, B.A. Cantab., E. R. Macdonald. House-Surgeon to Block 8: R. Calvo, M.R.C.S., L.R.C.P. Obstetric House-Physician: A. St. G. Huggett, M.R.C.S., L.R.C.P.

#### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.

##### BIRTH.

**NITCH-SMITH.**—On November 8th, at 19, Portland Court, W. 1, Joy (née Hounsell), wife of Reginald Nitch Smith, a son.

##### MARRIAGE.

**PICKERING-TURNER.**—On November 14th, at Wilmslow, Cheshire, Captain Bernard Pickering, R.A.M.C., to May, daughter of the Rev. Horace Turner, of Mendip House, Wilmslow.

##### DEATHS.

**ARBuckle.**—On November 17th at Thorne, near Doncaster, Hugh Wheat Arbuckle, M.D., in his 72nd year.

**Dow.**—At Shiraz, Persia, on the 5th inst., of influenza, John Dow, M.A., M.B., Ch.B., Captain Indian Medical Service, aged 29, eldest son of Mr. and Mrs. Peter Dow, Mayne Road, Elgin.

**HOWELLS.**—On November 6th, in France, of pneumonia, John Francis, Surgeon R.N., beloved elder son of Dr. and Mrs. John Howells, Swansea, and dearly beloved husband of Dora Gwendoline Howells (née Miles), The Pines, Llanlan, Cardiff.

**THOMPSON.**—On October 20th, at 92, Huskisson Street, Liverpool, from pneumonia, May (May E. Henry, M.B.), dear & loved wife of M. A. Thompson, M.B., Major R.A.M.C.

**Woo.**—On November 15th, at South Devon and East Cornwall Hospital, Frederick Joseph Woo, M.B., Ch.B., F.R.C.S. Edin., aged 27, House-Surgeon of the Hospital, from pneumonia, following influenza.

#### DIARY FOR THE WEEK.

##### MEDICAL OFFICERS OF THE DOMINIONS AND UNITED STATES.

The following are among the facilities offered in London to medical officers of the Dominions and United States in this country.

The *British Medical Association* invites these officers to make use of its house at 429, Strand, including the library. They are also invited to communicate with the honorary secretaries of the Divisions and Branches of the Association in the areas in which they reside, in order that they may be invited to attend meetings of Divisions or Branches. The Medical Secretary will, on application, send the name and address of the secretary of the local Division or Branch.

The *Royal Society of Medicine* also invites these officers to make use of its library, to attend the meetings of the Society and its sections which are announced weekly in this column, and generally to take advantage of facilities offered by the Society to its Fellows, including the Fellows' room where tea, coffee, and cigarettes are provided between the hours of 4 and 6 p.m. Arrangements have also been made to give help to officers in the country and abroad by sending them information from the library, including abstracts and translations. The principal hospitals of London have cordially expressed their willingness to admit medical officers of the Dominions and American armies to lectures, operations, etc. Further particulars can be obtained on application to the Secretary, Mr. J. Y. W. MacAlister, but detailed programmes are posted in the hall of the Society, 1, Wimpole Street, W. 1 (about five minutes' walk from Oxford Circus).

The *Royal College of Surgeons in England* (Lincoln's Inn Fields, W.C.) has provided in its museum space for the display of the Army Medical War Collection; additions are constantly being made as the preparation of new specimens is completed. The collection, which includes also drawings and specimens of protective apparatus, is open from 10 a.m. to 4 p.m. Officers desiring to read in the library can obtain permission on application to the Librarian.

##### MONDAY.

**MEDICAL SOCIETY OF LONDON.** 11, Chandos Street, W. 1. 8.30 p.m.—Professor J. G. Adams, Colonel C.A.M.S.: Inheritance and Acquisition of Disease—A Study of the Rejected.

**ROYAL SOCIETY OF MEDICINE.** Section of Odontology, 8 p.m. Mr. Cole and Mr. G. H. Bubb: Bone Grafting in Ununited Fractures of the Mandible.

#### DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
NOVEMBER.	
25 Tues.	London: Rural Practitioners Subcommittee, 2.30 p.m.
28 Thur.	London: Propaganda Subcommittee, 2.30 p.m.
DECEMBER.	
10 Tues.	London: Vaccination Subcommittee, 5.30 p.m.



# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 30TH, 1918.

## CONTENTS.

	PAGE
MINISTRIES OF HEALTH BILL, 1918:—	
MEMORANDUM ... ..	73
CONSULTATIVE COUNCILS: DRAFT ORDER ... ..	79
NAVAL AND MILITARY APPOINTMENTS ... ..	82
BIRTHS, MARRIAGES, AND DEATHS ... ..	82

### GENERAL MEDICAL COUNCIL:—

	PAGE
PRESIDENT'S ADDRESS: THE WAR AND THE MEDICAL PROFESSION.—MINISTRIES OF HEALTH BILL.—THE MIDWIVES ACTS.—VENEREAL DISEASES.—GENERAL SCHOOL EXAMINATION, ETC. ... ..	81
DIARY ... ..	82

### MINISTRIES OF HEALTH BILL, 1918.

The following memorandum (Cd. 9211) on the Ministries of Health Bill was issued on November 25th by the Ministry of Reconstruction. The full text of the bill was published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of November 16th.

#### MEMORANDUM.

1. The object and effect of the various provisions of the Bill may be briefly summarized as follows:

#### *Clauses 1 and 2.*

Clause 1 provides for the establishment of a Minister of Health for England and Wales. Clause 2 indicates the general scope of the powers and duties of the Minister in the superintendence of matters relating to health.

#### *Clause 3.*

Subsection (1) provides for the immediate transfer to the Minister of all the powers and duties of the Local Government Board, and of the English and Welsh Insurance Commissions (which will cease to exist); of certain powers and duties of the Board of Education in relation to the health of expectant and nursing mothers and young children; of the powers and duties of the Privy Council in relation to midwives; and of the powers affecting infant life protection under the Children Act, 1908, hitherto exercised by the Home Office.

The transfer of the powers of the Insurance Commissioners are subject to provisos:

(i) enables the Medical Research Committee to be reconstituted under a Committee of the Privy Council on the lines of the Advisory Council already established for the encouragement of Scientific and Industrial Research;

(ii) provides for the future exercise of certain judicial powers and duties of the English and Welsh Insurance Commissions, these powers and duties being the matters in which the Commissioners are at present not subject to Ministerial control.

Subsection (2) enables other powers to be subsequently transferred to the Minister. The powers so transferable are the powers of the Board of Education in relation to medical inspection and treatment, the powers of the Ministry of Pensions in relation to the health of discharged and disabled officers and men, and the powers of the Home Office in relation to lunacy and mental deficiency.

Subsection (3) enables certain powers and duties now vested in the Local Government Board, which do not relate to health, to be subsequently transferred from the Minister of Health to other more appropriate Departments.

Subsections (4) and (5) contain supplementary provisions necessary to enable effect to be given to the transfer of powers to or from the Ministry under the Bill.

In connexion with the provisions enabling powers to be transferred to and from the Minister, it should be noted that Clause 8 requires the submission of proposals for such transfers to both Houses of Parliament, and in certain cases the approval of the proposals by resolution of both Houses.

#### *Clause 4.*

This clause provides for the appointment of Consultative Councils (including both men and women) to give advice and assistance to the Minister on health questions. It

follows in principle section 4 of the Board of Education Act, 1899, section 58 of the National Insurance Act, 1911, under which a Consultative Committee to the Board of Education, and Advisory Committees on Health Insurance, were established, and Clause 20 of the Education (Scotland) Bill now before Parliament, under which it is proposed to establish an Advisory Council. The manner in which it is proposed to carry out the proposals of the clause is further explained below.

#### *Clause 5.*

This clause provides for the establishment of an office of the Ministry in Wales, and for the delegation of the present powers and duties of the Welsh Insurance Commissioners under the National Health Insurance Acts to the officers of the Ministry in the Principality. A provision of this kind is required in view of the existing position of the Welsh Insurance Commission.

#### *Clause 6.*

This clause provides for the payment to the Minister of Health of an annual salary of £5,000 (now voted as the salary of the President of the Local Government Board), and makes other provisions in common form in regard to the staff of the Ministry, and for the transaction of the business of the Ministry.

#### *Clause 7.*

This clause provides that the Minister of Health shall not have to seek re-election on his transfer to that office from another office, and makes provision for the appointment of one Parliamentary Secretary to the Ministry.

#### *Clause 8.*

This clause provides for the submission of the drafts of any Orders in Council prepared under the Act to both Houses of Parliament, for giving publicity to the drafts, and for the revocation or variation of such Orders. Special provision is made in regard to the submission of any Order under which it is proposed to transfer from the Ministry of Health to another Department the functions now exercised by the Local Government Board with regard to procedure at elections of local authorities, or the supervision of the registration of electors. No such transfer can be effected unless both Houses pass resolutions in favour thereof.

#### *Clause 9.*

This clause applies the principle of the Bill to Scotland by providing for the amalgamation of the Scottish Local Government Board with the Scottish Insurance Commissioners in a Scottish Board of Health, acting under the directions of the Secretary for Scotland. In view of the additional responsibilities thereby laid upon the Secretary for Scotland, provision is made in subclause (6) for the appointment of a Parliamentary Under-Secretary to the Scottish Office.

#### *Clause 10.*

This clause provides for modifications in the present position of the Irish Insurance Commissioners and in the constitution and procedure of the National Health Insurance Joint Committee consequential upon the establishment of a Ministry of Health for England and Wales, and a Board of Health for Scotland.



*Clause 11.*

This clause provides for the Act to come into operation at various dates as regards its various purposes, and makes other incidental provisions in common form.

*Consultative Councils.*

2. In view of the importance which is attached to the provision made in Clause 4 for the appointment of Consultative Councils, a draft of the form of the Orders which it would be proposed to submit as soon as possible on the establishment of the Ministry for the purpose of giving effect to this provision is printed in the Appendix.

The range and variety of the questions which may be dealt with under this provision render it desirable to enable Councils to be established to advise upon various groups of subjects relating to the health of the people, such as medical questions, questions specially affecting women, questions relating to the administration of the National Health Insurance Acts, and questions of finance. The clause and the form of Order are accordingly drafted with this purpose in view; and, in the case of the Order, Article 1 is so expressed as to enable a Council to be established for any such purposes as are mentioned above. While this division of function is necessary in order to make the operations of the Councils effective, care will be taken to provide for joint working arrangements between the several Councils in matters of common interest.

*Poor Law Reform.*

3. In introducing the Bill the Minister of Reconstruction alluded to the questions which had been raised as to the action to be taken with regard to the present powers and duties of the Local Government Board in relation to the administration of the Poor Law, and made the following statement on behalf of the Government in the matter:

1. The Report of the Local Government Committee presided over by Sir Donald Maclean on the transfer of functions of Poor Law authorities in England and Wales has been carefully considered by the Government, and the Government accept the recommendations of the Committee that services relating to the care and treatment of the sick and infirm should not be administered as a part of the Poor Law, but should be made a part of the general health services of the community. The Government regard it as a matter of urgency that effect should be given to these recommendations as soon as possible.

2. The Government accept the principle that the remaining functions of the Poor Law authorities should also be transferred to other bodies, but are not in a position to formulate precise proposals at the present time.

3. Any approach to a complete application of the scheme recommended by the Committee will involve considerable labour, and must be preceded by further inquiries into certain questions, some of which must be of a detailed character. But the Government recognize their responsibility for making proposals on these subjects as soon as the exigencies of the Parliamentary situation permit of their being dealt with.

## APPENDIX.

## CONSULTATIVE COUNCILS.

[Reprint of form of draft Orders proposed to be made under Clause 4 of the Bill.]

WHEREAS by Section 4 of the Ministries of Health Act, 1918, it is enacted as follows:

(1) It shall be lawful for His Majesty by Order in Council to establish consultative councils for giving in accordance with the provisions of the Order advice and assistance in connexion with such matters affecting or incidental to the health of the people as may be referred to in such Order:

(2) Every such council shall include persons of both sexes, and shall consist of persons having practical experience of the matters referred to the Council.

Now, therefore, His Majesty, by and with the advice of his Privy Council, in pursuance of the Ministries of Health Act, 1918, and of all other powers enabling him in that behalf, is pleased to order, and it is hereby ordered, as follows:

1. A consultative council shall be established in pursuance of the foregoing provisions for giving in accordance with the provisions hereinafter contained advice and assistance in connexion with such matters as relate to:—

2. The council shall consist of such number of members, not exceeding 20, as the Minister may determine.

3.—(1) The members of the council shall be appointed by the Minister.

(2) At the expiration of one, two, and three years respectively from the first appointment of the members

of the council one-third of the original members, to be selected by lot, shall go out of office, but for the purposes of this provision an original member who has been reappointed shall not be deemed to be an original member.

(3) Subject as aforesaid the members of the council shall hold office for three years and shall then go out of office: Provided that on a casual vacancy occurring in the council the person appointed to fill the vacancy shall hold office until the time when the person in whose place he is appointed would regularly go out of office, and shall then go out of office.

(4) A member of the council on the expiration of his term of office may be reappointed, so however that no member shall remain in office continuously for more than six years.

4. The Minister of Health shall be the President, and the Parliamentary Secretary to the Ministry of Health shall be the Vice-President, of the councils.

5. The council shall elect a Chairman, who shall hold office until the next periodical expiration of the term of office of members of the council, but may be re-elected so long as he remains a member of the council.

6. The President, or in his absence the Vice-President, or in the absence both of the President and the Vice-President, the Chairman, shall preside at every meeting of the council at which he is present.

7. The Minister shall appoint a person to be the Secretary to the council, and the person so appointed shall hold office during the pleasure of the Minister.

8.—(1) The council shall meet at such times, and notice of meetings shall be given to the members of the council in such manner as the council may, with the approval of the Minister, determine. Provided that the council shall meet at least once in each quarter.

(2) At a meeting of the council 10 shall be a quorum.

(3) No act or proceeding of the council shall be questioned on account of any vacancy in their body.

9. The council may for special purposes approved by the Minister appoint sub-committees of their members, and any sub-committee so appointed may, within the limits approved by the Minister, add to their numbers persons not being members of the council.

10. If a member of the council is absent from the meetings of the council for a period of six months, except for some reason approved by the Minister, his office shall become vacant.

11.—(1) The council shall consider and report upon the questions from time to time referred to them by the Minister, including—

(a) Questions arising upon the draft of Orders in Council, and of Regulations, Orders, and Special Orders proposed to be made by the Minister;

(b) Questions involving considerations of important principle and scientific difficulty affecting or incidental to the health of the people;

(c) Any other questions in connexion with such of his powers and duties as relate to matters affecting or incidental to the health of the people;

and the Minister shall place at the disposal of the council the information required to enable them to consider the matters thus referred to them.

(2) The council may propose to the Minister from time to time that any question in connexion with such of his powers and duties as relate to matters affecting or incidental to the health of the people, if pertaining to the functions of the council, shall form the subject of a reference to the council, and the Minister shall receive and consider any such proposal.

(3) The council may also present to the Minister from time to time a report on any matter affecting or incidental to the health of the people, if pertaining to the functions of the council, which has not been made the subject of reference to the council under the foregoing provisions of this Order, and the Minister shall receive and consider such report.

12. Subject to the provisions contained in this Order the council may regulate their own procedure.

13. The Interpretation Act, 1889, applies for the purpose of the interpretation of this Order as it applies for the interpretation of an Act of Parliament.

14. This Order may be cited as the Ministry of Health (Consultative Councils) Order, 1918, and shall come into operation on the day of , One thousand nine hundred and



# GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION. WINTER SESSION, 1918.

Tuesday, November 26th, 1918. -

Sir DONALD MACALISTER, K.C.B., President,  
in the Chair.

The one hundred and eighth session of the General Council of Medical Education and Registration was opened at the offices of the Council, 44, Hallam Street, London, W., on Tuesday, November 26th, 1918, at 2 p.m.

## PRESIDENT'S ADDRESS.

Sir DONALD MACALISTER said:

Gentlemen.—We gathered last May under the shadow of war; to day we meet in the light of victory and assumed peace. With the King and the nation we lift up our hearts in thanksgiving. With all men of goodwill throughout the world we acknowledge gratefully the debt we owe to those who by their devotion and sacrifice have redeemed civilization from ruin, and vindicated the cause of righteousness and freedom. Not least we recognize with pride the great part performed by the men and women of our profession, both at home and abroad, in preserving the health of the forces and of the people during the struggle. In the King's words, they have made a "notable contribution to the common welfare," "fearlessly exposing themselves to danger in their task of mercy." The profession as a whole is the nobler for their nobility, and will face the grave tasks of reconstruction with fresh courage, informed by their example and experience.

As a Council we have to mourn the loss of Mr. Meredith Townsend, who joined us only last year; and of our former colleagues, Mr. Brudenell Carter and Dr. Robert Saundby, each of whom had given us many years of valued service before his retirement. I have also to report the death, in advanced age, of Mr. James Robertson, Registrar of the Branch Council for Scotland; and on behalf of the Scottish members to pay a tribute of esteem to his faithfulness and painstaking as a member of our staff. Two of our members, Sir Frederick Taylor and Professor Symington, are still unhappily debarrd by ill health from taking part in the Council's work. We expect soon to welcome back Lieut.-Colonel King, to reoccupy the office of Registrar, which during his absence on war service has been so devotedly served by Mr. A. J. Cockington.

We are spared one chance of further changes in our membership by the issue, on August 14th, 1918, of an Order of the Privy Council, which extends the tenure of the six Direct Representatives for another year, and postpones the general election, otherwise due at this time, until November, 1919.

## The War and the Medical Profession.

Though the war is in a sense over, its effects remain, and will long continue to be felt by the profession. The strain upon medical men in civil practice, already severe enough, has been increased by the prevalence of epidemic illness. There is good hope that it will speedily be relieved by the release of medical officers from military service, at the rate of some hundreds every month. The professional committees in Great Britain, which, with the able guidance of members of this Council have so effectively aided the Government in recruiting for the medical services during the war, are co-operating with the authorities in solving the scarcely less difficult problems of demobilization and resettlement. In particular it has been arranged that the release of teachers in our medical schools and hospitals shall have special consideration. The influx of students returned from active service, with a view to the early completion of their professional course, makes it urgent that the sadly-depleted staffs of skilled instructors should be reinforced without delay.

The census of medical students, in progress during our last session, was completed in June. It showed that the total number in actual attendance on courses of professional instruction during May, 1918, was 7,630, as compared with 7,048 in October, 1917, and with 6,682 in January, 1917. Of the 7,630 students, 2,250 were women.

The number of first year students was 2,043, as against 1,480 registered in 1913. On the basis of these figures, I suggested to the Minister of National Service that, so far as the immediate requirements for junior students were concerned, it was unnecessary to extend beyond the original term—namely, July 31st, 1913—the instruction conferring exemption from military service on first year men. The Minister adopted the suggestion. I have communicated the details of the census, made at the instance of Sir Auckland Geddes, to the Executive Committee, and the tables will be printed with its minutes for your information.

Sir Auckland Geddes has now become President of the Local Government Board, retaining the direction of the National Service Ministry for the present. The Board is charged with large powers in relation to the public health and to the official medical services of England and Wales. It is gratifying to the profession that, during the period of transition and rebuilding, the responsible administrator should be a registered medical practitioner of high distinction as a teacher and an organizer.

The number of newly qualified practitioners will this year be below the average, notwithstanding the steps taken to recall senior students from the army to the medical schools. Somewhat tardy measures were adopted to maintain the supply of senior dental students; but so far the qualified dentists added to the *Dentists Register* have been few. I am informed that the number attending the schools of dentistry with a view to qualification is very small indeed. The prospect of a considerable addition to the ranks of qualified dentists, such as is plainly required to meet immediate wants, is not encouraging. The report of the Departmental Committee on the Dentists Act, which we hoped might be before us this session, has not yet appeared. The problem the Committee was set to discuss does not become simpler with the rapid growth of the national demand for healthier conditions. A solution becomes every day more necessary.

## Ministries of Health Bill.

The Lord President has been moved to forward, for the observations of the Council, the text of a bill which proposes to establish a Ministry of Health for England and Wales, and a Board of Health for Scotland, for the exercise of powers with respect to health and local government. The bill has been read a first time in the House of Commons, but will not be further proceeded with until the new Parliament meets. I suggest that the Council should first consider *in camera* the manner in which it may with most advantage conduct the discussion of the bill, with a view to formulating such observations thereon as it may wish to submit to the Lord President. The bill, it will be found, is rather an enabling than an enacting measure. Certain medical functions of other departments are forthwith transferred to the new authority. Others may be transferred by Order in Council. Time will be given for the public discussion of such Orders when they take effect; and it is obvious that in many cases the terms of the Order may be of cardinal importance for medical science and practice. The bill as it stands contains little that explicitly affects this Council; though I observe that it is made the duty of the Minister of Health to take steps for the effective carrying out of measures conducive to the health of the people, including "the training of persons engaged in health service." It should, I think, be made clear whether this phrase would or would not cover the functions exercisable by the Privy Council and this Council in relation to medical and dental education, to public health diplomas, to rules framed by the Central Midwives Boards, and the like. I am advised that it would not; but the Council will no doubt consider the point to be of some importance.

## The Midwives Acts.

The Midwives Acts for Scotland and Ireland, passed during the war as urgently necessary in the public interest, have now been supplemented by an Act amending the English Act of 1902. The amendments tend to harmonize the three laws, and to fill up lacunae in the latter Act which experience of its administration had disclosed. In it provision is at length made for the remuneration of English practitioners called in to deal with emergencies arising in the practice of certified midwives. The Central Midwives Board for Ireland has framed rules for governing



such practice in that country. The Privy Council, in accordance with the Irish Act, and with the new English Act, has submitted the rules to the Executive Committee for comment. They follow, in the main, the pattern of the Scottish Board's rules, which have been already approved by the Council.

#### Veneral Diseases.

Certain bills have been before Parliament dealing with the grave question of venereal disease and its prevention. A Joint Committee of both Houses has been considering them in their bearing on the important Act passed last year. You will remember that under its provisions the practice of unqualified persons professing to treat these diseases was legally prohibited in certain areas. The bills in question propose to extend the prohibition to all parts of the country, and to impose penalties on unqualified persons who publicly advertise themselves as prepared to treat or to supply "cures" for this class of maladies. As your President I was asked to give evidence before the Committee, and testified to the various aspects of the matter brought to the notice of the Council by Dr. Langley Browne's Unqualified Practice Committee and otherwise; and to the enactments of the Overseas Dominions respecting unqualified practice in general, as extracted from the Council's minutes. Although the bills will not proceed this session of the Council, I understand the evidence given will be printed, and that the Committee will probably be reconstituted and report to the next Parliament.

#### General School Examination.

Progress has been made by the English Board of Education with the elaboration of its scheme for a general school examination, to take the place of the multiple examinations in general education with which teachers and scholars have too long been burdened. Dr. Mackay, on behalf of the Education Committee, will report on the subject, and offer recommendations for your approval. Meanwhile the four Scottish universities have received from His Majesty in Council a new Ordinance which establishes a common Entrance Board empowered to accept the leaving certificates of the Scotch Education Department as the normal qualification for admission to the universities in all faculties. This will liberate the Faculty of Medicine from the obligation, hitherto imposed upon it by Ordinance, to accept a lower standard of preliminary education than that required for degrees in arts or science. I am sanguine enough to believe that the so-called "junior" preliminary examinations for students of medicine will cease to be recognized in Scotland before they are extinct elsewhere. The large and indeed embarrassing affluence of students much below the age of eighteen, who are now entering the medical schools, makes the change more than ever expedient on educational grounds.

#### Training in Preventive Medicine.

The significant question of training in preventive medicine, raised at the beginning of the last session by Dr. McVail, has been considered during the recess by the members of the Education Committee. They will have proposals to submit on the manner in which the inquiry he suggested may best be carried out. That the inquiry is opportune is indicated by many signs of professional concern for its subject-matter. Among them I would mention, as worthy of your serious attention, the remarkable Memorandum on Medical Education in England, addressed to the President of the Board of Education by Sir George Newman, K.C.B., its Chief Medical Officer. He therein sets forth, in lucid and vigorous English, the changes that have gradually been made in the duties and responsibilities of the medical practitioner with reference to public health and public administration, and the grounds for requiring that a corresponding change should be made in the manner and matter of his training for their fulfilment. The Council is charged by law with the responsibility of ensuring that all persons admitted to its *Medical Register* possess "the requisite knowledge and skill for the efficient practice of their profession." When it is made to appear that "efficient practice" is to be judged by new civic standards, and to be carried on under new conditions demanding

other forms of "knowledge and skill" than those that were before "sufficient," it concerns the Council to explore the position, and to set forth in its recommendations the nature and extent of the training it deems to be "requisite." The cycle of inspections and visitations, suspended at the outbreak of the great war, must shortly be resumed. It will furnish the Council with valuable data for the final discussion and determination of the question, on which preliminary inquiry is now to be instituted.

#### Judicial Inquiries.

Much of your time this session will be occupied with judicial inquiries. They present nothing of general import calling for remark from the chair. It is gratifying to note, however, that sustained complaints of culpable laxity in granting certificates have practically ceased. Your Warning Notices have been effective.

### Naval and Military Appointments.

#### ROYAL NAVAL MEDICAL SERVICE.

The following appointments are announced by the Admiralty:—Surgeon-Lieutenants (temporary): P. Williams to the *Bittern*; J. Nicol and A. W. McRorie to Chatham Hospital; F. Smith and J. E. Scanlan to the *Victory*; P. E. P. Frossard to the *Pembroke*; J. C. Brown to the *Marlborough*; F. A. Williamson to Plymouth Hospital; W. H. Blackburn to the *Cyclops*.

#### ARMY MEDICAL SERVICE.

Colonel J. Meek, C.B., is placed on retired pay.

#### ROYAL ARMY MEDICAL CORPS.

To be temporary Colonels, while specially employed: Major G. R. Murray, R.A.M.C.(T.F.), temporary Colonel E. F. Buzzard (Captain R.A.M.C. T.F.).

Lieut.-Colonel H. P. W. Barrow, C.M.G., D.S.O., relinquishes the temporary rank of Colonel on reposting.

Temporary Major R. H. Cooper to be temporary Lieut.-Colonel whilst specially employed.

Temporary Lieut.-Colonel Theodore D. Acland (Major and Brevet Lieut.-Colonel R.A.M.C., T.F.) relinquishes his temporary commission on reposting.

Captain (acting Major) A. G. Wells, D.S.O., to draw the pay and allowances of his acting rank whilst specially employed.

Major W. Davis to be acting Lieut.-Colonel whilst in command of a medical unit.

Major R. N. Hunt, D.S.O., relinquishes the temporary rank of Lieut.-Colonel on reposting.

Relinquish the acting rank of Major on reposting: Temporary Captain W. F. Neil, Captain C. J. O'Reilly, M.C.

To be acting Majors: Captains J. Y. Moore and W. F. Christie, temporary Captains S. J. L. Lindeman, W. G. Waugh, S. W. McLellan, M.C., A. J. M. Wright, R. E. Cree, M.C., N. S. Carmichael, whilst specially employed: Temporary Captains W. B. Davy, L. J. Spence, C. S. Gideon, and R. W. Sutherland.

Captain A. D. Fraser, D.S.O., M.C., relinquishes the acting rank of Lieut.-Colonel and reverts to the acting rank of Major (with pay and allowances of his substantive rank).

### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.

#### BIRTHS.

CROWE.—On November 25th, at Coburn, Rothley Plain, Leicester, to Miss, wife of J. T. Crowe, L.S.A., L.M.S.S.A.Lond., Tuberculosis Medical Officer for Leicestershire, a son.

WYATT.—On October 31st, at the Stormont Nursing Home, Plymouth, to Lubor, wife of surgeon Lieutenant A. F. Wyatt, R.N., a son.

### DIARY FOR THE WEEK.

#### MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1. 8.30 p.m.—Discussion: Reconstruction in Medical Education and Practice, to be introduced by Colonel H. J. Waring, R.A.M.C.(T), F.R.C.S.

ROYAL SOCIETY OF MEDICINE.—Section of Pathology, Tuesday, 5.30 p.m. Discussion: The Pathology of Gas Gangrene, Professor Weinberg (Paris), Major J. W. McNea, Drs McIntosh, Henry, and Bulloch.—Section of Surgery, Wednesday, 5.30 p.m. Discussion: The Closure of Cavities in Bone. To be opened by Lieut.-Colonel Percy Sargent, D.S.O., followed by Major Oswald Shield, Captain J. E. Gillies, and Captain Z. Mennell. Major John Robert Lee: Compound Fractures of the Femur in its Upper Third; New Thigh and Arm Splints.—Section of Obstetrics and Gynaecology, Thursday, 8 p.m. Dr Drummond Robinson: Prolapse in a Pregnant Woman. Mr. Clifford White: Puerperal Suppression of Urine; Section of Kidney. Specimens.—Section of Laryngology, Friday, 4 p.m. Discussion: On Dilatation of the Oesophagus without Anatomical Stenosis. To be opened by Dr. Brown Kelly and Dr. William Hill.—Section of Anaesthetics, Friday. Discussion: Spinal Anaesthesia. To be opened by Dr. F. S. Rood.

### DIARY OF THE ASSOCIATION.

Date. Meetings to be Held.

#### DECEMBER.

10 Tues. London: Vaccination Subcommittee, 3.30 p.m.



## BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 7TH, 1918.

## CONTENTS.

	PAGE		PAGE
<b>British Medical Association.</b>		<b>GENERAL MEDICAL COUNCIL:</b>	
CURRENT NOTES:		PRELIMINARY EDUCATION OF MEDICAL STUDENTS (Report by	64
GRIVANCES OF TERRITORIAL AND SPECIAL RESERVE		EDUCATION COMMITTEE)	64
MEDICAL OFFICERS	53	THE APPOINTMENT OF OFFICERS IN IRELAND	55
NOTES FOR PARLIAMENTARY CANDIDATES	53	THE APPOINTMENT OF OFFICERS IN IRELAND	57
MESSAGES IN TIME OF EPIDEMIC	53	THE MINISTRY OF HEALTH	57
WAR EMERGENCY FUND, ROYAL MEDICAL BENEFIT FUND	54	REPORTS OF COMMITTEES	57
INQUIRY INTO CENTRAL BOARD	54	THE TREASURERSHIP	57
MEETINGS OF BRANCHES AND DIVISIONS	54	DISCIPLINARY CASES	58
NAVAL AND MILITARY APPOINTMENTS	59	APPOINTMENTS	59
		BIRTHS, MARRIAGES, AND DEATHS	59
		DIARY	59

## British Medical Association.

## CURRENT NOTES.

## Grievances of Territorial and Special Reserve Medical Officers.

A CORRESPONDENT on active service writes to protest against the reply quoted in the JOURNAL of November 2nd, p. 498, by the Financial Secretary to the War Office to a question in the House of Commons with regard to the pay, allowances, and gratuities of R.A.M.C. Territorial officers. In his reply, Mr. Foster, after holding out no prospect of improvement, stated that Territorial officers got the same emoluments as Regular officers. Our correspondent maintains that the intention of this answer must have been to suggest to the ill informed that Territorial medical officers have no particular grievance in respect of remuneration. This was probably the effect upon the mind of the members of Parliament present on that occasion, but no one who has followed this subject in our columns during the past two or three years can fail to be aware that Territorial and Special Reserve R.A.M.C. officers who were called up for service at the beginning of the war have been treated with far less than justice; and this point of view was implicit in a leading article in the same issue of the JOURNAL (p. 493).

The second report of the Committee appointed by the Secretary of State for War to inquire into the promotion of officers, which dealt with the promotion and pay of R.A.M.C. Special Reserve and Territorial Force officers, contained six recommendations.<sup>1</sup> The first and most important of these was that "Officers of the Royal Army Medical Corps Special Reserve and Territorial Force who joined before the war should be put on a level with temporarily commissioned contract officers as regards pay, allowances, and gratuities where they would gain thereby." This recognized the claim of such officers for better treatment, and was a step in the direction urged upon the Committee by the British Medical Association in its memorandum of May, 1917.<sup>2</sup> The first recommendation, however, for no reason which has ever been made public, was the only one negatived by the Cabinet Committee on officers' pay.

As for the suggestion that Territorial and Special Reserve officers are, in the matter of emoluments, on precisely the same footing as Regular R.A.M.C. officers, our correspondent makes the following criticisms: "In the first place, the Regular gets a pension, which the others do not. In the second place, he has an assured employment instead of starting again from the beginning after demobilization. In the third place, the great majority of the Regulars who were captains in 1914 now hold acting

brevet or permanent rank higher than they then had, which is not true of the Territorial Force, and far less true of the Special Reserve. Lastly, the Regular gets an additional 1s. 6d. a day after seven years' commissioned service (not mobilized service), while the Special Reserve and Territorial officers must do seven years' mobilized service in order to get this increase." We believe that this is a fair summary of the position, and that the official statements are misleading and disingenuous.

The disadvantageous financial conditions of long service Territorial and Special Reserve R.A.M.C. officers as compared with the temporarily commissioned officer have been pointed out many times; and, as our columns show, the Naval and Military Committee of the British Medical Association has not been deterred from further efforts on their behalf by the unsympathetic attitude of the Government. Representations have recently been made by the Association both to the War Office and to the War Cabinet urging that if nothing else is done to remedy injustice, the gratuity to which these officers are entitled on demobilization should be increased, and that its payment should not be deferred. In addition to this, Commander Bellairs, at the instigation of the Naval and Military Committee, has been active in bringing the hard case of Territorial and Special Reserve R.A.M.C. officers to the notice of the House of Commons and of individual members of Parliament. As a result of these efforts a considerable measure of support has been promised for the movement to obtain reconsideration by the Government of the first recommendation of the Committee on promotion which is quoted above, and an early opportunity will be taken to bring this matter before the new Parliament.

## Notes for Parliamentary Candidates.

For the assistance of secretaries of Divisions in interviewing candidates for Parliament, a series of notes and questions has been drawn up upon subjects affecting the public health and the medical profession. The matters referred to are as follows: (1) Ministry of Health; (2) death registration and coroners' law; (3) State registration of nurses; (4) fee for notification of infectious disease; (5) State-aided midwifery service; (6) position of Territorial Force and Special Reserve medical officers; (7) medical benefit under the National Insurance Acts; (8) remuneration of medical women practitioners. The leaflet is accompanied by a letter from the Medical Secretary urging every Division to take advantage of the opportunity presented by the forthcoming general election to bring the views of the profession and the policy of the British Medical Association before parliamentary candidates and their immediate supporters. It is hoped that meetings will be summoned by the executive of each Division, and that arrangements will be made to approach candidates by deputation or otherwise. The advantages of a personal interview by voters are so obvious as to give this

<sup>1</sup> BRITISH MEDICAL JOURNAL, February 2nd, 1918, p. 164.<sup>2</sup> SUPPLEMENT, May 19th, 1917, p. 115.



method the preference wherever possible. Where a parliamentary constituency is partly in the area of one Division and partly in that of another, co-operation between the neighbouring Divisions is desirable, to avoid overlapping of effort. Information with regard to the areas of constituencies, and additional copies of the leaflet, will be furnished on application to the Medical Secretary, British Medical Association, 429, Strand, W.C.2. It is important that every candidate should be brought into touch with the political organization of the medical profession, and that the views of every member of Parliament upon public health and medical subjects should be placed on record.

#### Messages in Time of Epidemic.

The Central Medical War Committee has had under consideration the best way in which the public can be notified that, in order to enable the greatly reduced number of civil practitioners to get through the excessive work entailed by the present epidemic, it is essential that messages should be sent to the doctor's house early in the morning. The experience of many districts seems to show that the most effective means has been the exhibition in a prominent place in the doctor's surgery of a notice saying that it is impossible to guarantee attendance on a patient on the same day unless messages are left before a certain hour in the morning. There are grounds for believing that notices in the public press produce little effect and are soon forgotten.

#### War Emergency Fund of the Royal Medical Benevolent Fund.

The following further subscriptions have been received from Divisions of the British Medical Association in response to the recent appeal, and have been passed on to the Treasurer of the War Emergency Fund. The names of individual subscribers are published monthly in the advertisement pages of the JOURNAL.

	£	s.	d.
Bury Division, per Dr. P. F. Braithwaite, Honorary Secretary...	75	7	0
Buckingham Division, per Dr. H. J. Henderson, Acting Honorary Secretary	11	11	0
Honorary Medical Staff, Bolton Infirmary, per Dr. R. D. Mothersole	25	0	0

#### Inquiry into Central Pool.

The following subscriptions have been received from Local Medical and Panel Committees towards the cost of the inquiry undertaken by the Insurance Acts Committee into the constitution of the Central Pool, subsequent to those published in Doc. M.6 issued to Local Medical and Panel Committees on September 17th, 1918:

	£	s.	d.
Wigan Panel Committee	2	2	0
Newcastle Panel Committee	10	10	0
Nottingham Local Medical and Panel Committee	10	10	0
Plymouth Local Medical and Panel Committee	3	3	0
Hunts Local Medical and Panel Committee	2	2	0
Yorkshire (North Riding) Panel Committee	5	5	0
Wakefield Panel Committee	0	10	0
Bedfordshire Local Medical and Panel Committee	5	5	0

### Meetings of Branches and Divisions.

#### NORTHERN COUNTIES OF SCOTLAND BRANCH.

A MEETING of the Northern Counties of Scotland Branch was held at Inverness on November 16th to consider the report of a deputation appointed by the Highlands and Islands Subcommittee of the Scottish Committee of the British Medical Association. Dr. LEACH (Beauly) acted as chairman in the unavoidable absence of Dr. T. C. Mackenzie, President of the Branch. The report of the deputation which waited on the Highlands and Islands Medical Service Board on September 25th at Edinburgh was read, and the Board's explanations of the various points brought before it by the deputation were fully discussed, and the following resolutions adopted:

- That the National Health Insurance mileage should be dissociated from the Highlands and Islands Medical Service Board payments.
- That there should be adequate remuneration for work done under the Highlands and Islands Board under the following headings: (a) That the rate per mile travelled (each way) should be 1s. 3d. (b) That the midwifery fee should be £2 2s., with ten days' attendance. (c) That night calls should be double fee.

## GENERAL COUNCIL

### MEDICAL EDUCATION AND REGISTRATION.

WINTER SESSION, 1918.

Sir DONALD MACALISTER, K.C.B., President  
in the Chair.

#### PRELIMINARY EDUCATION OF MEDICAL STUDENTS.

A YEAR ago the Education Committee presented a report on examinations in secondary schools in England, in which it recommended the Council to await the development of the scheme for schools examinations established by the Board of Education in England, and the early results of the establishment of the Secondary Schools Examination Council. On November 30th the Education Committee presented to the Council a further report, to the following effect:

#### REPORT ON THE NATURE OF THE RECOGNITION TO BE EXTENDED TO THE SCHOOLS EXAMINATIONS RECENTLY ESTABLISHED BY THE BOARD OF EDUCATION IN ENGLAND.

##### Two Schools' Examinations.

Two "Schools' Examinations," named respectively the "First," and the "Second" or "Higher," have been established, the former being intended for pupils about the age of 16, the latter for those a year or two older. They are conducted by Examining Bodies representing the universities, and are controlled by the English Education Board acting through a co-ordinating committee named the "Secondary Schools' Examination Council." In taking the step above indicated the English Education Board made the following statement concerning the special aims of each of the two examinations:

8. (a) The first examination will be designed to test the results of the course of general education before the pupil begins such a degree of specialization as is suitable for advanced work in secondary schools.

(b) Schools taking the first examination will be required to present a form or forms as a whole and not individual pupils.

(c) The condition of passing will be that candidates shall have reached the required standard in the three main groups of school subjects—namely, English subjects, foreign languages, and mathematics and science.

Provision should be made for experiments directed to bringing subjects such as music, drawing, and manual instruction within the scope of the examination, and for enabling them to count under suitable conditions towards the attainment of a certificate.

(d) The group of subjects and not individual subjects will be the unit in respect of which success or failure will be determined.

(e) The standard should be such that a pass with credit would entitle a candidate to admission to a university, and a slightly lower standard should be accepted for an ordinary pass.

9. The second examination will assume that the candidate has, after the stage marked by the first examination, followed a more specialized course on the lines indicated in Chapter VIII of the regulations for secondary schools.

10. Subject to the exercise in particular cases of the Board's discretion under Article 35 of their regulations for secondary schools, schools will not be required as a condition of recognition for grants to take either examination, but no school will be allowed to arrange its organization or curriculum or that of any particular form for the purpose of preparing any pupils or form for any examination which is not approved by the Board.

11. Certificates respectively appropriate to candidates who have and have not received their previous education in secondary schools recognized by the Board as efficient will be granted on the result of the examinations. The form of the certificates and the arrangements for their issue will be approved by the co-ordinating authority.

##### Three Forms of Certificates.

Three forms of certificates are issued to the successful candidates according, in each case, to the educational level attained.

(1) The certificate of success in the second examination, which follows on a specialized course of study, bears the names of the subjects in which the candidate has passed, and is accepted *pro tanto* by the universities in respect of the subjects they themselves recognize as satisfying their regulations for matriculation. Similarly it is accepted by the General Medical Council.

(2) That form of certificate of success in the "first" examination in which the candidate has obtained a "pass with credit" in certain of the subjects bears the names of the subjects



passed with credit; and in respect of these subjects, should they be included in the university and council lists, it is accepted *pro tanto* by the universities and by the General Medical Council. Candidates who have already obtained the school certificate may, in subsequent examinations, enter for subjects in which they have not previously passed "with credit," and success in such subjects will be recorded on supplementary certificates.

(5) That form of certificate in the "first" examination issued to candidates who have not passed with credit in any of the subjects is termed an "ordinary pass." In it the names of the subjects actually passed are not detailed but only the "groups" to which the subjects passed belong. (Section 8 (d) above.) As the "groups" referred to are of a very wide nature, and as the Council, like the universities, has always required that certain subjects should be included, and has allowed only a limited selection in the case of others in its entrance examination, it is certain that it cannot under its present regulations, and could not, without a profound change in the methods hitherto followed, accept either the "ordinary pass certificate" ((3) above) or, in particular cases, the special certificates granted under the "pass with credit" or the "second examination" regulations ((2) and (1) above). The position will be better understood after a description of the scope of the "first" examination has been given; but it may be mentioned here that there is no likelihood that the regulations of the Education Board in respect of the two principles involved, the breadth of the examination, and the nature of the certificate, will be modified.

#### *The Scope of the "First Schools' Examination."*

The particulars given below are abstracted from the Regulations of the Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds, Sheffield, and Birmingham, for 1919; but, as the schools' examinations all over the country are co-ordinated, they may be taken as applicable to all, allowance being made for minor differences in the group contents. The subjects of examination are arranged in groups as follows:

*Group I.*—English Composition and Literature, English History, Geography, and Scripture Knowledge.

*Group II.*—Greek, Latin, French, German, Russian, Spanish, and any other language approved by the Board.

*Group III.*—Mathematics, either Mechanics or Physics, Chemistry, Geography, either Natural History or Botany, General Experimental Science, Domestic Science.

(Neither Domestic Science nor General Experimental Science may be taken by candidates who take either Chemistry or Physics.)

*Group IV.*—Drawing, Harmony, Handicraft, Shorthand, Book-keeping, Cookery, Laundry work, Needlework, Housewifery.

Candidates may offer themselves for any number of subjects, including Arithmetic (not specified in the list). The candidate must obtain a certain standard in the examination as a whole, but marks in all the subjects entered for will count towards this, provided, in each case, they do not fall below a certain minimum. Candidates must pass in Groups I, II, and III, separately. To pass in Group I he must reach the pass standard in English or in History. To pass in Groups II, III, and IV, he must reach the pass standard in one subject contained in the group in question. He must pass altogether in five subjects, of which not more than one may be taken from Group IV.

If the candidate is successful in the examination, but does not obtain a "pass with credit" in any subject, he receives simply the "ordinary pass" certificate, which affords no information as to the individual subjects in which he has passed. Many of the possible combinations of subjects under the certificate would presumably be acceptable to the Council, in accordance with its present regulations for the junior entrance examination; but there are other combinations which the Council could not accept without previously modifying these regulations and considerably altering the scope of the examination. In one case the "ordinary" certificate may have been awarded on the attainment of pass marks in English, Latin, mathematics, French, and a science, or an additional language; in another, the subjects in which the actual pass has been gained may have been history, scripture knowledge, French, domestic science, and laundry work. These are, of course, extreme examples; but the important point is that in no case will the Council be informed of the names of the subjects in which the pupil has actually attained the pass standard. The certificate is a general one. It is only in the case of a "pass with credit" ((2) above) that the particular subject is recorded. The professional bodies of the country have been requested to consider the first school examination with a view to substituting it for their own preliminary tests. While all will appreciate the evidence of general education which the "ordinary" pass

certificate affords, there are, doubtless, some which will require proof of special proficiency in particular subjects, and in consequence will call, in these subjects, for the "pass with credit."

#### *Commentary.*

These conditions have been adopted by the Board of Education, after careful consideration, in the interests of school education. The ordinary pass is apparently intended to indicate the general level of attainment which may be expected at the present day from what may be called an educated youth of 16 years of age. On the other hand, the Council in this matter is legislating for a special purpose, and in its regulations for its "junior" entrance examination seeks to provide that the young pupil shall have followed, among the many possible courses open to him in his restricted school career, one which will form a suitable basis for his future work. The aim of the Council, which it hopes to realize through the help of the Education Board, is to establish eventually the senior or matriculation examination (standard of the complete "pass with credit") as the only gateway to admission to the register of students of medicine. Were the Council to accept the "ordinary pass" in the "first school examination" as equivalent to its "junior" entrance examination, it would undoubtedly destroy the special efficacy of that examination, and hinder its own progress towards the realization of its educational ideals. On the other hand, a refusal to accept the examination would create a serious obstacle in the way of the Education Board, as many pupils preparing for a career in medicine would decline the schools' examination, and train instead for some other and necessarily external test. One of the Board's main objects in instituting the new system of examinations was to remove the pressure of external influences from the teaching work of the schools.

In dealing with preliminary education, the general view which has been consistently taken by the Education Committee, and endorsed by the Council, has been that courses of study in school should be directed towards the mental training of the pupil rather than to his acquisition of information, however useful his familiarity with the imparted facts may be expected to become in after-life. The real aim of the efficient schoolmaster is to teach his pupil to think, and if the teacher has achieved his end it matters little what precise pathway he has followed. But from the special point of view of the Council there is one exception to this broad rule, particularly important in the case of those who, aspiring to a learned profession, leave school prematurely at the age of 16. Proficiency in the use of English, implying some detailed knowledge of grammar and literature, and facility in composition, is essential.

Further, among the numerous subjects taught in the junior department of the secondary school, there are some the influence of which in promoting the cultivation of the developing mind is more marked than that of others. As a general rule, it may be said that the early stages of any subject make their chief demands upon the memory, and it is only after the initial groundwork has been built up that the higher mental faculties are brought to bear upon the study. It follows that studies begun early in school life and continued throughout it until a comparatively high standard has been attained, if the subjects with which they deal be of sufficient scope, are better adapted than those the commencement of which is delayed to promote the mental training of the pupil who leaves school at an early age.

Among the sciences, physics, chemistry, and natural history, which demand the preliminary establishment in memory of a considerable body of facts before they can be used as instruments of training in scientific methods of thought, and the study of which is begun only in the later years of the junior school and does not come to fruition until the senior stage of pupilhood, cannot be compared with elementary mathematics as agents in developing the mind of the younger scholar.

In dealing with the subjects in the list sanctioned by the Board of Education, it may be said generally that those which involve the use of the reasoning powers and those which are begun early and continued throughout the curriculum are more important from the Council's point of view than those which make their chief call upon memory and those which, having been begun late in the



curriculum, are quitted by the pupil in their preliminary stages. The scheme of the Council for the senior (matriculation standard) as well as for the junior examination demands four subjects and regards English and mathematics as compulsory constituents of both. In the junior entrance examination one classical language is also required, and an option is given, for the fourth subject, of an additional classical or a modern language.

As regards the matriculation standards of both schedules there are no discrepancies which call for attention. But in the comparison of the "ordinary pass" certificate of the "first schools' examination" with that of the junior entrance examination the Council, from its special point of view, will have difficulty in accepting the possible substitution of English history for English; of domestic science—which entails, however, a groundwork of elementary physics and chemistry—for mathematics; of a modern for a classical language; and of scripture knowledge—largely a study of history—for a modern or classical language.

But where evidence is given of special ability on the part of the pupil or of the prosecution of his studies beyond the junior school level, reasonable ground is afforded for the modification of rules intended to prevent the admission of candidates insufficiently prepared or mentally unqualified for the work before them. Proof that the pupil had attained in addition to the "ordinary pass" in the whole examination, a higher standard ("pass with credit") in certain of the more important subjects of the school curriculum, would justify the Council in the new circumstances in recasting, even to some considerable extent, its carefully devised regulations. In reporting in 1917 on the place of Latin in the "junior" entrance examination, the Education Committee put forward, tentatively, a proposal based on the view which is argued above; discussion was at the time postponed to enable the Council to make itself more fully acquainted than was then possible with the detailed arrangements of the new examination scheme established by the Board of Education. Should the Council agree to the line of action which has been suggested, it will be necessary to determine the subjects in which the "pass with credit" should be sought for.

The Committee would recommend to the Council the acceptance for the present of the certificate of the first schools' examination, provided the two subjects, English and mathematics, have been passed "with credit." The arrangement (1) will provide that "credit pass" will be reached in one language and in one science, and (2) will prevent the possible acceptance of candidates deficient in mathematics whose sole credentials in science are based on the attainment of an ordinary pass mark in general science or domestic science, subjects somewhat wide in their scope and not so well adapted as those included in the list proposed to the training of the future medical student.

The whole scheme, if approved, would bring many advantages in operation. It would harmonize with the regulations which the Board of Education have laid down for the examination of schools, and it would provide a means by which, in association with the Board, the Council might gradually adapt its standards to the general educational progress which is to be expected from the new policy. It would effect at once some elevation of the standard of the present junior entrance examination. This would prove no barrier to the capable pupil of 16, but would ensure, in the case of the less qualified, probably a further year of school study. At the same time it would remove, or at least lessen, the compulsion which many have felt to be irksome and unnecessary, placed upon the candidate to undergo examination in particular subjects, other than English and mathematics, which, as it may happen, have been omitted from or relegated to a subsidiary place in his scheme of general education.

Arrangements have been made by the Board of Education for the examination of candidates up to 21 years of age who have not followed out the curriculum of a recognized secondary school. For those over that age, and possibly for others, the Council may be compelled to continue the recognition of certain junior examinations at present upon its list; but adequate care must be taken that the standard of these shall not be allowed to fall below that of the "first schools' examination," including the two passes "with credit," in the form in which it is accepted by the Council.

#### Recommendation.

That the Council endorses the proposal contained in the report—namely, that the certificate of the "first schools' examination" of the Education Board in England be accepted as affording sufficient evidence that the holder has fulfilled the educational conditions required of candidates for admission to its *Regulated Medical Students*, provided that the subjects of English and mathematics have been passed "with credit."

In moving the adoption of the report Dr. J. Y. MACKAY, Chairman of the Education Committee, said that the object of the Council had been to raise the standard of examination and study to that which universities asked for in the case of other learned professions. The difficulty encountered had been that with the setting up of a certain standard the supply of new students might not be sufficient to meet the needs of the country, but it was hoped in time and by gradual stages to reach the higher standard which the Council had always held in ideal. He then described the scheme of the Board of Education in England set out in the report above. The Council, he added, had always held that courses of study in school should be directed not so much to the acquisition of information as to the development of the thinking capacity, and therefore had chosen those subjects which seemed most appropriate for the purpose of mental training, namely, mathematics and classical and modern languages, for inclusion in the general entrance examination. Under this new scheme of the Board it was impossible for the Council to say in what subjects the pupils had passed, and alternative subjects were introduced in place of the great and essential subjects, while some of the combinations for which the pupil received an ordinary pass could not be accepted by the Council. On the other hand, the Board permitted a pass of credit in certain of the more important subjects of the school curriculum, and this being the case, the Council would be justified in recasting to some extent its previous regulations. It was proposed that the certificate of the first schools' examination be accepted for the present, provided there was a credit pass in English and mathematics. If this plan were adopted it would raise at once to some extent the standard of the examination. It was experimental, and if it was found too rigorous the conditions might be lowered, while if it could be done without diminishing the number who came forward in view of the needs of the country, the examination might be strengthened. Knowing, further, that the new examination would be on a higher standard than the old, the Committee thought that one contentious subject might be ruled out: there had been difference of opinion as to the inclusion of a classical language in the junior entrance examination. All passes of matriculation standard afforded proof of sufficient mental training without this further requirement.

The PRESIDENT congratulated the Committee on the successful issue of their long negotiations. The essence of the new scheme was that it was based on education and not on examination only. In reply to Dr. LANGLEY BROWNE, who asked whether all the universities would accept the scheme, he said that practically all of them would do so. At the first stage the Council asked for two passes of credit, English and mathematics; other bodies required three or four, and the whole machinery would become automatic.

The report and recommendation were adopted.

The list of the Examining Bodies (first schools' examination) for the registration of dental and medical students is appended to the report. It is as follows: Oxford and Cambridge, London, Joint Board of the Universities of Manchester, Liverpool, Leeds, Sheffield, Birmingham, Durham, and Bristol.

#### THE ARMY EDUCATION CERTIFICATE.

After a sitting *in camera* it was announced that the following resolution had been passed:

That the "army education certificate" in the subjects of general education, if attested by the university or other licensing body as sufficing for admission to its course of professional study, should be accepted for registration in the *Students' Register*.

#### THE APOTHECARIES' HALL OF IRELAND.

Dr. NORMAN WALKER moved and Professor ELLIOT SMITH seconded the reception of a report by the Examination Committee on various matters relating to the Apothecaries' Hall of Ireland. The report contained



recommendations that the Hall be requested to continue to furnish tables of exemptions from and results of examination, giving particulars of marks and when the candidate had been previously examined by the Hall, and had passed some portion of the examination, the date of such examination, and that the Irish Branch Council be authorized to appoint for one year a deputy to attend and report on the professional examinations held by the Hall.

Dr. MAGENNIS (representative of the Hall) said that he felt very keenly that a continuing act of injustice was being done. During his five years on the Council he had been most anxious to make the examinations everything that the Council desired them to be. Each recommendation of the Council had been carried out by the Board of the Hall, and he denied that the list of examiners was not up to the required standard. Five were professors and one a lecturer in a recognized university; two were members of the Council of the Royal College of Surgeons in Ireland, while seven were members of leading clinical hospitals in Dublin. The standard of examiners was equal to that of any other licensing body in the kingdom. In consequence the only objections of Dr. Boxwell and Dr. Rowlette, who were deputed to report on the examinations from December, 1916, to November, 1917, were as to clerical errors in the examination papers and the unpunctuality of some examiners, which latter might be explained by the pressure of war duties. Dr. Magennis asked the reason for continued exceptional treatment. He went on to refer to petty spite and jealousies, for which he was called to order.

The PRESIDENT briefly related the history of this question. The procedure was imposed upon the Council by the terms under which the Privy Council made the General Medical Council responsible for seeing that the examinations were conducted in a satisfactory manner.

Sir ARTHUR CHANCE protested against the imputation of bias on the part of the appointed deputy.

Sir JOHN MOORE said that the Council was bound to see that the whole conduct of the examinations was up to the standard. The same procedure was followed in the case of the Royal Colleges of Ireland; every examination was visited on behalf of the Committee of Management, and severe criticisms were sometimes passed. Dr. Boxwell's report brought forward at the May session laid stress on a certain inequality in the standard of examinations.

The report embodying the recommendations was adopted.

#### DENTAL REGISTRATION.

Mr. CHARLES TOMES, in bringing forward the report of the Dental Committee, said that the Council had been approached through certain embassies and ministries of foreign countries, and also through the Colonial Office, with a view to its accepting the proposal that an entry upon those foreign or colonial registers should carry with it the right of entry upon the Foreign and Colonial List of the British *Dentists' Register*. Such a course had not in the past been accepted by the Council, largely because admission to those registers was upon such various grounds. In the case of the New Zealand register, for example, apart from the recognized university degree, there had been about twelve different grounds upon which persons had obtained admission to the register—a state of things which had arisen out of the many amendments of the law. The Council had always taken the view that the mere inscription upon a foreign or colonial register should not qualify for admission to the *Dentists' Register*, but that the courses of training and examination tests must be roughly equivalent to those obtaining in the United Kingdom. The Committee still recommended the Council to keep to this practice and to refuse admissions *en bloc*. The Departmental Committee appointed lately to consider the alleged shortage of qualified dentists would soon issue its report, and the present, therefore, was not an opportune moment for the Council to depart from its rule. A case in point was that of the Belgian register, and a letter giving the reasons for the Council's decision would be forwarded to the Foreign Office for transmission to Baron Moncheur, the Belgian Minister. Another case was that of Japan, but here, while refusing registration *en bloc*, the Committee recommended that the diplomas granted by the Nippon Dental College and the Tokyo Dental College should be recognized as admitting to the Foreign List of the *Dentists' Register*. The Tokyo College claimed 66 per cent. of the dental list of Japan,

so that in recognizing this the Council was recognizing a material part of the Japanese register. The Committee recommended that the request for recognition *en bloc* of the New Zealand register should not be acceded to. The Council already admitted the diploma of the University of New Zealand as qualifying for the British *Dentists' Register*, but this diploma was said to cover only 10 per cent. of the dentists of New Zealand. A letter fully setting forth the reasons why this was not an opportune time for making the suggested alteration would be sent in due course.

Recommendations in these senses were proposed by Mr. TOMES, seconded by Sir ARTHUR CHANCE, and carried.

Mr. TOMES said that a remonstrance had been received from the British Dental Association with regard to the action of the Council at the last session in approving the scheme of the Birmingham education authority for the training and employment of dental nurses. The representative body of that association believed that this approval had conveyed to the public the impression of some recognition of unqualified practice. The Council, however, had made it plain that in approving this new departure with regard to school dental nursing an essential condition was that such dental nurses should be thoroughly under the supervision of registered practitioners, and the Committee was unable to recommend the Council to make any alteration in its previous resolution.

The Council adopted a motion that every person whose name was entered for the first time in the *Dentists' Register* should be entitled to receive a copy of that register.

#### THE MINISTRY OF HEALTH.

The Council deliberated *in camera* on a report from the Education Committee on the teaching of preventive medicine, and on resumption of the public sitting the PRESIDENT announced that the Council had adopted the following resolution:

That the General Medical Council cordially supports the proposal to establish a Ministry of Health, and requests the Lord President to submit for its observation the draft of any future bill on the subject. The Council hopes that any such measure may be applied in its general terms to all parts of the United Kingdom.

#### REPORTS OF COMMITTEES.

Reports were received and entered on the minutes without discussion as follows:

A report of the Students' Registration Committee containing particulars of applications for exceptional registration as students and for the antedating of professional study, and for the approval of certain recognized teaching institutions.

A report of the Pharmacopoeia Committee, which stated that the conditions governing the supply of glycerin, sugar, fats, and oils did not yet permit of a withdrawal of the notices respecting emergency "alterations and amendments" of the *Pharmacopoeia* issued during the war.

A report of the Public Health Committee, which stated that applications from a captain in the Canadian A.M.C. and from a captain in the R.A.M.C., candidates for the diploma in Public Health, for relief under the alternative arrangements for British armies in the field, had been considered and approved.

#### SASKATCHEWAN AND THE NORTH-WEST TERRITORIES, CANADA.

The Registrar was directed to register in the Colonial List of the *Medical Register* any person who holds the licence (or membership) of the College of Physicians and Surgeons of the North-West Territories obtained after examination in medicine, surgery, and midwifery, together with the licence of the College of Physicians and Surgeons of the Province of Saskatchewan (both facts to be certified by the Registrar of the College), provided he satisfies the Registrar of the General Medical Council regarding the other particulars set forth in Part II of the Medical Act, 1886.

#### RESTORATION OF NAMES.

After the Council had sat *in camera*, the PRESIDENT announced that the Registrar had been directed to restore to the *Medical Register* the names of James Alexander Baird Thompson, Alexander Orford Schorn, Edmund Lyall Haynes, Alfred Banks.

#### THE TREASURERSHIP.

The PRESIDENT announced that Dr. Norman Moore had accepted the office of treasurer of the Council in succession to Sir Frederick Taylor, and would accordingly retire



from the chairmanship of the Business Committee, Dr. Norman Walker taking his place.

### ANATOMY ACTS COMMITTEE.

On the motion of Mr. ARTHUR THOMSON, seconded by Professor ELLIOT SMITH, the following were added to the Anatomy Acts Committee: Mr. Robert Howden, Dr. David H. Burn, Sir Bertram Windle, Dr. Norman Walker, Mr. H. J. Waring, Mr. H. G. Barling, Mr. J. W. B. Hodsdon, and Sir Arthur Chance.

### DISCIPLINARY CASES.

#### *Misleading Application and Testimonial.*

The Council, on November 27th and 28th, considered the case of Isaac Bernard Barclay, formerly registered as of Lancaster Gate, London, but now as of Llanelly, M.R.C.S., L.R.C.P., who had been summoned on the charge that, with the object of obtaining the appointment of tuberculosis officer to the Derbyshire County Council, he knowingly and falsely stated in his form of application that he had held the resident appointments of house-physician, Leeds General Infirmary, and clinical assistant, Liverpool Chest Hospital; and, further, that he submitted a testimonial in the form of a printed copy which stated that he had held the appointment of assistant resident medical officer of the Winsley Sanatorium since July 11th, 1913, whereas he had in fact held such appointment for less than one month prior to August 28th, 1915.

Mr. H. W. Skinner, assistant solicitor to the Derbyshire County Council, said that Dr. Barclay applied in March, 1917, for the post of assistant medical officer of the sanatorium, and was appointed. Shortly afterwards, Dr. W. C. Fowler, medical superintendent of the institution, enlisted for active service, and it was suggested to Dr. Barclay that he should apply for the appointment of temporary superintendent. He applied accordingly, and gave his appointments as above, and furnished testimonials from certain medical men. He was interviewed by the Committee, along with three other candidates, and he received the appointment. On the following day a letter was sent to the Local Government Board asking the Board to approve the appointment, and it was then found that his name was not on the Register; it transpired that his name was formerly Bernstein, and he had changed it to Barclay, but he had not stated this, nor had the Register been corrected. The explanation of this incident, however, was frankly accepted by the Committee. Dr. Barclay was invited to attend the Committee to answer certain questions as to the testimonials on which the Committee of Inquiry was not satisfied, and so unsatisfactory were his answers that he was dismissed, and he left without protest. The information given to the Committee was to the effect that Dr. Barclay was resident medical officer at Winsley Sanatorium for two years, whereas he had held the appointment only for two months. Dr. Sidney Barwise, M.O.H. for the county of Derby, gave corroborative evidence.

Mr. F. Greer, K.C., for Dr. Barclay, contended this his client had no intention to deceive, and that the insertion of the year 1913 instead of 1915 was due to gross carelessness. The form was filled up in a hurry as he had received telegraphic intimation that the last day for receiving formal applications was the morrow.

Dr. Barclay, in the witness box, expressed his great regret for his carelessness, which alone, he said, was responsible for his present position. As to the statement that he had occupied the resident appointments of house-physician at Leeds General Infirmary and clinical assistant at Liverpool Chest Hospital, he said that the term "resident" was an inadvertence, and that as to the use of the term "clinical assistant," he felt justified in including under that term all his experiences, most of them honorary, and comprising occasional visits to the institution concerned.

After the Council had deliberated *in camera*, the President announced its decision that Mr. Barclay had been found guilty of the facts alleged against him in the notice of inquiry, but that having regard to his comparative youth and obvious failure to appreciate the meaning of strict truthfulness in matters relating to his profession, judgement had been suspended for one year. Mr. Barclay would be required to attend the next session of the Council, and to produce evidence as to his character and conduct in the interval, and again to appear at the session of November, 1919, for judgement, if the case was not sooner determined.

The Council expressed its acknowledgement to the Derbyshire County Council for the clear manner in which they had performed a public duty in calling attention to this case.

#### *Supply of Pills Represented as Able to Procure Miscarriage.*

The Council, on November 29th, considered the case of Jules Michael Ralph Flament, M.D. Edin., 1911, of 39, Spencer Street, Carlisle, who was summoned on the charge of supplying in the latter part of 1917 to a young woman, otherwise than in the course of legitimate treatment, certain pills, at a cost of £2, which he represented were adapted for the purpose of procuring miscarriage. The complainant was the Ministry of Munitions, represented by Mr. Tindal Atkinson, K.C.; Dr. Flament was represented by Mr. A. Neilson.

Mr. Neilson protested that the Council's standing orders had not been complied with, because no statutory declaration had been filed; he also urged that the complaint with regard to the young woman was of the gravest criminal character and was not a fit subject for jurisdiction by the Council before the criminal

courts had pronounced upon it. A long legal argument ensued, during which the Legal Assessor said that in a case in which a Government authority was concerned the Council did not usually require a statutory declaration. After deliberating *in camera*, it was announced that the Council had decided to overrule both of Mr. Neilson's objections.

Mr. Atkinson said that in October, 1917, two sisters called at Dr. Flament's surgery, one of whom was three months pregnant. Having ascertained from Dr. Flament that there was no doubt as to her condition, she asked him whether he could do anything "to get rid of it." He said he could supply certain pills which would cost £2, and on the girls saying that they could not afford this he wrote out a prescription, which was taken without result. The expectant mother twice further called on him, and at length he supplied her with pills for £2. These also had no result, and the baby was born in April. Counsel added that while the proceedings were pending, Dr. Flament called upon the girl's sister, under the impression that she was the girl concerned, and offered her money if she would sign a declaration that he had not acted in the way alleged.

The young woman and her sister were then examined. In reply to the President, the young woman said she sought out Dr. Flament because her sister told her that she had heard of girls in the same condition who had gone to him.

Mr. Neilson said that the answer to the charge was a blank denial. When the charge was formulated Dr. Flament at once instituted a search for the young woman mentioned in the charge, and when she said that he had not supplied her with pills he asked her to sign a declaration to that effect. There was no truth in the suggestion that he had attempted to bribe her.

Dr. Flament, in evidence, said that he was a British subject born; his mother was a native of Trinidad. The girls had never called at his surgery. Cross-examined, he said that women in pregnancy had often come to him, but he had never prescribed for them unless there was something abnormal. Mr. Tindal Atkinson pressed him as to whether his professional conduct had ever been brought before the Northern Counties Branch of the British Medical Association. He replied that in 1908 he got a letter from the British Medical Association making allegations against him. He could not remember whether there were a number of complaints or only one. He knew there was an inquiry, but he had cared nothing about it because the British Medical Association had no legal status. On re-examination by Mr. Neilson, he was asked whether he had ever been requested to attend the British Medical Association and answer as to his professional conduct. He said that he was asked to attend a meeting of the Border Counties Branch, but before doing so he was required to sign a declaration accepting their statements as privileged, and promising not to take any legal steps against a decision in his disfavour. He did not pursue the matter because he could not accept such conditions.

After Dr. Flament's housekeeper had given evidence that she had no recollection of the visits of the two sisters, Mr. Neilson made a point of the non-production of the prescription which was said to have been given by Dr. Flament. Mr. Tindal Atkinson said he did not affirm and could not prove that Dr. Flament had supplied a noxious drug to the girl, but his conduct was not much less heinous because he had taken money from her after leading her to believe that what he gave her would have the desired effect. Counsel withdrew his suggestion that Dr. Flament had endeavoured to bribe one sister.

After the Council had deliberated *in camera* the President announced that the charge had been proved to the Council's satisfaction. A discussion then took place as to whether a second charge of giving Antonio Coia a certificate or letter for the purpose of enabling him to avoid service in the Italian army, which document was untrue, misleading, or improper, should be proceeded with. On counsel agreeing to await judgement on the charge as to which the facts had been proved, the Council again sat *in camera*, and afterwards the President announced the decision as follows:

Dr. Flament, I have to inform you that the Council, having deliberated on the facts found to have been proved against you, has found you to have been guilty of infamous conduct in a professional respect, and has directed the Registrar to erase your name from the Medical Register.

#### *Divorce Case.*

The Council, on November 27th, considered the case of Thomas Stoney Sharpley, M.R.C.S., L.R.C.P. Lond., 1911, temporary Captain R.A.M.C. The charge was that being a registered medical practitioner he had abused his position by committing adultery with Mrs. Senior, whose daughter he was attending professionally. He had been co-respondent in the case in the Divorce Court, and a decree dated July 12th, 1915, had been made absolute on January 24th, 1916. Captain Sharpley was present, accompanied by his solicitor. The defence was that Captain Sharpley's relations with Mrs. Senior were not of a professional nature. He had only attended her daughter while acting for one week as locumtenent. After the Council had deliberated *in private*, the President announced that the Council had adjudged Mr. Sharpley to have been guilty of infamous conduct in a professional respect and had directed the Registrar to erase his name from the Medical Register.

#### *Case Dismissed.*

Stanley Henry, registered as of Elgin, M.B., Ch.B. Aberd., was summoned on a charge that while acting as locumtenent he was drunk, and also that he made improper advances to a Mrs. Gee. Both charges were dismissed.



## Dental Cases.

In the case of John Stanley Francis, L.D.S. R.C.S. Eng., heard at the November session, 1917, when the Council postponed further consideration, the Dental Committee reported the receipt of satisfactory testimonials as to character and conduct in the interval, and the President announced that the case against Mr. Francis had been dismissed.

In the case of Frederick Charles Beaumont, L.D.S. R.C.S. Eng., the Dental Committee found that he was co-respondent in proceedings for divorce. It was contended on the respondent's behalf that the adultery had not been committed until after direct professional relationship between the parties had ceased. The Committee, however, did not accept this contention as conclusive, and the Council directed the respondent's name to be removed from the *Dentists' Register*.

## VOTES OF THANKS.

After votes of thanks to Dr. Norman Moore for ten years' assiduous service as Chairman of the Business Committee—a position which he is vacating in order to become treasurer of the Council—and to the President for his conduct of the chair, the business of the session concluded.

## Naval and Military Appointments.

## ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—  
 Surgeon Lieutenant-Commanders to rank as Surgeon Commanders: M. J. Laffan, A. D. Spalding, A. McIlroy, F. E. Ansell, A. C. W. Newport, A. Davidson, G. D. Bateman, D. P. Chapman, R. F. MacMahon, W. N. Blatchford, G. C. Cross. Surgeon Lieutenant-Commander F. M. V. Smith has been placed on the retired list. Surgeon Lieutenants (temporary) A. H. Hartly to the *Argonaut*, E. G. Schlesinger to *Chatham* Hospital. F. A. O'Connor to be Surgeon Lieutenant (temporary).

## ARMY MEDICAL SERVICE.

Colonel H. M. Adamson, C.B., is placed on retired pay.

## ROYAL ARMY MEDICAL CORPS.

Temporary Major T. H. T. Frampton to draw pay and allowances of his temporary rank whilst specially employed.  
 Temporary Captain A. G. Stewart to be acting Lieut.-Colonel whilst specially employed.

Temporary Captain W. W. Wells relinquishes the acting rank of Major on reposting.

Captain W. W. Treves to be acting Major.

To be acting Majors whilst specially employed: Temporary Captain G. J. Arnold, temporary Lieutenant G. E. Froggatt.

Temporary Captain Henry Albert Gray is dismissed the service by sentence of a general court-martial May 29th, 1918.

E. Whalley and J. N. Beadles, late temporary Lieutenants, are granted the honorary rank of Lieutenant.

To be Captains, but not to reckon for pay and allowances prior to Dec. 1st, 1918, with precedence as stated: F. D. Ansell, M.C., Feb. 5th, 1918, next below E. Davies; W. Tyrell, D.S.O., M.C., Feb. 6th, 1918, next below R. E. Barnsley; J. H. Ward, D.S.O., M.C., Feb. 8th, 1918, next below St. J. D. Buxton; L. R. Aitchison, Feb. 14th, 1918, next below G. D. Robertson; W. Bird, March 15th, 1918, next below H. H. Mathband; W. B. Tyndall, M.C., March 19th, 1918, next below J. W. Ebdon; J. Vallance, March 30th, 1918, next below A. N. Minns; R. G. Maran, March 30th, 1918, next below C. de W. Gibb; Captains from T.F.: J. W. Burton, April 12th, 1918, next below C. K. G. Dick; M. Morris, June 1st, 1918, next below D. N. Macleod; B. H. C. Lea-Wilson, June 15th, 1918, next below W. E. Adam. Temporary Captains: F. Harris, M.C., July 10th, 1918, next below R. P. Cornack; G. S. Douglas, S. V. 7th, 1918, next below A. J. Pickley.

J. O'B. Hodnett to be temporary honorary Lieutenant whilst employed with No. 8 Red Cross (Batic and Corn Exchange) Hospital.

To be Lieutenants, and to be granted the temporary rank of Captain, but not to reckon for pay or allowances prior to Dec. 1st, 1918: Captain J. W. G. H. Riddell, M.C., from T.F., July 21st, 1915, with precedence next below F. R. S. Shaw, temporary Captain P. H. Wells, M.C., Feb. 23rd, 1915, with precedence next below W. L. A. Harrison; Captain C. O. J. Young, M.C., from S.R., July 1st, 1916, with precedence next below G. T. Garraway.

The notifications in the *London Gazette* of June 4th and July 3rd, 1918, regarding temporary Captain Alan Wilson are cancelled.

Late temporary Captains granted the honorary rank of Captain: M. M. Townsend, T. E. Hammond, G. Holroyd, M.C.

Temporary Lieutenants to be temporary Captains: G. W. Middlemiss, C. H. Bryan, J. M. Hall, W. H. Gray, J. A. Berlyn.

Temporary honorary Lieutenants to be temporary honorary Captains: J. R. Beaven, F. Coates, G. S. Peppers.

Officers relinquish their commissions: Temporary Majors B. G. Elliott (on account of ill health contracted on active service, and is granted the honorary rank of Major), H. E. Durham (on ceasing to be employed); temporary Captains A. W. Allan, J. W. O. van Millingen, W. H. Bennett, C. E. Pepper, and L. R. Perry (on account of ill health contracted on active service and are granted the honorary rank of Captain), J. St. P. Knight, L. C. Smith (on appointment to R.A.F.), and T. B. Carlyon (on account of ill health), T. Johnston (on account of ill health and is granted the honorary rank of Captain), W. Russell, M.C., D. G. M. Muir, (acting Major) W. P. Ker, N. C. Rogers, C. F. Curtis, J. H. Blakeney, H. J. Nightingale, N. C. Talbot, F. E. Keane, M. Aikman, A. L. Husband, R. McAllister, H. T. H. Butt, F. E. Easton, F. R. Smyth, J. A. Hayward, R. C. de C. Wheeler, A. MacKintosh, A. Burton, B. H. S. Aylward, T. P. Gray, J. M. Twentymann, J. H. Jones, W. F. Wilson, W. C. P. Kreinner, P. McDougall, J. S. Stewart, M.C., J. C. R. Braine-Hartnell, A. B. Blomfield, S. J. C. Fraser, E. M. Ashcroft, J. J. McMillan, H. Emerson, M.C., W. G. F. Johnson, F. Carson, M.C., A. Jones, M.C., H. C. Martin, H. Dearden (on account of ill health caused by wounds, and is granted the honorary rank of Captain); temporary Lieutenants R. Buchanan, F. E. Clay, R. F. Twort, P. J. Flood, G. M. Crawford, J. Jamieson; temporary honorary Lieutenant R. F. H. Jones (on ceasing to be employed at the Welsh Hospital, Netley).

## ROYAL AIR FORCE.

## MEDICAL BRANCH.

The following have been granted temporary commissions as indicated:

As Lieut.-Colonels: Fleet Surgeons, R.N., H. E. South, H. J. Hadden, E. C. Cridland, E. O. B. Carberry, N. H. Harris. Lieut.-Colonel, R.A.M.C., T. D. C. Barry. Lieut.-Colonel, R.A.M.C.(T.F.), T. Philip. Major (acting Lieut.-Colonel, R.A.M.C.) G. N. Biggs.

As Majors: Staff Surgeons, R.N., R. R. Faxon, G. D. Bateman, A. W. Iredell, B. R. Bickford, D.S.O., C. F. Bainbridge, J. D. Keir, R. H. McGiffen, E. M. W. Hearn, L. L. Greig, A. Fairley. Majors, R.A.M.C., E. G. R. Lithgow, W. G. Mitchell. Major, R.A.M.C.(T.F.), A. H. Hogarth.

As Captains: P. J. Flood (late temporary Captain R.A.M.C.), D. J. Cannon, C. L. McDonogh, J. D. D. Cherry. Surgeons, R.N., H. R. B. Hull, A. E. Paner, A. R. Sharrod, E. J. Boyd, S. Robertson, P. M. Keane, H. G. Suherland, R. S. Overton, H. W. Scott, R. G. Lyster, W. A. Pocock, V. A. Payne, D.S.O., J. Rothwell, H. G. Anderson, R. H. Knowles, N. F. Lloyd, J. O. Watson, W. G. Robertson, J. C. H. Allen, J. P. Walker, C. H. Browne, G. H. Latham, J. Allen, V. Magee, J. R. Adam, E. Heffernan, E. A. Gordon, J. Grimoldby, J. M. Bangay, A. G. Holman, H. Geilert, J. D. Granger, H. J. Bates, T. C. St. C. Mouton, R. M. Dannatt, D. G. Boddie, M. R. O. Wilson, J. T. Thomas, J. Duffin, O. M. Gouch, E. E. Kindersley, T. K. F. Kerby, R. D. Neagle, R. W. Pritchard, T. R. S. Thompson, L. C. M. Wedderburn, K. B. Aikman, E. T. D. Fletcher. Surgeons, R.N.V.R., C. J. G. Taylor, E. P. Punch. Captains, R.A.M.C., J. C. Hall, G. W. Clarke, G. W. Clark, F. Richards, C. C. Fitzgerald, M.C., H. N. Holt, H. J. Orr-Ewing, H. M. S. Turner, J. J. Sinclair, W. H. Payne, J. E. Cox, A. W. Weston, H. Y. Riddell, J. J. Hearn, J. R. Russ, H. E. P. Chennell, A. J. O. Wignmore, J. Keenan, D. Wilson, H. B. Smith, P. W. McKeage, A. F. Rook, E. Irvine, R. L. Roe, P. H. Hadfield, L. G. Davies, H. Harve, A. J. Davoren, T. S. Rippon, C. Salkeld, F. H. Bowen, H. W. Pigeon, W. R. Nasmyth, E. Brown, W. H. Anderson, J. L. Whitley, A. Thompson, A. E. F. F. Hu tsmar, R. A. G. Elliott, W. F. Walker, E. W. Longden, W. B. Loveless, M.C., A. E. McCulloch, H. E. Whittingham, D. Cameron, J. E. Cable, H. N. Wright, J. S. Stevenson, L. C. Rivett, T. R. Hunter, E. P. Carmody, F. C. Jobson, D. Ranken, L. A. Walker, W. P. Whippell, R. H. Robbins, J. D. Bridger, R. H. Dixon, A. B. Rooke, F. C. Moran, A. E. R. Sim, C. Visser, W. M. Jeffreys, L. C. Smith, E. R. Bastard, L. C. Blackstone, G. Lewin, W. A. Simpson, A. W. P. ine, A. H. Wade, W. Bannerman, A. B. Lindsay, J. J. O'Mullane, J. Gardner, T. E. Regan, C. J. Miner, C. E. Lowe, M. R. Dobson, O. May, M. Hocken, C. Peacock, C. P. Strong, A. H. L. Thomas. Captains, R.A.M.C.(S.R.), W. Darling, M.C., R. D. Goldie, N. C. Bazett, M.C., H. S. Baker, A. A. Atkinson, R. E. Bell, K. Biggs, I. L. Waddell, J. Lawson, E. N. H. Gray, F. J. Murphy, S. H. de G. Pritchard. Captains, R.A.M.C.(T.F.), A. MacLennan, J. M. Kirkness, F. C. Kempson, J. A. Parsons, J. P. N. Casey, W. H. Bennett, A. Scott-Turner, A. Leitch, J. P. I. Hart, C. Webb, F. J. P. Saunders, J. J. C. Hamilton, O. Geeson, W. R. Kemp, N. R. Williamson, C. P. C. Sargent, H. J. Shanley, L. W. Gregory.

As Lieutenants: J. W. Healy, A. Briscoe, M. P. Price, M. J. Smyth, E. G. O'Gorman, J. Frendergaest, T. J. X. Canton. Lieutenants, R.A.M.C., J. A. Johnson, P. M. Roberts, C. T. Costello. Lieutenant, R.A.M.C.(S.R.), J. W. Brash.

## SPECIAL RESERVE OF OFFICERS.

## ROYAL ARMY MEDICAL CORPS.

Captains to be acting Majors: A. F. L. Shields, A. Picken, while specially employed; J. A. E. Wilson, T. F. Corkhill, M.C.

Captain W. V. Tothill is appointed for service under the Colonial Office.

Captain C. H. G. Penny to be acting Major (substituted for the notification in the *London Gazette* of July 5th, 1918).

Captain W. Stansfield relinquishes his commission on account of ill health, and is granted the honorary rank of Lieutenant.

Captain J. Macb Clark relinquishes his commission on account of ill health contracted on active service, and is granted the honorary rank of Captain.

Lieutenants to be Captains: C. M. Titterton, R. N. Mackenzie, J. J. Watson, H. Taylor, C. Shaw-Crisp, H. M. Holt, J. W. H. Grice, J. J. Conybeare, M.C., S. M. Riddick, L. C. Moore, C. G. Magee, J. W. Brash, A. B. Platt, W. T. G. Boul, K. J. A. Gillanders, R. B. Buer.

To be Lieutenants: C. O. Anderson, from Glasgow University Contingent O.T.C., S. E. Critchley, from Manchester University Contingent O.T.C., F. A. Clegg, A. Eidinow, S. V. Goldhurst, G. G. Havers, W. S. Herman, C. P. Hines, C. G. J. Rayner, M. S. Thomson, J. Whittingdale, W. M. Casper, W. H. Simmons, G. F. Peters, W. A. Hawes, R. A. Olbert, from University of London Contingent O.T.C., E. E. K. Spurway, from Birmingham University Contingent O.T.C., D. Maclean, L. Handy, A. Abelson, C. B. Dyson, P. J. Corcoran.

Lieutenant H. M. Savery relinquishes his commission on account of ill health contracted on active service and is granted the honorary rank of Lieutenant.

## OVERSEAS CONTINGENTS.

## CANADIAN ARMY MEDICAL SERVICE.

Temporary Majors E. S. Jeffrey, M.C., C.A.M.C., and G. F. Stephens, C.A.M.C., relinquish their appointments as Deputy Assistant Directors of Medical Services.

## CANADIAN ARMY MEDICAL CORPS.

Temporary Lieut.-Colonel G. Clingan, from Nova Scotia Regiment, to be temporary Lieutenant-Colonel.

Temporary Major F. A. C. Seringer, V.C., to be acting Lieut.-Colonel while in command of a Canadian general hospital.

To be temporary Majors: Temporary Captains (acting Majors) D. A. Murray and G. J. Gillam, and temporary Captains F. J. Donevan and S. E. Beech.

Temporary Captains to be acting Majors: T. A. Malloch (while employed with a Canadian general hospital), A. P. Chown (while O.C. medical stores), W. V. Lamb, J. T. Wall (while employed as surgeons at a general hospital).

## TERRITORIAL FORCE.

## ROYAL ARMY MEDICAL CORPS.

Major (Brevet Lieut.-Colonel) T. D. Acland, and Captains A. McLennan and N. S. Finzi are restored to the establishment.

Captain (Brevet Major) E. H. Fenwick to be acting Lieut.-Colonel whilst specially employed, precedence from April 14th, 1915, and to remain seconded.

The undermentioned Lieut.-Colonels from the Sanitary Service to be Lieut.-Colonels, precedence from dates indicated: P. C.



Smith (Feb. 1st, 1915), J. R. Kaye (May 17th, 1913), A. K. Chalmers (April 1st, 1908), D. Smart (March 20th, 1913), C. Averill (May 19th, 1908).

Majors to be acting Lieutenant-Colonels whilst specially employed, with precedence from dates indicated, and to remain seconded: H. A. Ballance (Aug. 5th, 1915), H. B. Roderick (April 11th, 1917).

Majors to be acting Lieutenant-Colonels whilst specially employed, with precedence from dates indicated: L. Humphry (April 20th, 1915), W. H. M. Telling (July 27th, 1915), W. Thompson (July 27th, 1915), (Brevet Lieut.-Colonel) R. A. Bolam (Feb. 1st, 1915), D. J. Graham (April 17th, 1917), R. Riddell (Aug. 11th, 1916), (Brevet Lieut. Colonel) A. B. Prowse (July 10th, 1915), W. M. Stevens (June 12th, 1915), P. R. Griffiths (June 12th, 1915).

Captains to be acting Majors whilst specially employed: Precedence from Nov. 24th, 1914, R. Whittington, W. H. Brailey; precedence from April 15th, 1917, and to remain seconded, M. G. Foster, H. A. Cookson, J. H. Thursfield, A. J. Jex-Blake; precedence from April 15th, 1917, J. Everidge; precedence from July 27th, 1915, A. L. Whitehead, L. R. Braithwaite, R. A. Veale, C. W. Vinins; precedence from Aug. 28th, 1917, A. H. Hovsfall, D. S. O.; precedence from April 20th, 1917, and to remain seconded, J. H. Cobb; precedence from Nov. 1st, 1914, J. R. Leavack; precedence from April 24th, 1917, and to remain seconded, J. Henderson; precedence from Jan. 21st, 1915, and to remain seconded, R. Ritson; precedence from July 6th, 1915, G. C. Sandford; precedence from June 12th, 1915, R. C. Elsworth, W. J. Greer, T. M. Thomas, E. Reid; precedence from May 30th, 1917, (Brevet Major) A. G. R. Foulerton; precedence from Sept. 28th, 1917, A. A. McWhan.

Captains (acting Majors) relinquish their acting rank on ceasing to be specially employed: G. S. Melvin, R. J. Chapman, R. V. Favell, W. L. Griffiths.

Captains to be acting Majors whilst specially employed: H. J. Gorrie, F. S. Carson, M. C.

The announcements regarding Frederick Gamm and Captain J. E. Adams which appeared in the *London Gazette* of Aug. 3rd, 1916, and Nov. 2nd, 1918, respectively, are cancelled.

Lieutenant C. H. Gibb to be Captain.

*General List.*—(Captains C. F. Searle, M.C., and J. Morham to be acting Majors whilst specially employed. Captain (acting Major) R. M. Wilson relinquishes his acting rank on ceasing to be specially employed. Captain C. R. Wallace is seconded for service under the Colonial Office.

*2nd Western General Hospital.*—Major G. R. Murray is seconded whilst holding a temporary commission in the A.M.S.

*2nd Southern General Hospital.*—Captain A. G. T. Fisher, M.C., to be acting Major whilst specially employed.

*3rd Scottish General Hospital.*—Captain (acting Major) J. Patrick relinquishes his acting rank and remains seconded.

#### TERRITORIAL FORCE RESERVE.

Captain H. G. Butterfield relinquishes his commission on account of ill health, and is granted the honorary rank of Captain.

To be Captains: Captains D. P. H. Gardiner and F. W. Begg from a field ambulance, W. L. Griffiths and A. L. McCully from Attached to Units other than Medical Units.

#### VOLUNTEER FORCE.

*Cheshire R.A.M.C.(V).*—Temporary Lieutenant H. L. Pearson to be temporary Captain.

*Cumberland R.A.M.C.(V).*—Temporary Lieutenant F. H. Morison resigns his commission.

*Durham R.A.M.C.(V).*—J. F. Dickson (late Lieutenant R.A.M.C.) to be temporary Major, M. Fletcher to be Lieutenant.

*City of Edinburgh R.A.M.C.(V).*—To be temporary Captains: M. McLeary, D. H. Croom (late Lieutenant R.A.M.C.).

*City of Glasgow R.A.M.C.(V).*—G. A. Brown (Captain late R.A.M.C.T.F.) to be temporary Captain. J. Kane and G. A. Allan to be Lieutenants.

*Humbershire R.A.M.C.(V).*—Temporary Lieutenant P. E. Todd to be temporary Captain.

*Kent R.A.M.C.(V).*—Temporary Major W. W. Linington relinquishes his commission, H. Porter (late Lieutenant R.A.M.C.) and temporary Lieutenant P. D. Fitzgerald, from temporary Lieutenant 1st Volunteer Battalion, East Kent Regiment, to be temporary Majors; C. J. Evers, F. W. Gange, and P. N. Randall (late Staff Surgeon R.N.), temporary Lieutenant H. W. Thomas (with seniority next above Captain R. Wilkinson), to be temporary Captains.

*Lancashire R.A.M.C.(V).*—Captain S. Hodgson, T.F. Res. (R.A.M.C.), to be temporary Captain. J. Orr and E. I. H. White to be temporary Lieutenants.

*City of London R.A.M.C.(V).*—C. N. Foley to be temporary Lieutenant.

*County of London R.A.M.C.(V).*—To be temporary Majors: T. E. White, F. C. Langford, A. J. Swallow. To be temporary Captains: Temporary Lieutenants J. F. Sargeant and H. Johnson.

*Mid Essex R.A.M.C.(V).* *Motor Ambulance Convoy.*—Temporary Major P. G. Darvil-Smith to command. To be temporary Captains: L. H. R. Claydon, R. S. Barnes. To be temporary Lieutenants: R. B. Alaway, F. W. Clifford, F. E. Bishop, P. Ferguson.

*Midlothian R.A.M.C.(V).*—T. Wood (late Surgeon Captain 5th Volunteer Battalion Royal Scots), to be temporary Captain.

*Morayshire R.A.M.C.(V).*—Temporary Lieutenant J. Adam to be temporary Captain.

*Norfolk R.A.M.C.(V).*—G. H. Thompson to be temporary Lieut. Colonel.

*Northumberland R.A.M.C.(V).* H. S. Grace to be temporary Lieutenant.

*Shropshire R.A.M.C.(V).*—Temporary Captain A. E. White resigns his commission on account of ill health.

*Somersetshire R.A.M.C.(V).* To be temporary Lieutenants: H. S. Ballance, G. S. Green.

*Suffolk R.A.M.C.(V).*—Temporary Lieutenant H. G. Toombs, from 4th Volunteer Battalion, Suffolk Regiment, to be temporary Lieutenant (precedence May 3rd, 1917).

*Sussex R.A.M.C.(V).*—Temporary Major C. W. Owen, C.M.G., C.I.E., to be temporary Lieut. Colonel, Lieut. Colonel A. C. Roberts, T.F. Res., and temporary Lieutenant W. Conway-Cooke and F. E. Richardson to be temporary Majors. A. P. Sherwood to be temporary Captain. F. Skaffe and F. S. Tidcombe to be temporary Lieutenants.

*West Riding R.A.M.C.(V).*—Temporary Lieutenant R. F. C. Ward to be temporary Captain.

#### APPOINTMENTS.

Fox, R., L.R.C.P. and S. Edin., L.R.F.P.S. Glasg., Medical Officer on Cottage Homes of the Merthyr Tydfil Union.

O'DONNELL, P. C., M.B., B.Ch., Certifying Factory Surgeon for the Dingle District, co. Kerry.

G. Medical Superintendent, Shoreditch Parish Infirmary.

JACK, A., L.R.C.P. and S. Edin., Assistant Medical Officer of the Newington Institution of the Southwark Union.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—The following appointments have been made:—Physician for Out-patients: Gordon M. Holmes, C.M.G., M.D., F.R.C.P. Lond. Registrar: Lewis R. Yealland, M.D. Ont., Resident Medical Officer: Miss M. A. Blandy, M.B. House-Physicians: Miss Eveleen B. G. Rivington, M.B., B.S.; Richard Gainsborough, L.R.C.P., M.R.C.S.

DISTRICT MEDICAL OFFICERS.—G. E. Bellamy, M.R.C.S., L.R.C.P. (Dover Union). G. Cockerott, M.B., B.S. (Leyburn Union). G. J. Meikle, L.R.C.P. and S. Edin. (Bromyard Union). J. S. Cooper, L.R.C.P. and S. (Medical Officer of the Clitheroe Union Workhouse).

#### BIRTHS, MARRIAGES, AND DEATHS.

*The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice, not later than the first post on Wednesday morning in order to ensure insertion in the current issue.*

##### MARRIAGE.

RIPPINER-HARVEY.—At Augustine Congregational Church, Edinburgh, on Saturday, November 30th, 1918, Henry Anthony Rippiner, M.B., Ch.B., F.R.C.S. Edin., of Bradford, to Florence Maude Elizabeth Harvey of Edinburgh.

##### DEATHS.

BATTERSBY.—On November 29th, at South Parade House, Doncaster, aged 19, Mary, beloved elder daughter of Dr. and Mrs. J. H. Battersby (from influenza and bronchopneumonia).

LUSH.—On the 28th November, at 44, Avenue Road, N.W., from pneumonia, Percy J. F. Lush, M.A., M.B., B.Ch. Oxon., dearly-loved husband of Lydia Lush and youngest son of the late Right Hon. Lord Justice Lush, aged 60.

MACKENZIE.—On November 24th, at North House, Lockwood, Huddersfield, Frederick Lumsden Mackenzie, M.D., youngest son of the late Melville Mackenzie of St. Andrews.

STOPFORD-TAYLOR.—On 1st December, from pneumonia following influenza, George Grayson Stopford Stopford-Taylor, M.D., of Rodney Street, Liverpool, in his 71st year.

#### DIARY FOR THE WEEK.

##### MEDICAL OFFICERS OF THE DOMINIONS AND UNITED STATES.

THE following are among the facilities offered in London to medical officers of the Dominions and United States in this country.

The *British Medical Association* invites these officers to make use of its house at 429, Strand, including the library. They are also invited to communicate with the honorary secretaries of the Divisions and Branches of the Association in the areas in which they reside, in order that they may be invited to attend meetings of Divisions or Branches. The Medical Secretary will, on application, send the name and address of the secretary of the local Division or Branch.

The *Royal Society of Medicine* also invites these officers to make use of its library, to attend the meetings of the Society and its sections which are announced weekly in this column, and generally to take advantage of facilities offered by the Society to its Fellows, including the Fellows' room where tea, coffee, and cigarettes are provided between the hours of 4 and 6 p.m. Arrangements have also been made to give help to officers in the country and abroad by sending them information from the library, including abstracts and translations. The principal hospitals of London have cordially expressed their willingness to admit medical officers of the Dominions and American armies to lectures, operations, etc. Further particulars can be obtained on application to the Secretary, Mr. J. Y. W. MacAlister, but detailed programmes are posted in the hall of the Society, 1, Wimpole Street, W.1 (about five minutes' walk from Oxford Circus).

The *Royal College of Surgeons of England* (Lincoln's Inn Fields, W.C.) has provided in its museum space for the display of the Army Medical War Collection; additions are constantly being made as the preparation of new specimens is completed. The collection, which includes also drawings and specimens of protective apparatus, is open from 10 a.m. to 4 p.m. Officers desiring to read in the library can obtain permission on application to the Librarian.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1, Monday, 8.30 p.m.—Lieut. Colonel E. Lauchlan Buzzard, R.A.M.C., M.D.: Epidemic Encephalitis.

ROYAL SOCIETY OF MEDICINE. *Section of Otolaryngology*: Monday, 7.30 p.m., Major Pickersill: Skin Grafting of the Buccal Sulcus; Major F. M. Wells, C.A.D.C.: Food Deficiency Products and the Calcification and Fixation of the Teeth. *Section of Psychiatry*: Tuesday, 5 p.m., Dr. Bernard Hart: Psychotherapy. *Section of Epidemiology and State Medicine*: Friday, 5.30 p.m., Presidential Address, Dr. E. W. Goodall: Enteric Fever in Flanders, 1914-1915. Dinner at Pagani's Restaurant (7.30 p.m.).

#### DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
-------	----------------------

##### DECEMBER.

10 Tues.	London: Vaccination Subcommittee, 3.30 p.m.
12 Thur.	London: Propaganda Subcommittee, 2.30 p.m.



# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 14TH, 1918.

## CONTENTS.

	PAGE		PAGE
INCREASED GRANTS TO INSURANCE PRACTITIONERS (LETTER FROM THE NATIONAL HEALTH INSURANCE JOINT COMMITTEE) ... ..	91	NAVAL AND MILITARY APPOINTMENTS ... ..	92
MEETING OF BRANCHES AND DIVISIONS: LONDON BRANCH: DUBLIN DIVISION ... ..	92	APPOINTMENTS ... ..	92
		BIRTHS, MARRIAGES, AND DEATHS ... ..	92
		DIARY ... ..	92

### INCREASED GRANTS TO INSURANCE PRACTITIONERS.

THE following communication, dated December 6th, 1918, has been addressed to the Insurance Acts Committee by the Secretary of the National Health Insurance Joint Committee:

SIR,

I am directed by the National Health Insurance Joint Committee to refer to the interview which your committee had earlier in the year with Sir Edwin Cornwall, and subsequently with the Chancellor of the Exchequer, and to the correspondence which has since taken place on the subject of an Exchequer grant to Health Insurance practitioners for the year 1918 in respect of—

- (1) Increased cost of living;
- (2) Increased practice expenses.

With regard to the application which they have had under consideration under the first of these heads, the Joint Committee, with the concurrence of the Treasury, are now in a position to state that a grant from Exchequer funds will be made available for the purpose of making extra payments to Health Insurance practitioners in respect of the year 1918 as follows:

- (1) To a practitioner whose net professional income from all sources does not exceed £500 a year, a war allowance of 12½ per cent. of the insurance fees payable to him for treatment;
- (2) To a practitioner whose net professional income from all sources exceeds £500 but does not exceed £1,000, a war allowance of 10 per cent. of the insurance fees payable to him for treatment; subject in each case to a maximum payment of £60.

The Joint Committee, recognizing that applications for this grant should be attended with as little complication and inconvenience as possible to all concerned, have decided that the right of a doctor to participation in the grant shall be determined by reference to his income tax assessment for the current year. This will not involve any fresh calculation by the doctor of his income, nor is it contemplated that the amount of the income tax assessment should be divulged, but merely that the doctor shall be furnished by the local surveyor of taxes, on application, with a simple statement that his professional income, as assessed for income tax purposes for the year 1918, does not exceed £500, or that it exceeds £500 but does not exceed £1,000. The doctor desiring to make an application should write to the surveyor of taxes for his district for such a certificate. This will be supplied to him on a form which the doctor will then sign and transmit direct to the Insurance Commissioners in London, Edinburgh, or Cardiff as the case may be, who will send a cheque to the doctor direct.

The amount of the allowance will be calculated on the insurance fees payable to the practitioner for treatment (as distinct from any payments due to be made to him for drugs or mileage), and in order that a prompt payment may be made, the allowance will be calculated on the fees for the year 1917, as the 1918 fees cannot be finally determined until possibly the late summer of 1919.

It will, at the same time, be clearly understood that the extra payment so made is made in respect of the year 1918, and not of the year 1917, and that the fees for 1917

are merely used as a convenient basis on which to distribute the money promptly to doctors in the 1918 panel.

As regards the question of an allowance for increased practice expenses, the Joint Committee note that no case is put forward so far as urban practitioners are concerned, and that the claim for an allowance under this head is therefore confined to rural and semi-rural practitioners. They have carefully examined the figures for typical practices which have been put forward in support of the Committee's application. The analysis of these figures appears to show that there is no marked difference in the relative increases in the two classes of practice, and that, therefore, the figures can be regarded as a whole for the purposes of the present application.

The Joint Committee gather that the Insurance Acts Committee have experienced some difficulty in putting forward a scheme for distribution of any grant which may be available under this head, but that they feel strongly that there should be a method of distribution which would not involve the doctors concerned in the preparation of detailed statements if this can be avoided. In these circumstances it appears to the Joint Committee that the only satisfactory method of obtaining a prompt and convenient distribution of this grant would be to apportion it amongst Insurance Committee areas on the basis of the total number of insured persons for whom the doctors within the area supply drugs where no chemist is available within a mile of the insured person's residence. These figures are already compiled for other purposes by every Insurance Committee, and can serve as a basis of distribution between areas and amongst the doctors within each area. The Joint Committee, with the concurrence of the Treasury, are in a position to distribute under this head an Exchequer Grant of £40,000 amongst rural and semi-rural doctors in Great Britain, and unless your Committee are prepared to submit for their consideration an alternative method of distribution of the grant which, in their view, would more equitably and conveniently effect a distribution of this sum, they will be prepared to ask the Commissioners for England, Scotland, and Wales, respectively, to make an immediate distribution of this sum in this manner.

The Joint Committee think it desirable to add that, in determining the amount of this grant, full effect has been given to the rate of increase in the expenses established by the statements which accompanied your letter, together with a further allowance in respect of some further increase which may reasonably be assumed to have taken place during the current year. The increase is, as pointed out in your letter, mainly due to travelling; and it will be borne in mind that a substantial increase on account of mileage has already been made available to certain Health Insurance practitioners in respect of war conditions.

I am, Sir, your obedient servant,

(Sgd.) E. HACKETT.

The Insurance Acts Committee has agreed to accept the proposed method of distribution of the allowance for increased practice expenses, because the method seems to include all rural and semi-rural practitioners for whom the grant was claimed, and the Committee was particularly anxious not to hold up the distribution of the new grant. It is specially requested that no applications for the grants be sent in until each insurance practitioner has received full particulars of the method of application, which he will do very shortly.



## Meetings of Branches and Divisions.

### LEINSTER BRANCH: DUBLIN DIVISION.

A MEETING of the Dublin Division of the British Medical Association was held on December 5th at the Irish Offices of the Association, 16, South Frederick Street, Dublin, Dr. THOMAS NEILL in the chair.

**Medical Representation in Parliament.**—The following resolution was passed unanimously:

That in the opinion of the Dublin Division of the British Medical Association it is important, in order to deal satisfactorily with the problems of reconstruction, that there should be an increased number of competent medical men in Parliament. That the Dublin Division welcomes the candidature of medical men for two of the universities of Ireland, and on public grounds recommends their claims to the electors.

**Ministry of Health for Ireland.**—The meeting expressed the opinion that, at the proper time, this matter should be dealt with by a delegate or mass meeting representative of the entire Irish medical profession. It was also agreed to send a series of questions in regard to medical legislation to each of the parliamentary candidates in the Dublin area.

**The late Dr. O'Connell Delahoyde.**—A resolution of condolence with the relatives of the late Dr. G. O'Connell Delahoyde was adopted unanimously.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Lieutenants (temporary) R. B. Ramping and J. J. Carroll to Haslar Hospital, J. F. Strugnell to Chatham Hospital, R. A. W. Ford to Plymouth Hospital, N. V. Williams to the *Indus*, J. A. L. Cook to the *Superb*.

### ARMY MEDICAL SERVICE.

Colonel D. M. O'Callaghan, C.M.G., is placed on retired pay.

### ROYAL ARMY MEDICAL CORPS.

Temporary Lieut.-Colonel Sir Hugh M. Rigby, K.C.V.O. (Brevet Lieut.-Colonel R.A.M.C., T.F.), to be temporary Colonel whilst specially employed.

Officers relinquish the acting rank of Lieut.-Colonel on reposting: Major J. T. McEntire, Captain S. J. Higgins.

To be acting Lieut.-Colonels: Temporary Captain (acting Major) H. K. Wallace. Whilst specially employed: Major and Brevet Lieut.-Colonel D. S. Skelton, D.S.O. Whilst in command of a medical unit: Majors J. W. L. Scott, D.S.O., and A. W. Sankey.

Major E. G. R. Lithgow is seconded for service with R.A.F.

P. S. Clark, D.S.O., to be temporary Major.

Temporary Captains relinquish the acting rank of Major on reposting: G. D. Laing, R. S. Scott.

To be acting Majors: Captain W. P. Croker; temporary Captains D. O. Riddell, D.S.O., W. Mason, C. H. Haddow, M.C., J. M. Moyes, A. Fullerton, M.C., T. L. Hardy, A. Leeming, F. K. Kerr, M.C., J. J. Gibb (from Jan. 4th to Aug. 6th, 1918), H. L. Neil, C. E. Sundell, W. S. Stevenson, C. F. White, Captain J. E. Hepper (from April 5th to September 2nd). While specially employed: Temporary Captain H. G. Drake-Brockman, temporary Captain B. Sweeten.

The notifications in the *London Gazette* of October 25th and November 5th, 1918, regarding temporary Captain George Munro and temporary Lieutenant James Robertson respectively are cancelled.

The notification in the *London Gazette* of July 1st, 1918, regarding temporary Captain William Rogerson is cancelled (substituted for notification in the *London Gazette* of October 15th, 1918).

The name of temporary Captain A. J. Neelan is as now described and not as in the *London Gazette* of August 23th, 1918.

C. W. Lynch, late temporary Captain, is granted the honorary rank of Captain.

Temporary Captain H. M. Grey to be acting Major whilst specially employed (substituted for the notification in the *London Gazette* of October 21st, 1918).

To be temporary Captains: G. Muir, G. W. Thompson, J. D. Townroe (late temporary Captain Volunteer Battalion, East Surrey Regiment); Temporary Lieutenants S. Barron, W. D. Sammon, C. J. A. Woodside, H. G. P. Arncliffe, E. W. Duggell, A. R. Barlas, H. S. Campion, T. B. H. Tabuteau, J. L. Annan, F. Joyce, R. J. MacMillan, J. M. Taylor, A. W. M. Sutherland, J. Devine, Alfred I. Leitch, J. Ramsbottom, R. J. Wilson, N. F. Sinclair.

The name of Lieutenant Gordon A. Valentine is as now described and not as in the *London Gazette* of November 9th, 1918.

Officers relinquish their commissions: Temporary Captains: H. C. Halsted (on ceasing to be employed at the County of Middlesex War Hospital), M. Coghlan and J. J. Sinclair (on account of ill health, and are granted the honorary rank of Captain), P. W. Ashmore (on account of ill health and is granted the honorary rank of Lieutenant), R. L. Hulton, J. A. O'Regan, E. S. Hawthorne, H. Galloway, W. Ainslie, M. C. H. D. Pollard, G. E. Lockyer, E. A. Sanders, Alfred Leitch, M. J. Casserly, R. C. Smith, H. E. Blossome, W. Duggles, C. M. Stevenson, J. N. McTurk, G. L. Branton, A. Hall. Temporary honorary Captain J. Boyd (on ceasing to be employed with Welsh Hospital, Neyley). Temporary Lieutenants: N. C. Fischer, A. G. Torpitt, A. M. McCormick, R. F. Howlett, I. Clarke, J. J. Pickles, G. A. Valentine. Temporary honorary Lieutenants: V. S. Lamm, E. W. Darrach.

To be temporary Lieutenants: C. H. C. Cosens, A. Ryan, C. A. Baskin, J. N. Turnbull, W. G. Cook, J. B. Michie, T. M. Walker, W. L. Baskin, C. E. Penkelly, A. Bisset.

To be temporary honorary Lieutenants: A. B. Pastel.

### SPECIAL RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Captain H. R. Friedlander relinquishes the acting rank of Major on reposting.

A. J. Clark, M.C., late Captain, is granted the temporary rank of Captain.

To be Lieutenants: Lieutenant R. W. F. Arncliffe (from Unattached List T.F.), E. B. Davies, P. G. Quinlan, and C. G. Coombs (from University of London Contingent O.T.C.), W. Young, H. Waters, J. P. Killa, A. S. Strachan, J. S. Mel. Gray, and R. P. Smith (from Glasgow University Contingent O.T.C.), J. F. Lyth (from Manchester University Contingent O.T.C.), A. P. McCleod.

### TERRITORIAL FORCE.

#### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonels F. J. Fremantle and C. E. Humphreys, from Sanitary Service, to be Lieut.-Colonels, with precedence from February 14th, 1915, and August 8th, 1915, respectively.

Major (acting Lieutenant Colonel) J. Allison relinquishes his acting rank on ceasing to be specially employed.

Majors H. E. Corbin and A. H. Henshaw, from Sanitary Service, to be Majors, with precedence from February 17th, 1915, and July 24th, 1916, respectively.

Major (temporary Lieut.-Colonel) A. Lavinwood, from Sanitary Service, to be Major, with precedence from August 15th, 1915, and to relinquish his temporary rank.

Major W. E. Miles to be acting Lieut.-Colonel whilst specially employed.

Captain R. Briereville, from Sanitary Service, to be Captain, with precedence from September 1st, 1914, with seniority next below Captain J. W. Reed.

Captain (acting Major) J. Dale, from Sanitary Service, to be Captain, with precedence from August 26th, 1914, with seniority next below Captain M. S. Double, and to retain his acting rank.

Captain acting Majors: R. Gibbs to be Major.

Captains A. W. Hayward and H. J. A. Longmore to be acting Majors whilst specially employed.

Officers relinquish their acting rank on ceasing to be specially employed: Captains acting Majors: H. H. Robinson, M.C., D. H. Scott.

Captain R. A. Stark, M.C., to be acting Major whilst specially employed.

1st *Scottish General Hospital*.—Captain H. E. Smith to be acting Major whilst specially employed, and to remain seconded.

2nd *London General Hospital*.—Captain A. S. Daly is restored to the establishment.

4th *London General Hospital*.—Major (temporary Lieut.-Colonel) G. N. Higgs relinquishes his temporary rank, and is now seconded for duty with R.A.F.

4th *Northern General Hospital*.—Captain (acting Major) H. J. Smith, M.C., relinquishes his acting rank on ceasing to be specially employed and remains seconded.

11th *Scottish General Hospital*.—Captain J. R. Riddell to be acting Major whilst specially employed.

2nd *London Sanitary Section*.—Lieut. A. W. Allison relinquishes his commission on account of ill health contracted on active service, and is granted the honorary rank of Lieutenant.

1st *Eastern General Hospital*.—To be acting Majors whilst specially employed: Captains J. C. W. Graham, G. S. Haynes.

### VOLUNTEER FORCE.

*Durham R.A.M.C.(V.)*.—R. Gardner to be temporary Lieutenant.

*County of London R.A.M.C.(V.)*.—To be temporary Captains: W. J. Noble, F. W. Warren, T. Pearson. To be temporary Lieutenants: P. Deakin.

*Somersetshire R.A.M.C.(V.)*.—Temporary Captain H. C. Bristowe to be temporary Major.

### APPOINTMENTS.

CHADWICK, M. B. A. Camb., M.R.C.S., L.R.C.P.(Lond.), Medical Officer of the King's Lynn Union Institution.

GABRIEL, V., F.R.C.S. Eng., Medical Superintendent, Shoreditch Parish Infirmary.

### BIRTHS, MARRIAGES, AND DEATHS.

*The charge for insertion of announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to ensure insertion in the current issue.*

#### BIRTHS.

LAING.—On December 7th, at Brambletye, Lymington, Sussex, the wife of G. D. Laing, M.D., of a son.

LUMLEY.—November 24th, at 28, Upper Merion Street, Dublin, to Captain W. Lumley, R.A.F., and Mrs. Lumley (née Henley), a daughter.

#### DEATH.

BACON.—On December 1st, at Havre, from influenza pneumonia, the Rev. J. L. Bacon, beloved husband of Dr. Charlotte Bacon (née Bailey).

### DIARY FOR THE WEEK.

ROYAL SOCIETY OF MEDICINE.—General Meeting of Fellows, Tuesday, 5 p.m., Ballot for Election to Fellowship. *Section of History of Medicine*.—Wednesday, 5 p.m., Dr. Crookshank: Historical Traces of Poliocephalitis and Poliohypertrophy. Mr. Robert Steel: Egyptian Dyes—Origin and Medical Application. *Section of Electro-Therapeutics*.—Friday, 8.30 p.m., at Actino-therapeutic Department, Guy's Hospital: A Series of Papers on Diathermy. 1) The Machine; 2) in Gynaecology; 3) Eye; 4) Abdomen; 5) in Malignant Disease; 6) Burning by Secondary Radiation.

### DIARY OF THE ASSOCIATION.

Date. Meetings to be Held.

#### DECEMBER.

16 Mon. London: Dominions Committee, 2.30 p.m.



# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 21st, 1918.

## CONTENTS.

### British Medical Association.

#### CURRENT NOTES.

PENSIONS AND DEDUCTIONS	93
MEDICAL WOMEN EMPLOYED BY THE WAR OFFICE	93
WAR EMERGENCY FUND OF THE ROYAL MEDICAL BENEVOLENT FUND	94
INQUIRY INTO CENTRAL POOL	94

### British Medical Association.

#### CURRENT NOTES.

##### Pensions and Deductions.

It was recently brought to the notice of the Medico-Political Committee of the British Medical Association that medical practitioners in receipt of a naval disability pension arising out of the present war, who undertook work as temporary part-time members of a National Service Board, were liable to a deduction of 10 per cent. from the remuneration paid to them for such work, on the ground that they were in receipt of a pension under Rule 4 of the rules drawn up by the Treasury under Section 6 of the Superannuation Act, 1887. On the instruction of the Medico-Political Committee representations were made both to the Ministry of National Service and to the Ministry of Pensions, urging them to ask the Treasury to exempt from the operation of Rule 4 employment of civilian medical practitioners on medical boards established by the Ministries. The Association is now informed by the Ministries that the Lords Commissioners of His Majesty's Treasury have declared the following classes exempt from the operation of Rule 4, namely: Part-time medical practitioners employed on National Service medical boards, and medical referees, medical practitioners employed as members of the medical boards, and inquiry officers employed by the Ministry of Pensions.

##### Medical Women Employed by the War Office.

The position of medical women employed by the military authorities was fully considered by the Naval and Military Committee at its meeting on October 7th, 1918. The Committee came to the conclusion that these members of the profession have a real grievance, which can only be relieved by putting them on an equality with men who are doing the same work, and recommended the Council that steps be taken by the British Medical Association to press the claim of medical women employed whole time by the War Office for the same commissioned rank and conditions as those obtaining for medical men similarly employed. This recommendation was adopted by the Council at its meeting on October 23rd, and a letter was forwarded to the War Office on October 28th, enumerating the disadvantages experienced by medical women in military employment in the matter of rank, status, pension, income tax, and other privileges enjoyed by officers of the R.A.M.C. performing similar duties. The letter concluded by urging upon the Army Council that women medical practitioners should be placed on an equality with men doing the same work by granting them the same rank and conditions of service. The Medical Women's Federation has recently issued a pamphlet of sixteen pages on *Medical Women in the Army*, in which the case for granting temporary commissions is stated at length, and copious extracts are quoted from letters by medical women in military employment.

<sup>1</sup> The Medical Women's Federation, 9, Clifford Street, Bond Street, W.1.

INSURANCE.—DEMOBILIZATION.—CERTIFICATION AT LONGER INTERVALS	93
NAVAL AND MILITARY APPOINTMENTS	93
APPOINTMENTS	94
BIRTHS, MARRIAGES, AND DEATHS	94
DIARY OF THE ASSOCIATION	94

### War Emergency Fund of the Royal Medical Benevolent Fund.

A further subscription, of eighteen guineas, has been received from the Bury Division of the British Medical Association (per Dr. P. F. Braithwaite, Honorary Secretary) in response to the appeal, and has been passed on to the Treasurer of the War Emergency Fund. The names of individual subscribers are published monthly in the advertisement pages of the JOURNAL.

##### Inquiry into Central Pool.

The following subscriptions have been received from Panel Committees towards the cost of the inquiry undertaken by the Insurance Acts Committee into the constitution of the Central Pool:

Merioneth Panel Committee	...	...	...	...	£	s.	d.
Surrey Panel Committee	...	...	...	...	3	5	0
	...	...	...	...	2	2	0

### INSURANCE.

**Demobilization.**—The London Panel Committee has passed a resolution requesting the Insurance Commissioners to make arrangements for automatic replacement of demobilized men who did not come under the benefits of Invalided Seamen and Soldiers' Regulations, 1917, on the lists of doctors whom they had chosen previous to enlistment.

**Certification at Longer Intervals.**—The London Panel Committee recently sent a circular to insurance companies on the subject of issuing certificates in cases of prolonged illness at longer intervals than a week. The replies so far received from four insurance companies were sympathetic. The Prudential Company suggested that the doctor should make a note on the certificate if he desired a certificate to be given fortnightly or monthly. The Liverpool Victoria Company has decided to give three months' trial to the suggestion that fortnightly certificates should be accepted in cases where the incapacity exceeds three months in duration.

### Naval and Military Appointments.

#### ROYAL NAVAL MEDICAL SERVICE.

The following appointments are announced by the Admiralty:—Surgeon Commanders: J. Seddart to the *Intrepid* for R.N. Barracks, Portsmouth, on staff of Commander-in-Chief; L. M. Morris to Plymouth Hospital; G. E. Dutton to War College, Devonport; R. J. Blackdown to the *Penelope* for R.N. Barracks, Chatham, on staff of Commander-in-Chief; R. St. S. Bond to the *Prize* for R.N. Barracks, Devonport, on staff of Commander-in-Chief. Surgeon Lieutenants: H. W. Hales to Chatham Hospital; H. J. R. S. Mager to the *Star*; F. J. Nicholl to the *Penelope* for R.N. Barracks, Chatham; W. L. Cooke to the *Blake*.

#### ARMY MEDICAL SERVICE.

##### ROYAL ARMY MEDICAL CORPS.

Temporary Major F. R. S. Coates (Lieut. Colonel Devon Regiment, T.F.), to be temporary Lieut.-Colonel.  
A. H. Hazanman to be temporary honorary Major whilst serving with No. 22 General Hospital (Harvard Unit).  
Temporary Captain J. H. Hebb relinquishes the acting rank of Major.  
Temporary Captain J. Cunningham to be acting Major whilst specially employed.  
Temporary Captain D. Morrison to take rank and precedence in the corps and in the army as if his appointment to that rank bore date September 5th.  
T. B. Sellers, late temporary Captain, is granted permission to retain that rank.  
The notification in the *London Gazette* of November 15th, 1918, concerning temporary Captain Thomas E. Mulvaney is cancelled.



To be temporary Captains: E. Ashby, F. S. Collard, temporary Lieutenants S. F. Greenfield, P. S. Humm, H. W. Knowling, C. W. Mount, L. H. Butler, F. W. H. Pilot, B. W. H. Fergus, J. G. Miller, J. C. Fox, H. S. Metcalfe, J. A. M. Bligh, G. T. Wrench, H. J. V. R. Allen, D. Mack, Gray, R. J. G. Hadden, J. A. Johnstone, F. W. Lawrence, L. A. Morris, R. N. M. Rowstrom, D. B. Wilson, H. L. W. Woodroffe, R. Steel, B. E. Lawrence, A. R. P. Scott, H. Thomson, T. M. Hogwood, J. C. Johnson, G. C. Cosser, M. C. F. J. Power, G. Ferguson, R. O'Connor, H. S. Gabb, W. Cregar, F. C. Watson, D. Bottomley, W. Leatherbarrow, L. A. B. Poole.

Temporary honorary Lieutenant J. M. Brenner to be temporary honorary Captain.

To be temporary Lieutenants: A. A. Angelis, J. T. Reardon, W. J. Lord, H. Caird, J. Grimson; C. L. Lapper, C. J. E. Edmonds, N. J. McCaskie, R. Hamer, J. V. Rees.

M. M. Stevens to be temporary honorary Lieutenant whilst serving with No. 22 General Hospital (Harvard Unit).

Officers relinquish their commissions: Temporary Lieut.-Col. F. Romer (on account of ill health) and is granted permission to retain his rank. Temporary Captains E. W. Toulmin (on account of ill health) and is granted permission to retain his rank; A. C. Reid and S. A. Bull (and are granted permission to retain their rank); G. H. Rodolph (on account of ill health) and is granted the rank of Lieutenant; J. D. Lithgow, H. C. Will, N. W. Wainsley, (acting Major) A. Griffiths, D. R. Pike, H. C. Harper, H. A. Mason, G. P. White, M. C. A. Tait, H. A. Easton, H. Angel, F. W. K. Lawrie, D. A. Stewart, R. V. Steele, S. I. Dawson, W. M. G. Guinness, H. F. Powell, W. M. Penny, W. M. Thomson, S. S. King, A. C. Fleming, J. W. O'Farrell, J. F. Powell. Temporary honorary Captain T. C. Bost. Temporary Lieutenants: M. J. Tylor, C. I. Harnar, C. W. Branson, J. Shaw, F. A. Hadden (on account of ill health contracted on active service, and is granted permission to retain his rank); H. G. Browning.

#### ROYAL AIR FORCE.

##### MEDICAL BRANCH.

A. P. Woolright (late Captain R.A.M.C.) is granted a temporary commission as Captain, August 14th (substituted for notification in the *London Gazette*, August 13th).

Granted temporary commissions:—As Captains: W. F. Wilson, C. Dickson, T. E. Mulvany, and R. J. Aherne (late Captains B.A.M.C.), P. A. Hall, R. C. Fuller, J. P. Doyle, D. C. Farquharson, P. J. Herlihy. As Lieutenants: C. McC. Jones (honorary Captain retired list and to be honorary Captain), S. G. Seymour, W. F. Sheil.

The notification in the *London Gazette* of November 26th concerning Captain A. J. Bates is cancelled.

The initials of the following are as now described and not as stated in the *London Gazette* of November 26th: H. C. Bazett, M.C., J. A. Watson, J. D. Bangay, H. M. Holt, J. B. Stevenson.

L. O. B. Carbery (Fleet Surgeon R.N.) is as now described and not as stated in the *London Gazette* of November 26th.

The corps of Captain A. Leitch is R.A.M.C. and not R.A.M.C.(T.F.) as stated in the *London Gazette* of November 26th.

#### SPECIAL RESERVE OF OFFICERS.

##### ROYAL ARMY MEDICAL CORPS.

Captains relinquish the acting rank of Major on reposting: J. W. Gray, R. MacKinnon.

W. V. Robinson, from University of London Contingent O.T.C., to be Lieutenant.

##### OVERSEAS CONTINGENTS.

##### CANADIAN ARMY MEDICAL SERVICE.

Temporary Lieut.-Colonel T. J. F. Murphy, D.S.O., C.A.M.C., to be Assistant Director of Medical Services.

Temporary Captain T. M. Creighton, C.A.M.C., to be Deputy Assistant Director of Medical Services and to be acting Major whilst so employed.

Temporary Colonel A. E. Snell, C.M.G., D.S.O., C.A.M.C., to be Deputy Director of Medical Services, vice Brigadier General A. E. Ross, C.B., C.M.G., C.A.M.C.

Temporary Lieut.-Colonel C. P. Templeton, D.S.O., C.A.M.C., to be Assistant Director of Medical Services, vice temporary Colonel A. E. Snell, C.M.G., D.S.O., C.A.M.C.

Temporary Major G. O. Taylor, C.A.M.C., to be Deputy Assistant Director of Medical Services.

##### CANADIAN ARMY MEDICAL CORPS.

Temporary Lieut.-Colonel F. Guest to be acting Colonel while commanding C.C.H.

To be acting Lieut.-Colonels: Temporary Majors F. A. C. Scrimger, V.C., while in charge of a surgery (substituted for notification in the *London Gazette* of November 27th); G. S. Strath while Chief of Medicine, General Hospital, T. H. McKillip, D.S.O., while second in command M.C. Hospital, H. E. MacDermot while employed as senior medical officer M.C. Hospital, T. A. Lomer, D.S.O., whilst in command of a field ambulance.

To be acting Majors: Temporary Captains S. R. Johnston while employed as registrar M.C.H., A. G. MacLeod while employed as S.O.M., W. J. Mackenzie and F. F. Dunham while employed at a field ambulance.

Temporary Captain (acting Major) J. E. Campbell relinquishes the acting rank of Major on ceasing to be specially employed.

##### SOUTH AFRICAN MEDICAL CORPS.

The following relinquish their commissions: Lieut.-Colonel W. B. Skinner, D.S.O., Major W. H. Marvell, temporary Major A. Liebaert, Captains K. Bremer, W. Shanks, C. T. D. Urquhart, D. Melville, J. M. Macdonald, temporary Captains P. A. Green, T. J. W. A. Johnston, J. B. K. Tough.

To be temporary Captains: A. F. de Waal, July 4th, 1916 (substituted for *London Gazette* notification, Aug. 14th, 1916); J. Rauch, A. J. McClymont (seniority from November 1st, 1914); M. Schwartz, E. B. Woolf, L. G. Irvine, J. Harpur, R. Stevenson, W. M. Tough, W. H. Hunter, D. McCully.

#### TERRITORIAL FORCE.

##### ARMY MEDICAL SERVICE.

Colonel W. Coates, C.B. (ret. list A.M.S.T.F.), to be Colonel.

##### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel L. J. Blandford to be acting Colonel whilst employed as Deputy Director of Medical Services, precedence from March 23rd, 1916.

Lieut.-Colonel T. F. Dewar, C.B., to be acting Colonel whilst employed as Assistant Director of Medical Services, precedence from March 7th, 1916.

Major (t. C. Taylor, from Sanitary Service, to be Major, precedence from January 2nd, 1919.

Captain (acting Lieut.-Colonel) G. T. Willan, D.S.O., reverts to the acting rank of Major, precedence from January 5th, 1915, on vacating command of a field ambulance.

Captains (acting Majors) R. D. Moore, M.C., and J. W. Carven relinquish then acting rank on ceasing to be specially employed.

Captains to be acting Majors whilst specially employed: J. W. Scott, M.C., A. W. Scott, W. E. Lee, D. A. R. Haddon, M.C., H. Shield, M.C.

1st Home Counties Field Ambulance.—Captain C. H. Gregory, from Deputy Assistant Director of Medical Services, to be Captain, precedence from May 14th, 1915.

2nd West Lancashire Field Ambulance.—Major A. W. Merrick, from Deputy Assistant Director of Medical Services, to be Major, precedence from October 18th, 1914.

1st London Field Ambulance.—Major W. C. Murray to be Deputy Assistant Director of Medical Services.

2nd London General Hospital.—The announcement regarding Captain A. J. Walton which appeared in the *London Gazette* of November 16th is cancelled.

2nd London Sanitary Company.—Lieutenants A. H. Hasnip and B. Chalkin to be Captains.

3rd Scottish General Hospital.—Major H. Rutherford is seconded for duty with a general hospital.

2nd Southern General Hospital.—Captain C. A. Moore to be acting Major whilst specially employed, and to remain seconded.

2nd Western General Hospital.—Captain H. Buck to be acting Major whilst specially employed, and to remain seconded.

Attached to Units other than Medical Units.—Captain A. S. M. Macgregor to be Deputy Assistant Director of Medical Services.

#### TERRITORIAL FORCE RESERVE.

##### ROYAL ARMY MEDICAL CORPS.

To be Majors: Majors H. L. de Legh and G. W. McIntosh, from Attached to Units other than Medical Units; Major (Brevet Lieut.-Colonel) C. Rundle, from 1st Western General Hospital.

To be Captains: Captain W. M. Langdon, from the London Ambulance; Captain (acting Major) F. Wigglesworth, from 1st West Riding Field Ambulance, Captain W. J. Phillips from Attached to Units other than Medical Units.

#### VOLUNTEER FORCE.

Kent R.A.M.C.(V).—To be temporary Captains: F. Fraser, T. W. Bailey, temporary Lieutenant J. Richardson.

Lancashire R.A.M.C.(V).—Captain S. Hodgson, T.F. Res. (R.A.M.C.), to be temporary Captain, August 12th, 1918 (substituted for notification in the *London Gazette* of October 17th, 1918).

#### APPOINTMENTS.

ALBAN, Edgar, M.B., B.S.Lond., Deputy Coroner in the South-Eastern District, County of London.

HUGHES, W. G., M.B., Ch.B.Edin., District Medical Officer of the Carnarvon Union.

TOWNSEND, Arthur, M.D., Medical Superintendent, Barnwood House, Gloucester, vice James G. Soutar, M.B., resigned.

#### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 6s., which sum should be forwarded with the notice not later than the first post on Wednesday morning in order to insure insertion in the current issue.

##### BIRTHS.

BENSON.—On the 11th December, at 1, Beverley Road, Colchester, to Daisy, wife of Captain J. M. Benson, R.A.M.C., a son.

BRENTNALL.—On December 15th, at a nursing home, to Surgeon Lieutenant (R.N.) and Mrs. T. C. Brentnall of Gorton, Manchester, a son.

DICKS.—On December 15th, at Framlingham, to Dr. and Mrs. Dicks, a son.

HARE.—At Cheltenham, on November 23rd, the wife of Captain (acting Major) W. T. Hare, M.C., R.A.M.C., of a son.

##### DEATHS.

BARENDT.—December 9th, of pneumonia, at 65, Rodney Street, Liverpool, aged 18½ years, Eric Frank, the dearly-loved eldest son of Dr. and Mrs. Frank H. Barendt.

COSTABADIE.—On December 3rd, from pneumonia following influenza, Hugh Palliser Costabadie, F.R.C.S.E., M.R.C.S., L.R.C.P., of Midsomer Norton, Somerset, in his 38th year.

DOBSON.—October 5th, drowned at sea through the sinking of the ss. *Hiramo Maru*, by enemy action, off the Irish coast, Lieut.-Colonel E. F. H. Dobson, I.M.S. (ret.).

HERBERT.—Very suddenly, at Cardiff, on October 23rd, the death took place of Thomas Herbert, M.R.C.S., L.R.C.P., Medical Officer for 12½ years at the City Asylum, York. Buried at Mountain Ash, October 29th.

#### DIARY OF THE ASSOCIATION.

Date. Meetings to be Held.

##### DECEMBER.

21 Sat. Highlands and Islands Subcommittee, North British Station Hotel, Edinburgh, 10.45 a.m.

31 Tues. London: Maternity and Child Welfare Subcommittee, 3 p.m.

##### JANUARY.

2 Thur. London: Grants Subcommittee, 12.45 p.m.

London: Organization Committee, 2 p.m.

4 Sat. Scottish Committee, North British Station Hotel, Edinburgh, 10.45 p.m.



# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 28TH, 1918.

## CONTENTS.

	PAGE	
<b>British Medical Association.</b>		
<b>CURRENT NOTES</b>		<b>ASSOCIATION NOTICES</b>
MEDICAL DEMOBILIZATION	95	<b>NAVAL AND MILITARY APPOINTMENTS</b> ...
MEDICAL RESETTLEMENT	96	<b>PACIFIC ISLANDS, DOMINION AND UNITED STATES MEDICAL OFFICERS</b>
WAR EMERGENCY FUND OF THE ROYAL MEDICAL BENEVOLENT FUND	95	<b>BIRTHS, MARRIAGES, AND DEATHS</b>
THE HALF-YEARLY INDEXES FOR 1918	96	<b>DIARY OF THE ASSOCIATION</b>

### British Medical Association.

#### CURRENT NOTES.

##### Medical Demobilization.

THE Secretary to the Ministry of National Service made the following announcement on December 19th: The demobilization of the civilian doctors serving as medical officers in the navy, the army, and the air force will be arranged through the Ministry of National Service. Until the general demobilization of the forces begins, the number of medical officers to be demobilized must remain strictly limited, and, in view of the serious shortage of doctors in many parts of the country, the officers to be released first must be those who seem to call practice will maintain and strengthen the medical service of those areas. As soon as general demobilization begins medical officers will be demobilized on a scale of priority based upon both public and personal grounds, and in order to ensure every case to be fully considered steps are being taken to obtain the necessary information from every serving medical officer. To expedite the release of medical officers who have been on medical service for a long period and are urgently required at home, the Minister of National Service has decided that newly qualified medical practitioners and medical students who have been protected from recruiting in order to obtain their degree or licence, will, as they qualify, be called up for service with His Majesty's forces as commissioned medical officers, and will continue to serve in this capacity until their services are no longer required owing to the approaching completion of demobilization, when they will in turn be demobilized.

##### Medical Resettlement.

The Central Medical War Committee has for some time past been considering the various ways in which doctors returning from the services may be assisted to re-establish themselves in civilian practice.<sup>1</sup> A conference upon this subject was held on December 17th, at 429 Strand, between members of the Committee and representatives of the Officers' Families Fund, the National Relief Fund, the War Emergency Fund of the Royal Medical Benevolent Fund, the Professional Classes War Relief Fund, the Committee of Reference, and the Appointments Department of the Ministry of Labour. The object of the meeting was to discuss the possibilities of giving financial aid (by loan or grant) in the resettlement of medical men, and of co-operation between the various funds. The Central Medical War Committee has also considered other directions in which help may be given to medical men returning from military service to their practices. On December 18th a letter was addressed by the Committee to the War Office, the Ministry of Pensions, the Ministry of National Service, and the Local Government Board, expressing the opinion that doctors returning from military service should be given

preference to obtain in the large amount of medical work of a military or national character that will be available in the country. Some of the work will be new, some of it has been carried out during the past few years by civilian practitioners. The Committee is of opinion that the authorities concerned should as soon as possible make widely known their intention to give these posts to medical men returning from service whose military experience has familiarized them with the kind of work to be done. With regard to the duties which have been performed up to the present by civilian doctors, the Committee holds that where these have been carried out by returned medical men, the returned man should be placed on the rota immediately he applies, and work given to him should he desire it—if necessary by relieving civilian practitioners. The letter concludes with an earnest appeal that these suggestions may be adopted by all concerned having medical work at their disposal:

It is hoped, therefore, to assist the returned men during the first few critical months after their release, and will in addition endeavor to ensure them that during their absence they have not been forgotten.

Copies of this letter have been forwarded also to Local Medical War Committees, which are asked to do all in their power to facilitate the line of action therein advocated. It is assumed that local committees will do everything they can to assist their returning colleagues with the same goodwill that has characterized their efforts during the past four years to protect the interests of the men on service. The local committees are asked, therefore, to use their influence with the local Military, Pensions, and National Service authorities to substitute the men who now return from service for men who have not served, in every position where this is possible, and where the returned men desire it. The Central Committee is confident that the local committees will take every opportunity of showing to those who have risked and sacrificed so much that they intend to support them to the utmost.

#### War Emergency Fund of the Royal Medical Benevolent Fund.

A further subscription, of five guineas, has been received from the Mayo-Robson Division of the British Medical Association (per Mr. N. Bishop Harman, Honorary Secretary) in response to the appeal, and has been passed on to the Treasurer of the War Emergency Fund. The names of individual subscribers are published monthly in the advertisement pages of the JOURNAL.

#### The Half-yearly Indexes for 1918.

The usual half-yearly indexes to the JOURNAL and to the SUPPLEMENT are being prepared and will be printed. They will, however, not be issued with all copies of the JOURNAL. Any member or subscriber who desires to have one or both of the indexes can obtain a copy of what he wants, post free, by sending a post-card notifying his desire to the Acting Financial Secretary and Business Manager, British Medical Association, 429, Strand, W.C.2. Such copies will be dispatched shortly after the middle of January.

<sup>1</sup> BRITISH MEDICAL JOURNAL, December 14th, 1918, p. 631.

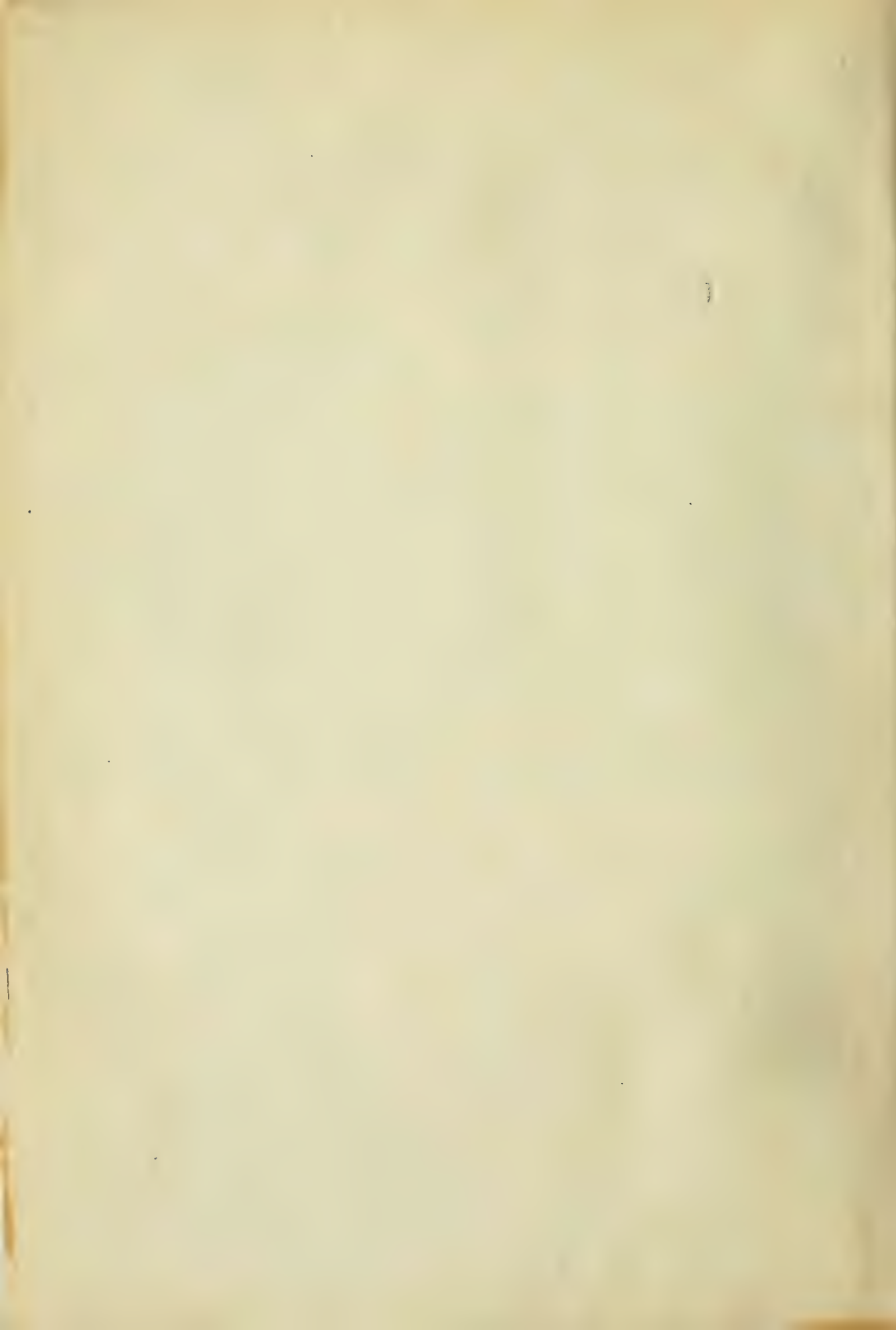








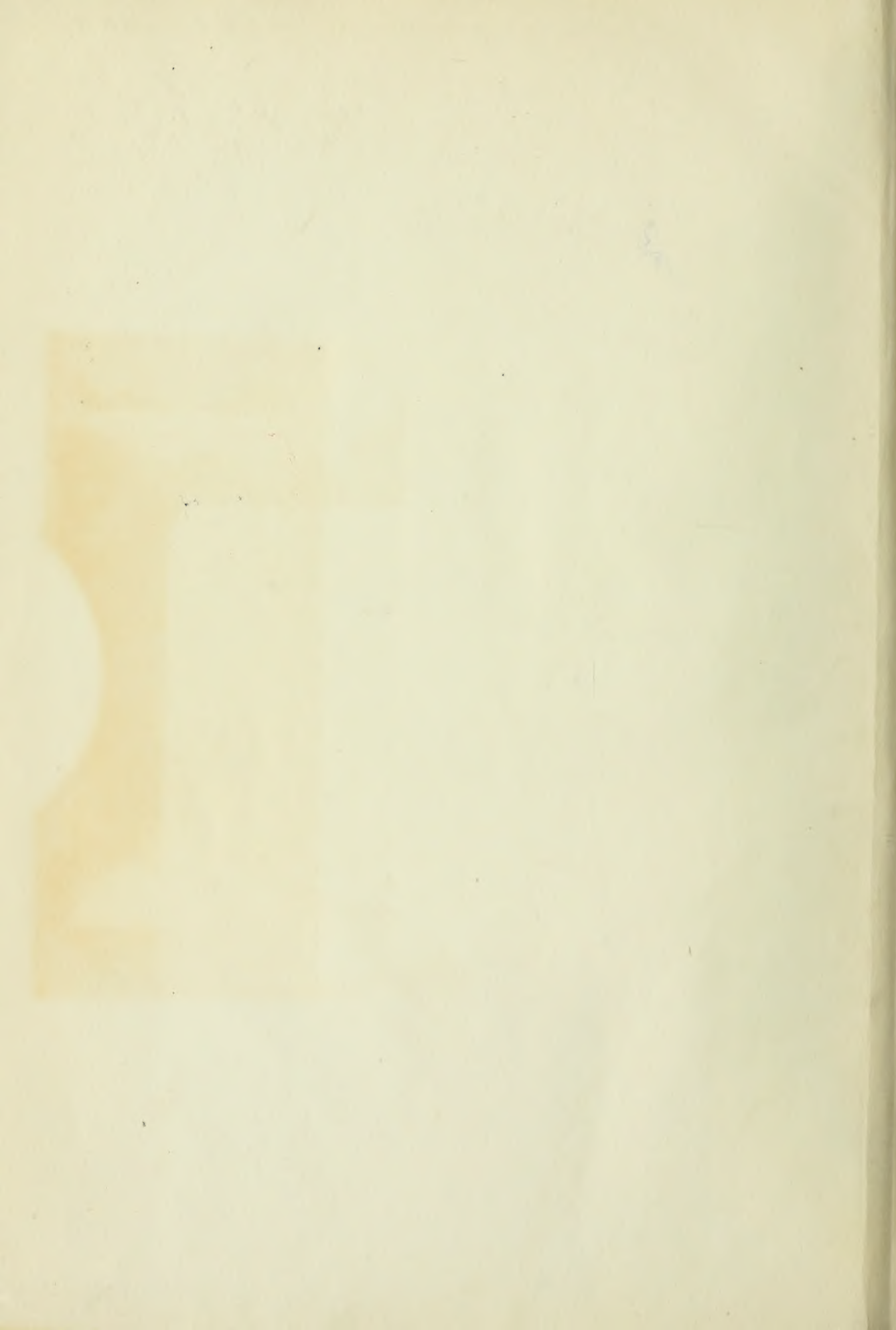














R  
31  
B93  
1918  
v.2  
cop.2

British medical journal  
1918, v.2

Biological  
& Medical  
Serials

PLEASE DO NOT REMOVE  
CARDS OR SLIPS FROM THIS POCKET

---

UNIVERSITY OF TORONTO LIBRARY

---

STORAGE



